Appendix E:
Traffic and Safety

2024

Pellissippi Parkway Extension (State Route 162)

Blount County, Tennessee

Traffic Operations and Safety Technical Report

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HNTB

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1. Introduction

The Tennessee Department of Transportation (TDOT), in cooperation with the Federal Highway Administration (FHWA), is proposing to extend and construct Pellissippi Parkway (State Route (SR) 162) from the current terminus of Pellissippi Parkway/Interstate (I) 140 at SR-33 (Old Knoxville Highway) to United States Highway (US) 321/SR-73 (Lamar Alexander Parkway) in Blount County.

Additional transportation needs in the region stem from currently poorly maintained roads with narrow lanes and shoulders and sharp turns, particularly in eastern Blount County. Collectively, substandard roads and high levels of traffic congestion have led to safety issues in the region, such as rear-end and angle collisions.

TDOT seeks to balance improvements in travel options, roadway safety, decreased traffic congestion, and connectivity within Blount County through implementation of the proposed Pellissippi Parkway extension. In doing so, TDOT's objectives include taking measures to minimize adverse impacts to the community, the environment, and the rural character and farmland of Blount County. This project supports community growth and plans within the City of Maryville, Alcoa, and Blount County.

This report presents traffic and safety analyses performed to update previous studies that were completed as part of the Environmental Impact Statement (EIS) and Record of Decision (ROD) for the subject project. The updated analyses presented here explore projected traffic forecasts, volumes, safety analysis, and evaluate benefits of the project.

2. Project Location

The study area is in northern Blount County, encompassing portions of the cities of Maryville, Alcoa and Rockford, and the unincorporated Eagleton Village. The study area is generally bounded on the west by US 129 (SR-115/Alcoa Highway), on the south by US 321/SR-73, and on the east and northeast by the Little River. The western third of the study area is urbanized and includes portions of the cities of Maryville, Alcoa, and Rockford. The middle third of the study area (generally centered on SR-33) is mostly residential. The eastern third of the study area consists of lower density, newer residential developments. Figure 1 shows the project location and study area.

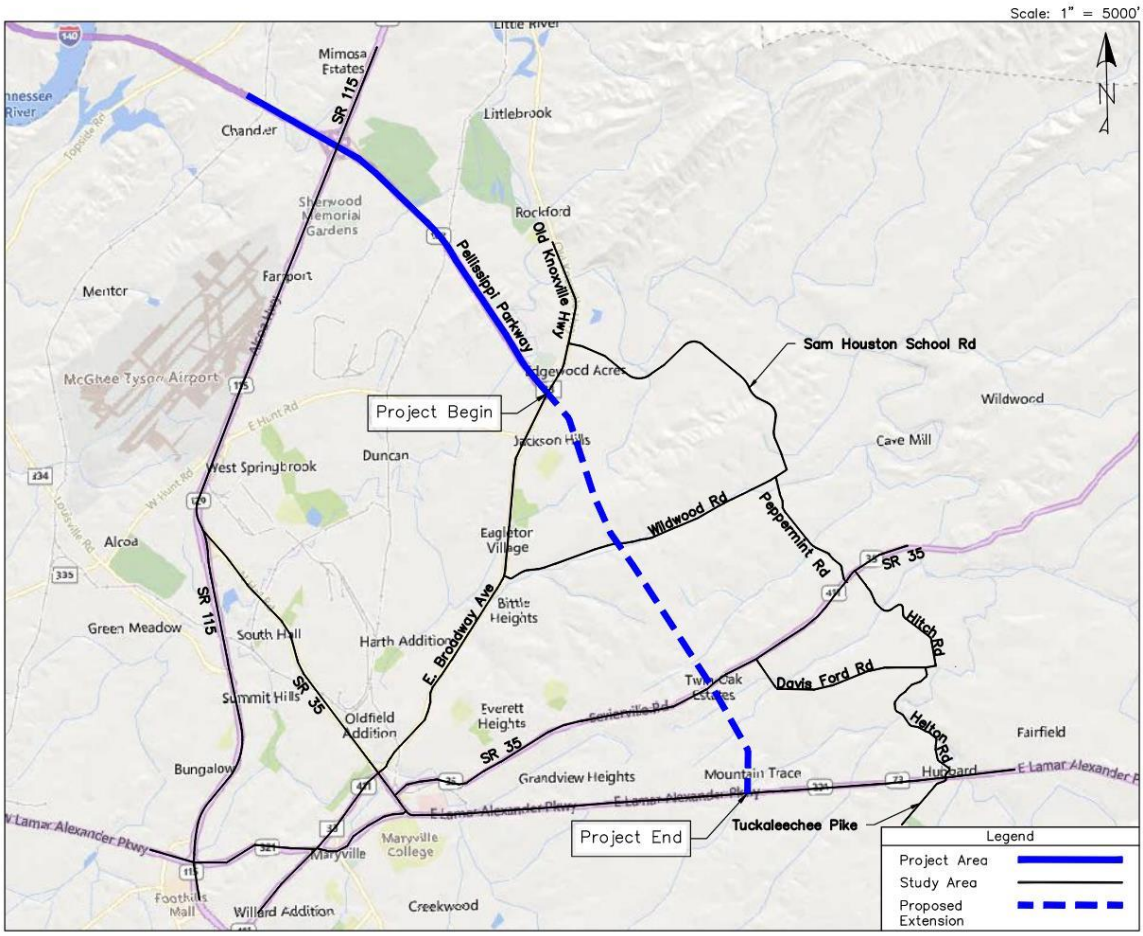


Figure 1: Project Study Area

3. Study Methodology

This section presents an overview of the methodology used to perform the traffic and safety analyses for the project.

3.1 Analysis Years

Study years for the project are:

- 2022: Existing Year
- 2026: Base Year
- 2046: Design Year

3.2 Alternatives Considered

Traffic operational analysis for the study area was performed for four (4) scenarios; Existing Conditions, No-Build Alternative, Selected Alternative, and Build 'Alternative D'. No-Build Alternative, Selected Alternative and Build Alternative D were considered in the decision-making process for the project. Each of these alternatives are summarized below.

No-Build Alternative

The No-Build Alternative would not extend Pellissippi Parkway beyond its existing terminus at SR-33 to US 321. It assumes that several other capacity-enhancing and safety-related projects in the study area would be constructed or implemented, as identified in the Knoxville Regional Transportation Planning Organization's (Knoxville Regional TPO) Regional Mobility Plan 2040.

Selected Alternative

The Selected Alternative proposes extending Pellissippi Parkway as a four-lane divided roadway for approximately four miles from SR-33 to US 321/SR-73. Proposed within the Selected Alternative are three (3) interchanges with: SR-33, US 411/Sevierville Road, and US 321/SR-73 where it terminates. The SR-33 and US 411/Sevierville Road interchanges are proposed as diamond interchanges with signalized intersections while the US 321/SR-73 interchange is proposed as a "trumpet" interchange. The Selected Alternative was identified in the ROD, which was approved by FHWA August 31, 2017. Updated analysis within this report considers design elements and alignment updates since approval of the FEIS and ROD. The Selected Alternative as described in the FEIS was a four-lane divided roadway with a 48-foot depressed median. Right-of-way for the Selected Alternative would require acquisition of land in the Kensington Place Mobile Home Community, which is located along the southwestern portion for the alignment. At this time, plans for multimodal accommodations through extension of the regional greenway system were not finalized and construction of roadway to interstate standards would prohibit bicycle and pedestrian access to the roadway facility. Since approval of the FEIS and ROD, the main changes to design include the following: (1) changes to the proposed median on the four-lane divided highway, so that the two travel lanes in each direction would be separated by a concrete median barrier wall; (2) Increased inside shoulder width along the roadway; and (3) construction of a 10-foot greenway and multi-use path with retaining walls alongside the roadway between Wildwood Road and SR-35 (US 411) (Sevierville Road) and along SR-35 (US 411) (Sevierville Road) from the exit ramp with SR-162 to Davis Ford Road.

Build Alternative D

Build Alternative D proposed upgrading an existing network of two-lane roads in the area including Sam Houston School Road, Peppermint Road, Hitch Road, and Helton Road. These upgrades would serve as a two-lane connection between SR-33 and US 321/SR-73. Under this alternative, an improved two-lane roadway was proposed using the existing roadway alignment where possible, while straightening the curves, realigning intersections, and using new locations to provide a continuous route with 50 mile per hour (mph) design speed. The existing Sam Houston School Road and Wildwood Road and Peppermint Road and Wildwood Road intersections were proposed to be combined. The Peppermint Road and SR-35 and Peppermint Road and Hitch Road stop-controlled intersections were also proposed to be combined. Lastly, the Davis Ford Road and Helton Road and Davis Ford and Hitch Road intersections were proposed as a new combined intersection.

Build Alternative D was not selected for several reasons. Although Build Alternative D proposed intersection re-alignments and improvements, it did not address the project's goal of enhancing roadway safety as roadway functional classifications (described in Section 5.2) within the study area remained unchanged. As stated in the ROD, Alternative D would have the highest number of residential and business relocations of the proposed project alternatives. The traffic study completed for the ROD also demonstrated that Alternative D would result in poor LOS on roadways and increased delay at major intersections along the route.

3.3 Crash Analysis Methodology

Historical crash data for the 5-year period from 2018 through 2022 was obtained from TDOT's Enhanced Tennessee Roadway Information Management System (E-TRIMS). The data includes information such as location, date, time of day, severity, crash events, weather conditions, and lighting conditions. The crash analysis is limited to a 5-year period of available data to minimize the impact of changes in traffic patterns, roadway construction, and trip origins and destinations on statistical trends in crashes in the study area. This 5-year interval is referred to as the study period. 2023 crash data is not available at the time of the analysis, and therefore crash data is collected for years 2018 through 2022.

Historical data was analyzed to quantify the severity, type, and manner of crashes within the study area. Crash data analysis for the 5-year period is summarized in section 5.1 of this report.

3.4 Operational Analysis Methodology

A traffic operational analysis was performed for the a.m. and p.m. peak periods for the Existing, Base, and Design Years. Synchro 11 software was used to model intersection-level delay and level of service (LOS) and Highway Capacity Software (HCS) 2023 was used for segment-level delay and LOS.

LOS is a qualitative measure of expected traffic conflicts, delay, driver discomfort, and congestion. LOS measurements rate how well traffic operates on a given transportation facility using the letters A through F, with the letter A representing the least delayed or congested conditions, and the letter F representing the most delayed or congested conditions. LOS D is generally considered to be the lowest threshold for desirable traffic operations used for freeways and arterial roadways in urban and suburban areas (such as the study area). LOS E and LOS F are generally considered undesirable due to congestion, delays, and traffic conflicts.

3.4.1 Intersection Analysis

The Highway Capacity Manual (HCM) specifies different criteria for LOS for various areas of the traffic stream. For intersections, LOS is estimated by control delay, which is the delay experienced by traffic due to the presence of a traffic control device. Table 1 presents LOS thresholds for signalized and unsignalized intersections. Unsignalized intersections have lower delay thresholds for each LOS when compared to signalized intersections. According to the HCM, this is because drivers expect to experience greater delay at signalized intersections, which therefore leads to increased driver tolerance towards intersection delays (Transportation Research Board 2016).

Table 1: Level of Service and Delay Thresholds for Unsignalized and Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	
	Unsignalized Intersections	Signalized Intersections
A	≤ 10.0	≤ 10.0
B	> 10.0 and ≤ 15.0	> 10.0 and ≤ 20.0
C	> 15.0 and ≤ 25.0	> 20.0 and ≤ 35.0
D	> 25.0 and ≤ 35.0	> 35.0 and ≤ 55.0
E	> 35.0 and ≤ 50.0	> 55.0 and ≤ 80.0
F	> 50.0	> 80.0

For signalized intersections, the Synchro capacity analysis uses intersection geometry, peak hour volumes, and signal timings to determine delay based on guidance provided in the HCM. For two-way stop-controlled intersections, delay is determined using maximum side street approach delay rather than the weighted average of the intersection delay.

3.4.2 Corridor Analysis

The project study area includes three types of corridors that were analyzed in HCS: two-lane highways, multi-lane highways, and freeways.

For two-lane highways, if the demand-to-capacity ration is less than or equal to 1.0, follower density is used as the service measure. Two sets of LOS thresholds are used to account for differences in driver perception between driving on higher-speed versus lower-speed highways. Table 2 defines the LOS thresholds for two-lane highways as per HCM 7th edition.

Table 2: Level of Service Thresholds for Two-Lane Highways

Level of Service	Follower Density (followers/mi/ln)	
	Higher-Speed Highways Posted Speed Limit >= 50 mph	Lower-Speed Highways Posted Speed Limit < 50 mph
A	<= 2.0	<= 2.5
B	> 2.0 – 4.0	> 2.5 – 5.0
C	> 4.0 – 8.0	> 5.0 – 10.0
D	> 8.0 – 12.0	> 10.0 – 15.0
E	> 12.0	> 15.0
F	Demand Exceeds Capacity	

For multi-lane and freeway segments, LOS is estimated in HCS by measuring a segment's vehicular density (the number of vehicles per mile of highway).

Table 3 defines the traffic density conditions for each LOS of a multi-lane/freeway segment.

Table 3: Level of Service and Delay Thresholds for Multi- Lane and Freeway Segments

Level of Service	Density (vehicles/mile)		
	Basic Freeway Segments/Multi-lane Highway Segments	Freeway Merge/ Diverge Segments	Freeway Weaving Segments
A	≤ 11.0	≤ 10.0	≤ 10.0
B	> 11.0 and ≤ 18.0	> 10.0 and ≤ 20.0	> 10.0 and ≤ 20.0
C	> 18.0 and ≤ 26.0	> 20.0 and ≤ 28.0	> 20.0 and ≤ 28.0
D	> 26.0 and ≤ 35.0	> 28.0 and ≤ 35.0	> 28.0 and ≤ 35.0
E	> 35.0 and ≤ 45.0	> 35.0	> 35.0 and ≤ 43.0
F	> 45.0 or Demand Exceeds Capacity	Demand Exceeds Capacity	> 43.0 or Demand Exceeds Capacity

4. Traffic Forecasts

Traffic volume forecasts were provided by TDOT for the Existing, Base, and Design Years of the project for all alternatives analyzed in this study. Roadway segment volumes for all scenarios include annual average daily traffic (AADT) and truck percentages. Design hour volumes (DHVs) were provided for all interchanges and intersections within the study area by TDOT as well. DHVs include turning movement volumes, truck percentages and directional distributions. Appendix A includes the complete traffic forecast provided by TDOT for this analysis.

5. Crash Analysis

5.1 Historic Crash Analysis

Historical crash data collected through E-TRIMS were analyzed to quantify the severity, type, and manner of crashes within the study area. The data were further analyzed to determine crash rates and to assess crash frequency and severity.

Crash data were analyzed to determine spatial distribution of crashes within the study area. Figure 2 illustrates the spatial distribution of crashes in the form of a heat map.

Crashes are mainly concentrated within two portions of the study area: SR-115 north of SR-35 and SR-35 corridor close to downtown Maryville.

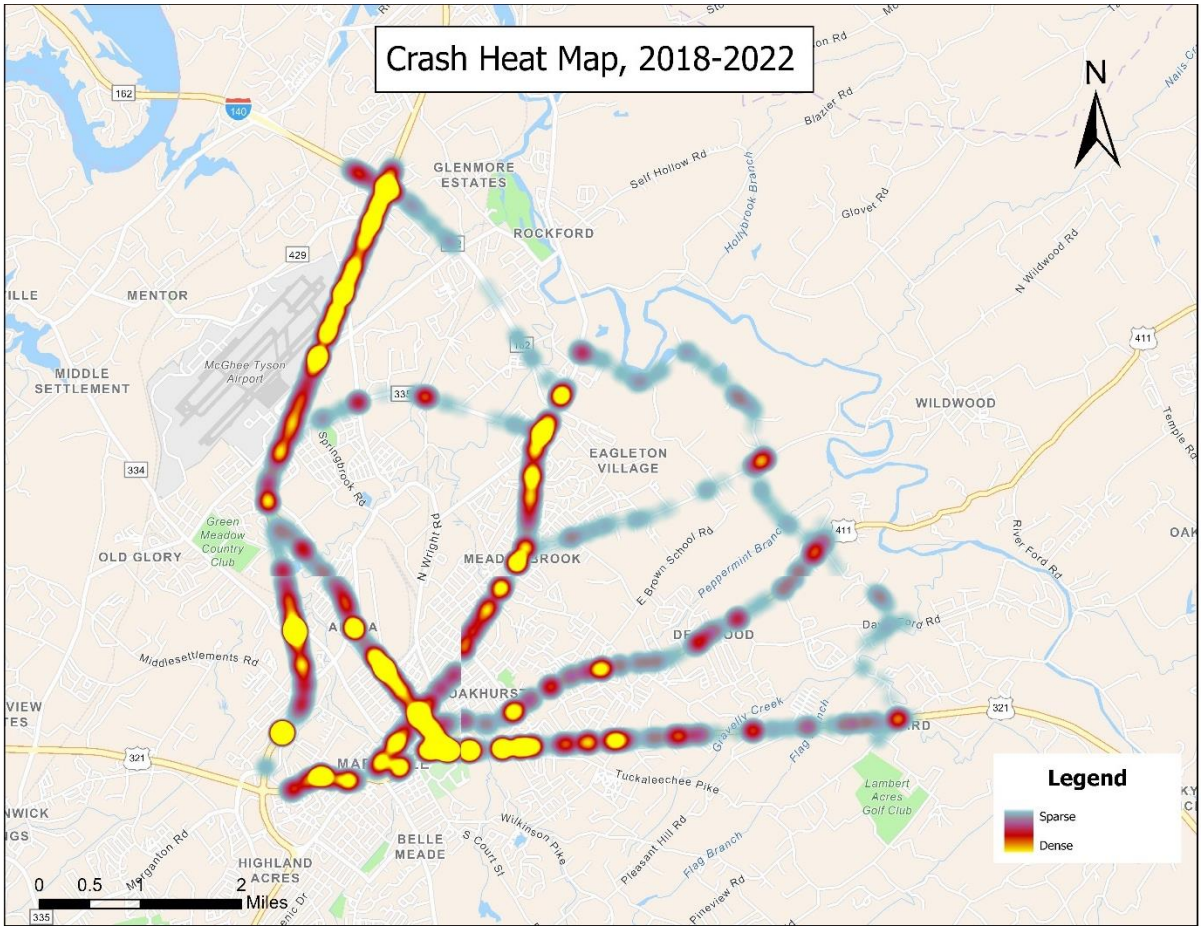


Figure 2: Study Area Crash Heat Map

5.1.1 Crashes by Severity

Crash severity measures the level of injury sustained by any person involved in a crash. Crash severity is divided into three general types:

- A fatal crash, in which one or more persons involved in the crash suffers an injury that results in death within 30 days following the crash.
- An injury crash, in which at least one person involved in the crash exhibits physical evidence of a serious, non-fatal injury.
- A property-damage-only (PDO) crash, in which no person involved in the crash exhibits physical evidence of injury or reports any change in their normal functions.

During the 5-year study period (2018-2022), 4,223 reported crashes occurred within the study area. Of these, 1,903 crashes (approximately 45 percent) were PDO crashes, 2,304

crashes (approximately 55 percent) resulted in injury, and 16 crashes (less than 1 percent) resulted in fatalities.

Approximately 13 percent of the total crashes (567) occurred at intersections. Three hundred and six intersection crashes (approximately 54 percent of all intersection crashes) were PDO crashes, while 259 crashes (approximately 45.7 percent) resulted in injuries. There were two fatal intersection crashes (less than 1 percent) during the study period. Many of the intersection-related crashes were rear-end and angle crashes associated with high volumes of traffic on main roadways in Maryville.

Other crashes reported during the study period occurred on study area segments (87 percent). Nearly 1,600 crashes (approximately 43.7 percent) were PDO crashes, while 2,045 (approximately 55.9 percent) crashes involved injuries. Less than one percent (14 crashes) of segment crashes involved fatalities. Figure 3 and Figure 4 show intersection and segment crashes by severity within the study area.

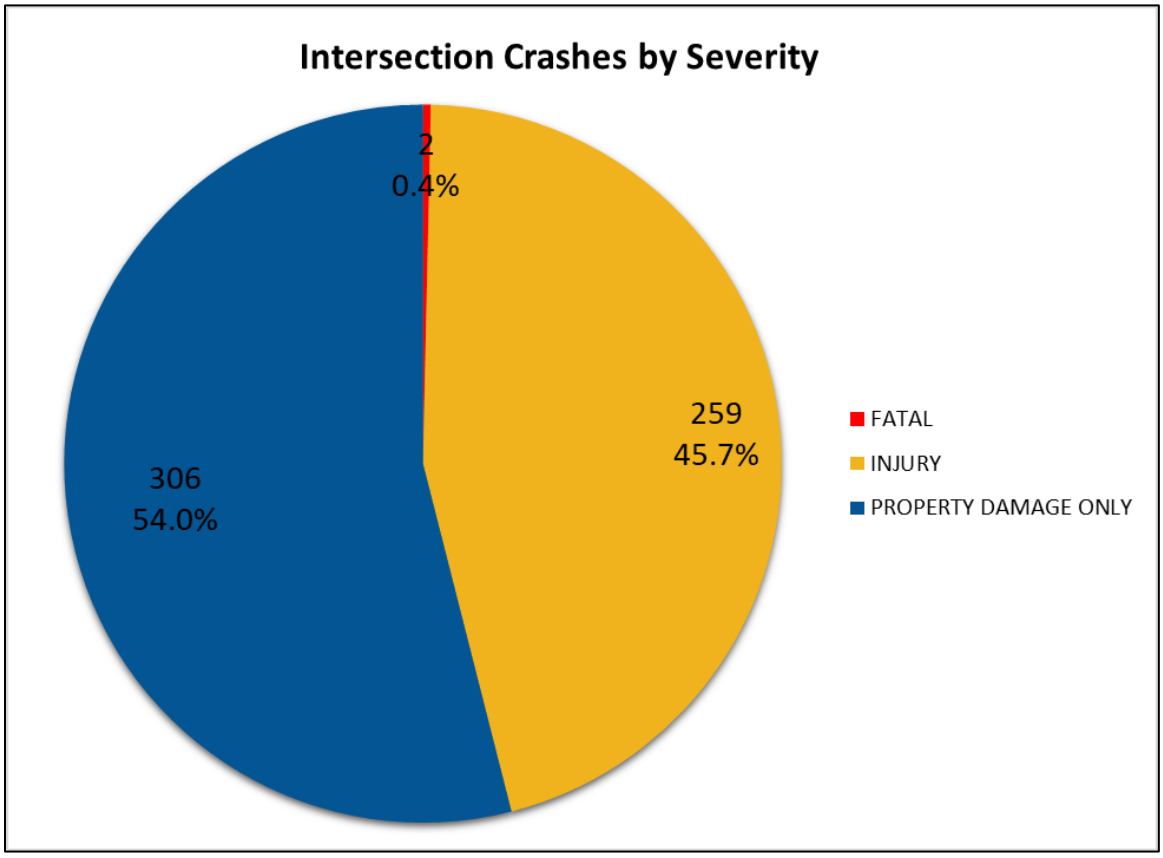


Figure 3: Intersection Crashes by Severity

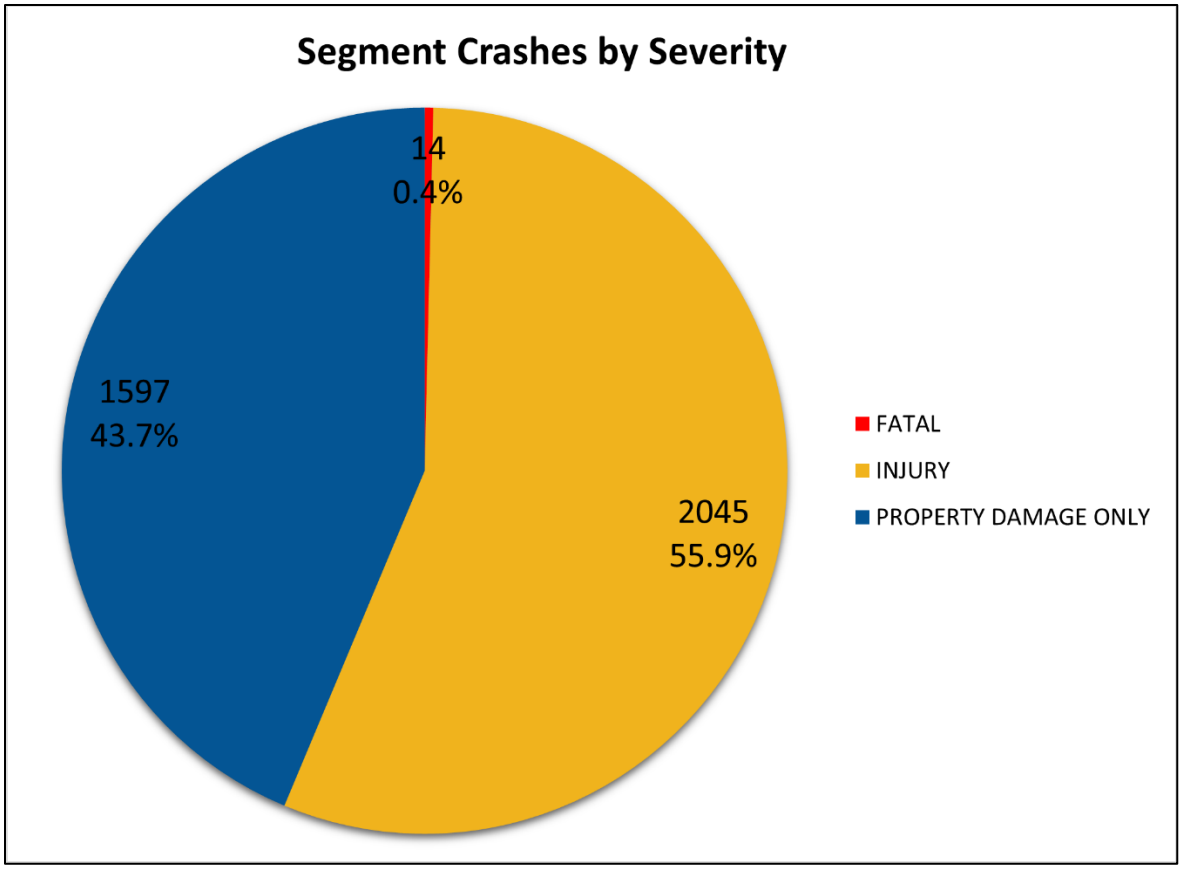


Figure 4: Segment Crashes by Severity

Table 4 details the 16 recorded fatal crashes during the 5-year period. Of the 16 fatal crashes, 6 did not involve collision with a motor vehicle and 5 involved an angle crash. Recorded lighting and weather conditions indicate that 8 out of 16 fatal crashes happened during daylight and that most crashes occurred during clear weather conditions. Seven of the 16 fatal crashes recoded during the 5-year study period occurred on SR-115 between SR-335 and Pellissippi Parkway.

Table 4: Recorded Fatal Crashes

Roadway	Date	Location	Most Harmful Event	Manner of Collision	Weather Condition	Lighting Condition
Sam Houston School Road Between SR-33 and Wildwood Road	September 25, 2018	Along Roadway	Ditch	Not a Collision with Motor Vehicle	Rain	Dark-Not Lighted
SR-115 between SR-335 and Pellissippi Parkway	September 17, 2022	Along Roadway	Vehicle in Transport	Sideswipe, Same Direction	Clear	Daylight
SR-115 between SR-335 and Pellissippi Parkway	February 24, 2019	Along Roadway	Vehicle in Transport	Head-On	Rain	Daylight
SR-115 between SR-335 and Pellissippi Parkway	December 16, 2019	Along Roadway	Vehicle in Transport	Other	Rain	Dark-Lighted
SR-115 between SR-335 and Pellissippi Parkway	November 2, 2021	Along Roadway	Ditch	Not a Collision with Motor Vehicle	Cloudy	Dark-Lighted
SR-115 between SR-335 and Pellissippi Parkway	January 27, 2021	Along Roadway	Vehicle in Transport	Other	Clear	Daylight
SR-115 between SR-335 and Pellissippi Parkway	November 16, 2019	Along Roadway	Overturn	Not a Collision with Motor Vehicle	Clear	Dark-Lighted
SR-115 between SR-335 and Pellissippi Parkway	April 8, 2018	Along Roadway	Luminaire/Light Support	Not a Collision with Motor Vehicle	Clear	Daylight
SR-35 between Peppermint Road & High Street	August 6, 2020	Along Roadway	Vehicle in Transport	Head-On	Clear	Dark-Not Lighted
SR-35 between SR-115 and SR-33	June 13, 2020	Along Roadway	Vehicle in Transport	Angle	Clear	Daylight
SR-73 between Jones Avenue and Tuckaleechee Pike	November 14, 2018	Along Roadway	Pedestrian	Not a Collision with Motor Vehicle	Rain	Dark-Lighted
SR-73 between Jones Avenue and Tuckaleechee Pike	March 10, 2018	Along Roadway	Vehicle in Transport	Angle	Cloudy	Dark-Lighted
SR-73 between Jones Avenue and Tuckaleechee Pike	January 14, 2022	Along Roadway	Vehicle in Transport	Head-On	Clear	Daylight

Roadway	Date	Location	Most Harmful Event	Manner of Collision	Weather Condition	Lighting Condition
SR-73 between Jones Avenue and Tuckaleechee Pike	May 21, 2018	Along Roadway	Vehicle in Transport	Angle	Clear	Daylight
Tuckaleechee Pike at SR-73	August 7, 2021	At an intersection	Vehicle in Transport	Angle	Clear	Daylight
Tuckaleechee Pike at SR-73	September 21, 2019	At an intersection	Curb	Not a Collision with Motor Vehicle	Clear	Dark-Not Lighted

5.1.2 Crashes by Manner of Collision

Crashes were further categorized by manner of collision to determine types of crashes and frequency of each crash type within the study area. For the crashes where manner of collision was not defined within raw data, other factors involved such as first harmful effect, crash relation to, etc., were analyzed to determine the manner of collision. Crashes with no additional available information were marked as 'other'. Figure 5 and Figure 6 show intersection and segment crashes by manner of collision, respectively. Rear-end and angle collisions are the most common crashes within the study area. Rear end and angle crashes account for approximately 48 percent and 35 percent of intersection crashes, respectively. As shown in Figure 6, rear-end and angle crashes account for approximately 48 percent and 26 percent of total segment crashes, respectively. Rear-end crashes are generally attributed to vehicles following too close due to congestion. Angle crashes are generally attributed to vehicles failing to yield to opposing traffic while making a turning movement.

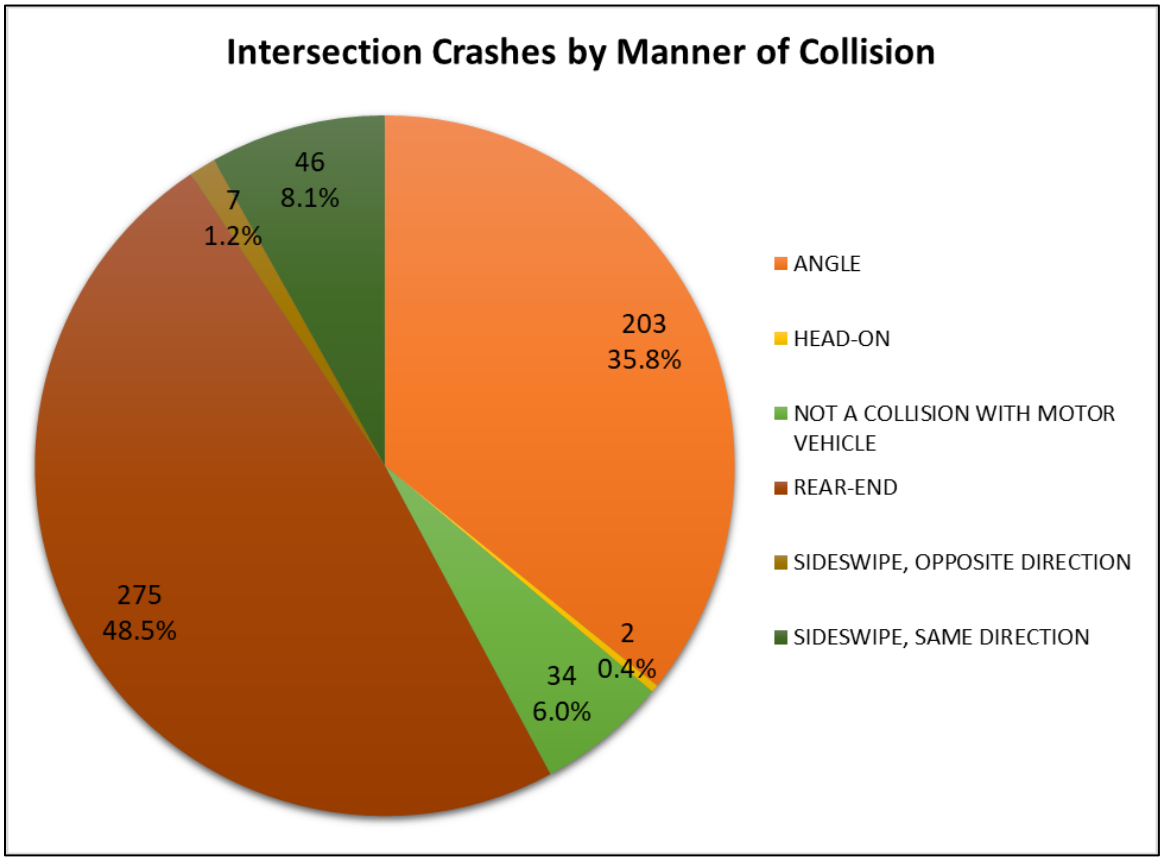


Figure 5: Intersection Crashes by Manner of Collision

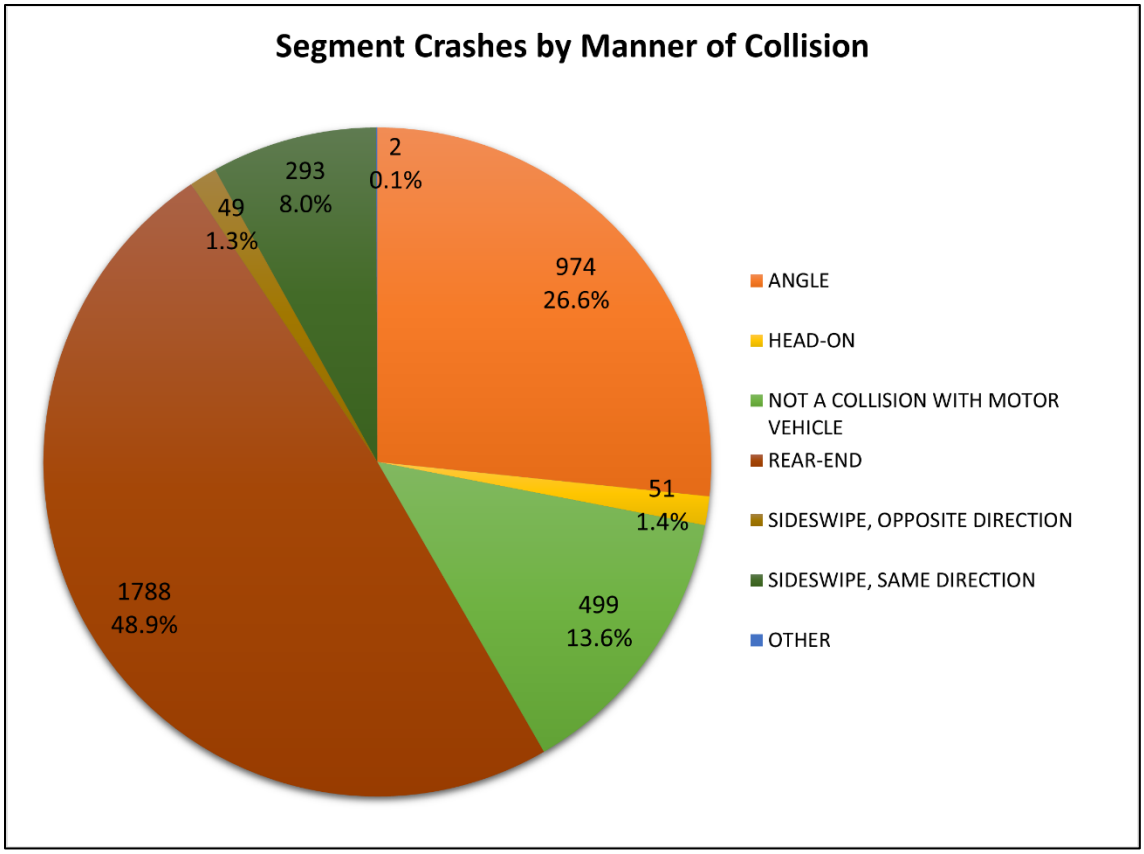


Figure 6: Segment Crashes by Manner of Collision

5.1.3 Crash Rates

Several parameters are used to define the frequency and severity of crashes during the study period and locate any statistical trends in the crash data. The parameters[1] include:

- Exposure rate (E), defined as the distance traveled by vehicles on a segment of roadway and measured in the analysis by million vehicle-miles (MVM)
- Actual crash rate (R), defined as the number of crashes per MVM
- Average crash rate (R_a), defined as the average crash rate on roadways with similar lane configurations and functional classifications throughout Tennessee

[1] Crash reports may use differing terminology for these parameters. The 2015 FEIS used the following parameters: A (Actual Crash Rate), C (Critical Crash Rate), and A/C (ratio of Actual Crash Rate to Critical Crash Rate). In this traffic and safety report: 'R' is the same as 'A', 'R_c' is the same as 'C', and 'R/R_c' is equivalent to 'A/C'.

Because crashes are random and relatively infrequent, comparing the R to R_a alone does not imply statistical significance. Instead, the critical crash rate (R_c) is used to determine whether the actual crash rate is significantly higher than average. The R_c determines whether the R significantly deviates from the R_a for facilities with similar characteristics.

The R_c is computed using the R_a as follows:

$$Rc = Ra + \frac{1}{2\ x\ E} + z\sqrt{Ra/E}$$

Where:

- R_c is the critical crash rate.
- R_a is the average crash rate for a set of roadway segments, spots, or intersections with similar characteristics.
- E is the exposure rate of a given roadway segment, spot, or intersections.
- Z is a critical value that represents an expected upper boundary (when determining high-crash locations) for the crash rate, R, at 99 percent confidence level.

The critical crash rate provides a statistical test for the crash rate of a given facility. If the critical crash rate exceeds 1.0, then that roadway section has more crashes than is statistically probable based on random occurrence.

Table 5 lists crash rates and other parameters by segment for the study area. As shown, the actual-to-critical crash rate exceeds 1.0 for several roadway segments (12 out of 30, highlighted in red) within the study area.

Table 5: Calculated crash parameters by Segment, 2018-2022[2]

Roadway	Segment	Total Crashes (C)	Length of Segment (L)	Exposure (E) MVM	Crash Rate (Crashes per 100 million vehicle miles of travel)	Actual Crash Rate (R)	Statewide Average Crash Rate (R_a)	Critical Crash Rate (R_c)	Critical Crash Rate Factor R/R_c
SR-115	North of Pellissippi Parkway/SR-162	44	0.25	21.31	206.45	2.06	1.98	2.71	0.76
	Between SR-335/E Hunt Road & Pellissippi Parkway/SR-162	674	2.65	297.88	226.26	2.26	1.98	2.17	1.04
	Between SR-35/Washington St & SR-335/E Hunt Road	86	0.91	104.18	82.55	0.83	1.98	2.30	0.36
	Between SR-73/Lamar Alexander Parkway & SR-35/Washington St	522	2.79	215.47	242.26	2.42	1.98	2.20	1.10
SR-33	North of Sam Houston School Road	0	0.00	0.00	-	-	2.51	-	-

[2] Previous analysis in FEIS included some of the side roads, in addition to the actual intersections that were being analyzed. Segment AADTs are needed for crash rate calculations. Therefore, they were updated to match the latest volume diagrams so that crash rates could be calculated.

Roadway	Segment	Total Crashes (C)	Length of Segment (L)	Exposure (E) MVM	Crash Rate (Crashes per 100 million vehicle miles of travel)	Actual Crash Rate (R)	Statewide Average Crash Rate (R_a)	Critical Crash Rate (R_c)	Critical Crash Rate Factor R/R_c
	Between Sam Houston School Road and SR-162	0	0.00	0.00	-	-	2.51	-	-
	Between Pellissippi Parkway/SR-162 and SR-335/E Hunt Road	79	0.26	8.51	928.63	9.29	1.98	3.15	2.94
	Between SR-335/E Hunt Road and Wildwood Road	182	1.26	28.17	646.03	6.46	2.51	3.22	2.01
	Between SR-35/Washington St and Wildwood Road	220	1.82	44.19	497.90	4.98	2.51	3.07	1.62
	Between SR-73/Lamar Alexander Parkway and SR-35/Washington St	126	0.70	14.44	872.37	8.72	2.51	3.51	2.48
Wildwood Road	East of Sam Houston School Road	0	0.00	0.00	-	-	3.35	-	-
	Between Sam Houston School	0	0.00	0.00	-	-	3.35	-	-

Roadway	Segment	Total Crashes (C)	Length of Segment (L)	Exposure (E) MVM	Crash Rate (Crashes per 100 million vehicle miles of travel)	Actual Crash Rate (R)	Statewide Average Crash Rate (R_a)	Critical Crash Rate (R_c)	Critical Crash Rate Factor R/R_c
	Road and Peppermint Road								
	Between Peppermint Road and SR-33/Old Knoxville Hwy	31	2.46	17.59	176.24	1.76	3.35	4.39	0.40
SR-73	Between Jones Ave and SR-33/Old Knoxville Hwy	98	0.77	27.09	361.79	3.62	1.98	2.62	1.38
	Between Jones Ave and Tuckaleechee Pike	402	4.29	296.45	135.61	1.36	1.98	2.17	0.63
	East of Tuckaleechee Pike	1	0.12	4.36	22.96	0.23	1.98	3.66	0.06
SR-335	Between SR-115/US 129 Bypass and SR-33/Old Knoxville Hwy	81	2.66	43.61	185.74	1.86	2.51	3.08	0.60
SR-35	Between Peppermint Road and High St	259	4.15	63.84	405.70	4.06	2.51	2.98	1.36
	Between High St and Sevierville Road	11	0.06	2.78	395.47	3.95	0.47	1.60	2.48

Roadway	Segment	Total Crashes (C)	Length of Segment (L)	Exposure (E) MVM	Crash Rate (Crashes per 100 million vehicle miles of travel)	Actual Crash Rate (R)	Statewide Average Crash Rate (R_a)	Critical Crash Rate (R_c)	Critical Crash Rate Factor R/R_c
	Between SR-33/Old Knoxville Hwy and Sevierville Road	11	0.08	3.14	350.38	3.50	0.47	1.52	2.31
	Between SR-115/US 129 Bypass and SR-33/Old Knoxville Hwy	371	2.30	107.67	344.58	3.45	1.98	2.29	1.50
Pellissippi Parkway/SR-162	Between SR-115/US 129 Bypass and SR-33/Old Knoxville Hwy	74	2.15	61.16	120.99	1.21	1.98	2.40	0.50
	West of SR-115/US 129 Bypass	35	0.43	29.62	118.15	1.18	1.98	2.59	0.46
Helton Road	Between SR-73/Lamar Alexander Parkway and Davis Ford Road	8	1.26	0.94	847.30	8.47	3.35	8.26	1.03
Davis Ford Road	East of Hitch Road	2	0.13	0.41	484.53	4.85	2.56	9.56	0.51
Peppermint Hills Dr	Peppermint Hills Dr	1	0.86	0.33	303.40	3.03	3.35	12.28	0.25

Roadway	Segment	Total Crashes (C)	Length of Segment (L)	Exposure (E) MVM	Crash Rate (Crashes per 100 million vehicle miles of travel)	Actual Crash Rate (R)	Statewide Average Crash Rate (R_a)	Critical Crash Rate (R_c)	Critical Crash Rate Factor R/R_c
Peppermint Road	Between Wildwood Road and SR-35/Washington St	13	0.81	5.83	222.80	2.23	3.35	5.19	0.43
Sevierville Road	Sevierville Road	3	0.15	0.66	455.07	4.55	3.97	10.44	0.44
Sam Houston School Road	Between SR-33/Old Knoxville Hwy and Wildwood Road	43	2.56	30.27	142.05	1.42	3.35	4.14	0.34
Hitch Road	Between SR-35/Washington St and Davis Ford Road	8	1.17	4.35	184.02	1.84	3.35	5.50	0.33

5.1.4 Crash Characteristics

Figure 7 displays the percentage of recorded crashes by the type of location where the crashes occurred. Of the recorded crashes within the study area, 3,480 (approximately 82.4 percent) occurred along the roadway, 567 (approximately 13.4 percent) occurred at an intersection, 175 crashes (approximately 4.1 percent) occurred on a ramp, and one crash occurred at a railroad (RR) crossing.

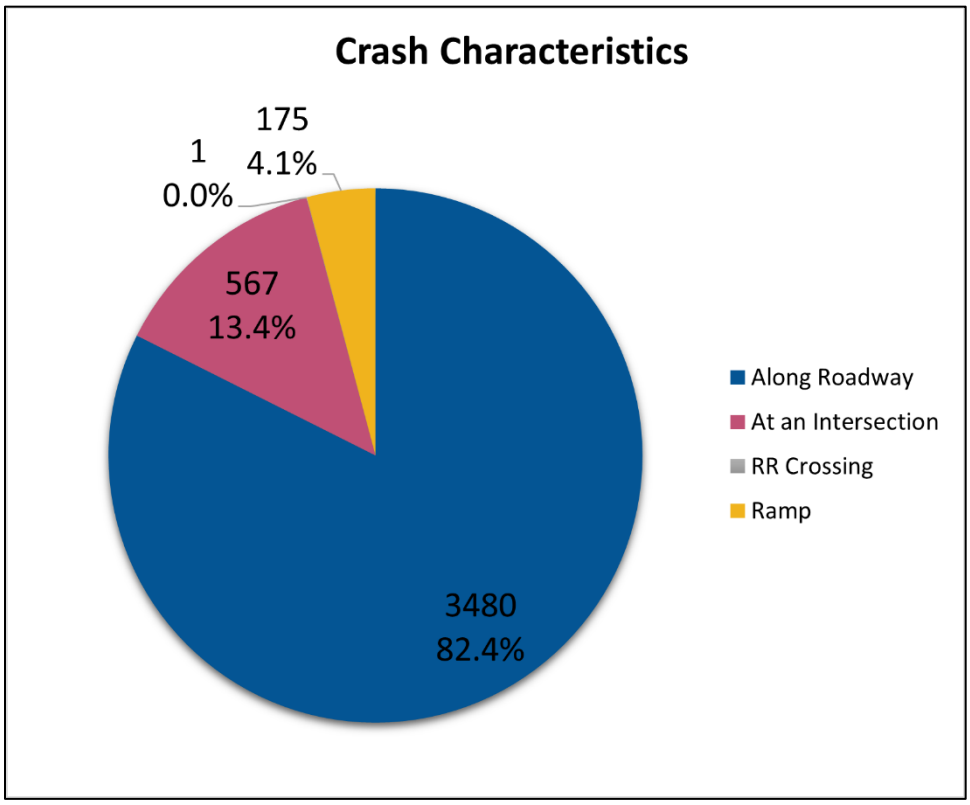


Figure 7: Recorded Crashes by Location Type, 2018-2022

5.2 Future Safety Conditions

TDOT's standard practice is to utilize a qualitative approach to address the future safety conditions of new or upgraded roadways. This approach is utilized in the analysis of the three alternatives discussed in this report: the No-Build Alternative, Selected Alternative, and Build Alternative D.

Roadways are separated into functional classes based on the level of service the road provides and design standards such as lane and shoulder widths. Functional classes range from local roads, which are low speed (<45 mph) and provide limited mobility for users, to interstates, which have speeds up to 75 mph and provide high levels of mobility for

roadway users. Tennessee roads that are functionally classified as freeways, also referred to as interstate highways, have statewide average crash rates lower than all other roadway types, including those within the project study area. The lower crash rate seen on freeways is mainly due to their design features. Freeways can control traffic flow and restrict access to and from the highway. Additionally, freeways have no traffic signals, intersections, or direct access to properties; and no at-grade crossings with other roads, railroads, or bike/pedestrian paths. These features inherently reduce potential traffic incidents compared to other roadway functional classifications.

The No-Build Alternative analyzes future traffic scenarios without extending Pellissippi Parkway. As the functional classifications of local roads (low speed roads that primarily provide residential access) are not upgraded in this alternative, the average crash rate is not expected to decrease, and safety conditions are unlikely to improve. Additionally, traffic will continue to utilize the existing roadway network as used in the Existing Year (2022), which includes elements such as: at-grade intersections, traffic signals, stop and yield signs, direct access to residential and commercial properties/driveways, narrow traffic lanes, narrow or non-existent medians/shoulders, and inadequate clear zones and sight distances. These listed factors typically yield more crashes. Moreover, vehicular movement conflicts are not reduced and other concerns such as inadequate or non-existing shoulders/medians are not addressed.

Build Alternative D proposed to combine six intersections into three and convert five three-legged intersections into three four-legged intersections in lieu of extending Pellissippi Parkway. The additional traffic volume in the Base and Design Year scenarios would be diverted to the proposed intersection configurations, which would introduce more conflicts with the additional approaches being added. Although Build Alternative D proposed upgrades to the existing network of two-lane roads such as straightening curves, realigning intersections, and using new locations to provide a continuous route with a 50-mph design speed, it was not anticipated to sufficiently address the project's goal of enhancing roadway safety in the project area. This is because the roadway functional classifications in the study area would remain unchanged, thus failing to reduce the potential for crashes within the study network.

The Selected Alternative, which extends Pellissippi Parkway and meets freeway/interstate level design standards, is expected to be safer than both the No-Build Alternative and Build Alternative D. Additionally, since the extended Pellissippi Parkway will have increased vehicular capacity as a four-lane median-divided roadway, much of the current traffic volume will be diverted to the extension. This is anticipated to improve the safety on other roads within the study network as many of the study area roadways are forecasted to have lower traffic volumes in the Base and Design Years.

As traffic migrates from existing non-freeway roadways to the proposed freeway in the Selected Alternative, there is anticipated to be a shift from roads with higher typical average crash rates to a roadway with lower typical crash rates. This reduction in average crash rates supports the project's goal of enhancing roadway safety within the proposed project and study areas.

6. Traffic Operational Analysis

6.1 Existing Traffic Operational Analysis

A LOS analysis was conducted to determine how well traffic currently operates on the existing roadway network. The analysis was conducted for intersections and corridors within the study area.

6.1.1 Intersections Level of Service Analysis

The following intersections were identified within the study area of the project. Each of the intersections have been evaluated for the Existing Year to determine existing intersection operational conditions within the study area network. Table 6 shows intersection-level delay (seconds/vehicle) and LOS for the Existing Year (2022). Green shading was used to indicate acceptable traffic operations (LOS A to C) and yellow indicates the threshold for desirable operating conditions (LOS D). Orange and red indicate poor and failing traffic operations with LOS E and LOS F respectively.

- SR-162 at SR-33 Off-Ramp
- SR-162 at SR-33 On-Ramp
- SR-33 at Wildwood Road
- SR-33 at SR-35
- SR-35 at Sevierville Road
- SR-35 at SR-447 and High Street
- SR-73 at SR-447 and Jones Avenue
- SR-33 at Sam Houston School Road
- Wildwood Road at Sam Houston School Road
- Wildwood Road at Peppermint Road
- SR-35 at Peppermint Road
- SR-35 at Peppermint Hills Drive and Hitch Road
- Davis Ford Road at Hitch Road
- Davis Ford Road at Helton Road
- SR-73 at Helton Road and Tuckaleechee Pike

Table 6: Existing Year (2022) – Intersection Delay and Level of Service

Intersection	Control Type	Existing Year (2022)			
		AM		PM	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS
SR-33 at I-140 Off-Ramp*	Signalized	17.3	B	32.2	C
SR-33 at I-140 On-Ramp	Signalized	1.1	A	0.7	A
SR-33 at Wildwood Road	Unsignalized	34.2	D	96.8	F
SR-33 at SR-35/Washington Street	Signalized	28.6	C	46.6	D
SR-35/Washington Street at US 411/Sevierville Road	Signalized	8.3	A	20.1	C
Washington Street/SR-35 at High Street/SR 35	Signalized	18.1	B	26.3	C
Washington Street at US 321/SR 73	Signalized	28.9	C	62.3	E
SR-33 at Sam Houston School Road	Signalized	28.1	C	11.9	B
Sam Houston School Road at Wildwood Road	Unsignalized	28.4	D	21.6	C
Peppermint Road at Wildwood Road	Unsignalized	15.1	C	16.7	C
SR-35/US411/Sevierville Road at Peppermint Road	Unsignalized	73.2	F	132.3	F
SR-35/US 411/Sevierville Road at Hitch Road/Peppermint Hills Drive	Unsignalized	67.2	F	29.1	D
Davis Ford Road at Hitch Road	Unsignalized	11.9	B	10.7	B
Davis Ford Road at Helton Road	Unsignalized	9.1	A	8.8	A
SR-73/US 321 at Helton Road/Tuckaleechee Pike	Unsignalized	351.1	F	47.1	E

**HCM 2000 results have been used as HCM 6th edition or HCM 2010 cannot analyze intersection LOS*
For unsignalized intersections, maximum side street left-turn delay is reported

6.1.2 Corridor Level of Service Analysis

The following roadways were identified within the study area for corridor analysis.[3]

- Pellissippi Parkway (I-140)
- Alcoa Highway (SR-115)
- East Broadway/Old Knoxville Highway (SR-33)
- US 411 (SR-35)
- Lamar Alexander Parkway (SR-73)
- Sam Houston Road
- Wildwood Road
- Peppermint Road
- Hitch Road
- Davis Ford Road
- Helton Road

Segment-level density and LOS results for Existing Year are summarized in Table 7. Detailed results including lengths of segments, estimated travel speeds, and percentage time spent following are summarized in Appendix B. Sections with associated speeds less than 45 mph were not analyzed because HCS software cannot calculate if the free-flow speed is less than 45 mph. The shading on the table indicates acceptable versus poor operating conditions.

Table 7: Existing Year (2022) – Corridor Density and Level of Service

Existing Year (2022)		AM		PM	
Roadway	Segment	Density (pc/mi/ln)[4]	LOS	Density (pc/mi/ln)	LOS
I-140 EB	I-140 west of SR-115	17.5	B	24.9	C
	I-140 Off Ramp to SR-115 SB	22.4	C	32.3	D

[3] Roadway segments have been updated to match the latest volume diagrams. Additional segments were added for I-140 (Pellissippi Parkway) to capture merge/diverge locations for on-ramps and off-ramps following HCM 6th edition methodology. Although road names differ slightly in the corridor LOS table (Table 7), they still capture the analysis for entire study network that was previously analyzed as part of the FEIS.

[4] Traffic density is measured as the number of passenger cars per mile per lane.

Existing Year (2022)		AM		PM	
	I-140 between SR-115 SB Off Ramp and SR-115 SB On Ramp	7.6	A	11.9	B
	I-140 between SR-115 SB On Ramp and SR-115 NB Off Ramp	9.4	A	13.3	B
	I-140 between SR-115 NB Off Ramp and SR-115 NB On Ramp	5.8	A	8.5	A
	SR-115 NB On Ramp to I-140 EB	6.7	A	10.1	B
	I-140 east of SR-115	6.1	A	9.2	A
I-140 WB	I-140 east of SR-115	14.2	B	9.7	A
	I-140 Off Ramp to SR-115 NB	17.9	B	12.1	B
	I-140 between SR-115 NB Off Ramp and SR-115 NB On Ramp	7.7	A	6.7	A
	I-140 between SR-115 NB On Ramp and SR-115 SB Off Ramp	18.3	B	19.5	B
	SR-115 SB On Ramp to I-140 WB	18.7	C	18.7	C
	SR-115 SB On Ramp to I-140 WB	24.0	C	65.1	F
	I-140 west of SR-115	21.4	C	22.3	C
SR-115 NB	SR-115 south of SR-35	72.6	F	24.7	C
	SR-115 NB Off-Ramp to SR-35 SB	61.2	F	29.5	D
	SR-115 between SR-35 SB Off-Ramp to SR-35 NB On Ramp	74.8	F	23.9	C
	SR-35 NB On Ramp to SR-115 NB	42.2	F	35.4	F
	SR-115 between SR-35 to SR-335	38.2	E	31.7	D
	SR-115 between SR-335 to I-140	21.5	C	22.4	C
	SR-115 Off Ramp to I-140 EB	25.3	C	25.9	C
	SR-115 between I-140 EB Off Ramp and I-140 EB On Ramp	21.1	C	96.5	F
	SR-115 between I-140 EB On Ramp and I-140 WB Off Ramp	25.0	C	24.5	C
	SR-115 between I-140 WB Off Ramp and I-140 WB On Ramp	16.6	B	10.5	A
	I-140 WB On Ramp to SR-115 NB	25.9	C	15.0	B
	SR-115 north of I-140	23.7	C	13.7	B
SR-115 SB	SR-115 north of I-140	20.3	C	28.2	D
	SR-115 Off Ramp to I-140 WB	24.2	C	33.6	D
	SR-115 between I-140 WB Off Ramp and I-140 WB On Ramp	17.8	B	24.6	C
	SR-115 between I-140 WB On Ramp and I-140 EB Off Ramp	14.5	B	21.1	C

Existing Year (2022)		AM		PM	
	SR-115 between I-140 EB Off-Ramp to I-140 EB On Ramp	14.9	B	22.4	C
	I-140 EB On Ramp to SR-115 SB	28.1	D	41.9	F
	SR-115 between I-140 to SR-335	25.7	C	39.0	E
	SR-115 between SR-335 to SR-35	24.7	C	57.5	F
	SR-115 SB Off-Ramp to SR-35	30.3	D	43.8	F
	SR-115 south of SR-35	17.0	B	25.5	C
SR-33	South of SR-35	9.3	C	10.8	D
	SR-35 to Wildwood Road	8.2	C	15.3	E
	Wildwood Road to SR-335	8.8	C	14.3	D
	SR-335 to SR-162	24.8	E	27.6	E
	SR-162 to Sam Houston School Road	22.6	E	23.3	E
	North of Sam Houston School Road	7.9	C	11.2	D
SR-35/US 411	SR-447 to Peppermint Road	13.5	D	14.5	D
	Peppermint Road to Hitch Road	20.6	E	18.3	E
	West of Hitch Road	7.9	C	7.7	C
SR-73 EB	SR-33 to SR-35/SR-447	15.6	B	15.5	B
	SR-35/SR-447 to Helton Road	16.4	B	22.5	C
	East of Helton Road	10.1	A	10.1	A
SR-73 WB	SR-33 to SR-35/SR-447	11.5	B	15.1	B
	SR-35/SR-447 to Helton Road	16.1	B	17.9	B
	East of Helton Road	13.0	B	8.3	A
Sam Houston Road	Between SR-33 and Wildwood Road	10.7	D	6.2	C
Wildwood Road	SR-33 to Peppermint Road	3.4	B	3.1	B
	Peppermint Road to Sam Houston School Road	8.4	C	6.8	C
	East of Sam Houston School Road	6.0	C	5.6	C
Peppermint Road	Between Wildwood Road and SR-35	7.0	C	4.9	B
Hitch Road	Between SR-35 and Davis Ford Road	2.3	A	1.4	A
Davis Ford Road	West of Helton Road	1.3	A	0.9	A
	Helton Road to Hitch Road	1.7	A	1.1	A
	East of Hitch Road	4.0	B	2.4	A

Existing Year (2022)		AM		PM	
Helton Road	Between Davis Ford Road and Tuckaleechee Pike	0.3	A	0.1	A

It can be observed from the table that majority of the study area – except SR-115 – operates at acceptable or close to acceptable LOS. SR-115 close to SR-35 and SR-335 operates at LOS F. I-140 and other state routes operate at acceptable LOS. Overall, higher delays and LOS were noticed for PM peak hour when compared with AM.

6.2 Future Traffic Operational Analysis

A LOS analysis was conducted for the project to determine how well traffic would operate on the existing roadway network system in 2026 (Base Year) and 2046 (Design Year) if Pellissippi Parkway is not extended (no-build condition), compared to how the traffic would operate with the extension (Selected Alternative), and with Alternative D as described in Section 3.2.

6.2.1 Intersections Level of Service Analysis

Each of the intersections identified in Section 6.1 were analyzed for the Base and Design Year scenarios for the No-Build condition, the Selected Alternative, and Build Alternative D. Table 8 and Table 9 are visual comparisons of how the LOS varies between the scenarios, with intersection delays shown in seconds per vehicle.

Overall, delay and LOS improved when comparing the Selected Alternative to the No-Build condition for both the Base and Design Years. Of the seventeen (17) intersections analyzed for the Selected Alternative, seven (7) intersections improved for either the AM or PM scenarios or both, nine (9) remained the same, and one (1), SR-162 at SR-33 ramp terminal worsened when compared to the No-Build condition in both the Base Year and Design Year analysis. For SR-162 at SR-33 ramp terminal intersections shown in the tables below, LOS worsened from the No-Build to Build scenarios. However, this result was anticipated due to the additional approach added to the previously three-legged intersection. The additional approach introduces additional intersection conflicts and additional yellow and red time yielding more delay.

The Selected Alternative decreases delay at several of the existing intersections in the study area. In the Base Year, delay decreases at seven intersections during peak AM traffic and eight intersections during peak PM traffic with the Selected Alternative. By the Design Year, delay is shortened at five and seven intersections during AM and PM peak traffic times,

respectively. This is mainly due to the decreased volume utilizing local roads and instead utilizing the future Pellissippi Parkway Extension.

Within the Build Alternative D scenario, traffic operations worsened in the Base and Design Years. Since lane capacities were not increased in this scenario, the increased traffic volumes yielded LOS F for many of the intersections.

Table 8: Base Year (2026) Intersection Delay and Level of Service

Intersection	Control Type	Base Year (2026)											
		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
SR-33 at I-140 Off-Ramp*	Signalized	17.9	B	35.4	D	23.9	C	45.0	D	27.7	C	63.3	E
SR-33 at I-140 On-Ramp	Signalized	1.6	A	0.8	A	35.4	D	12.7	B	0.9	A	0.9	A
SR-33 at Wildwood Road	Unsignalized	41.7	E	133.0	F	37.8	E	179.1	F	95.5	F	>300	F
SR-33 at SR-35/Washington Street	Signalized	48.2	D	77.9	E	35.5	D	58.2	E	33.2	C	61.4	E
SR-35/Washington Street at US 411/Sevierville Road	Signalized	13.9	B	28.7	C	13.6	B	14.7	B	17.2	B	20.2	B
Washington Street/SR-35 at High Street/SR 35	Signalized	28.2	C	41.4	D	27.8	C	34.1	C	29.7	C	46.2	D
Washington Street at US 321/SR 73	Signalized	75.5	E	296.4	F	61.6	E	93.1	F	>300	F	>300	F
SR-33 at Sam Houston School Road	Signalized	27.9	C	29.9	C	16.5	B	28.3	C	171.2	F	113.2	F
Sam Houston School Road at Wildwood Road	Unsignalized	28.4	D	21.6	C	16.3	C	16.5	C	>300	F	>300	F
Peppermint Road at Wildwood Road	Unsignalized	15.1	C	15.1	C	16.6	C	15.5	C	-	-	-	-

Intersection	Control Type	Base Year (2026)											
		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
SR-35/US411/Sevierville Road at Peppermint Road	Unsignalized	96.4	F	156.7	F	253.5	F	122.5	F	-	-	-	-
SR-35/US 411/Sevierville Road at Hitch Road/Peppermint Hills Drive	Unsignalized	62.0	F	41.5	E	91.5	F	26.7	D	>300	F	>300	F
Davis Ford Road at Hitch Road	Unsignalized	10.6	B	10.5	B	10.9	B	10.8	B	32.6	D	24.4	C
Davis Ford Road at Helton Road	Unsignalized	8.7	A	8.9	A	8.7	A	9.0	A	-	-	-	-
SR-73/US 321 at Helton Road/Tuckaleechee Pike	Unsignalized	234.0	F	179.6	F	533.0	F	293.7	F	289.1	F	204.3	F
Ramp 2-D/Ramp 2-A & SR-35	Signalized	-	-	-	-	14.6	B	10.7	B	-	-	-	-
Ramp 2-C/Ramp 2-B & SR-35	Signalized	-	-	-	-	11.3	B	33.0	C	-	-	-	-

**HCM 2000 results have been used as HCM 6th edition or HCM 2010 cannot analyze intersection LOS*
For unsignalized intersections, maximum side street left-turn delay is reported

Table 9: Design Year (2046) Intersection Delay and Level of Service

Intersection	Control Type	Design Year (2046)											
		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
SR-33 at I-140 Off-Ramp*	Signalized	35.0	D	114.3	F	38.3	D	87.9	F	242.4	F	>300	F
SR-33 at I-140 On-Ramp	Signalized	12.2	B	3.9	A	52.3	D	16.1	B	10.4	A	4.9	A
SR-33 at Wildwood Road	Unsignalized	158.5	F	>300	F	63.9	F	>300	F	190.4	F	>300	F
SR-33 at SR-35/Washington Street	Signalized	72.4	E	131.5	F	46.6	D	79.1	E	41.4	D	81.5	F
SR-35/Washington Street at US 411/Sevierville Road	Signalized	16.5	B	54.5	D	17.6	B	22.2	C	17.2	B	21.3	C
Washington Street/SR-35 at High Street/SR 35	Signalized	42.1	D	74.5	E	51.1	D	74.0	E	52.2	D	96.2	F
Washington Street at US 321/SR 73	Signalized	111.6	F	212.6	F	93.4	F	143.0	F	123.7	F	199.9	F
SR-33 at Sam Houston School Road	Signalized	59.5	E	91.1	F	22.7	C	106.4	F	>300	F	>300	F
Sam Houston School Road at Wildwood Road	Unsignalized	71.1	F	67.7	F	26.1	D	23.8	C	>300	F	>300	F
Peppermint Road at Wildwood Road	Unsignalized	25.1	D	39.5	E	31.8	D	25.1	D	-	-	-	-

Intersection	Control Type	Design Year (2046)											
		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
		Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS	Delay (s/veh)	LOS
SR-35/US411/Sevierville Road at Peppermint Road	Unsignalized	>300	F	>300	F	>300	F	>300	F	-	-	-	-
SR-35/US 411/Sevierville Road at Hitch Road/Peppermint Hills Drive	Unsignalized	157.8	F	88.8	F	>300	F	121.2	F	>300	F	>300	F
Davis Ford Road at Hitch Road	Unsignalized	11.2	B	11.1	B	12.9	B	12.6	B	>300	F	>300	F
Davis Ford Road at Helton Road	Unsignalized	8.8	A	9.0	A	9.2	A	9.7	A	-	-	-	-
SR-73/US 321 at Helton Road/Tuckaleechee Pike	Unsignalized	>300	F	>300	F	>300	F	>300	F	>300	F	>300	F
Ramp 2-D/Ramp 2-A & SR-35	Signalized	-	-	-	-	26.9	C	12.3	B	-	-	-	-
Ramp 2-C/Ramp 2-B & SR-35	Signalized	-	-	-	-	22.5	C	70.7	E	-	-	-	-

**HCM 2000 results have been used as HCM 6th edition or HCM 2010 cannot analyze intersection LOS*
For unsignalized intersections, maximum side street left-turn delay is reported

6.2.2 Corridor Level of Service Analysis

Corridor LOS analysis was performed for Base and Design Year scenarios for the No-Build condition, the Selected Alternative, and Build Alternative D. Table 10 and Table 11 compare operational performance of the study corridor within the alternatives analyzed for the Base Year and Design Year respectively. LOS is color coded from green to red with green indicating acceptable traffic operations (LOS A-C), yellow representing the threshold for desirable operating conditions (LOS D), and red indicating poor to failing operating conditions (LOS E and F, respectively). Gray shading was used where density and LOS could not be calculated due to the inability of the software modules. Detailed results including travel speeds and percentage time spent following are included in Appendix B. Synchro reports along with HCS reports for all analysis scenarios are included in Appendix C.

For both Base Year and Design Year scenarios, it was observed that the Selected Alternative performs at an LOS equivalent to or better than No-Build for the majority of the 93 corridor segments that were analyzed. Even though a few segments show slightly higher delays in the build scenario, LOS A through C would operate well at close to free-flow speeds and would be considered acceptable operationally.

Overall, Build Alternative D was noticed to perform at worse operating conditions than No-Build. The Pellissippi Parkway Extension (PPE) section in Selected Alternative operates at an acceptable LOS in the Base Year (2026). Though a few segments of I-140 operate at LOS F in the Design Year, the majority of the corridor operates within LOS A to C.

Table 10: Base Year (2026) Corridor Density (pc/mi/ln) and Level of Service

Base Year (2026)		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
I-140 East Bound	I-140 west of SR-115	20.6	C	25.9	C	20.7	C	26.1	D	20.8	C	26.2	D
	I-140 Off Ramp to SR-115 SB	26.7	C	34.2	D	26.3	C	32.9	D	26.4	C	33.5	D
	I-140 between SR-115 SB Off Ramp and Relocated SR-115 SB Off Ramp	7.8	A	9.3	A	13.3	B	18	C	13.2	B	15.9	B
	I-140 Off Ramp to Relocated SR-115 SB	9.9	A	11.7	B	17.2	B	21.8	C	16.2	B	19.6	B
	I-140 between Relocated SR-115 SB Off Ramp and Relocated SR-115 NB On Ramp	0.8	A	3.1	A	0.3	A	6.7	A	0.5	A	1.4	A
	SR-115 NB On Ramp to I-140 EB	5.9	A	10.0	B	7.6	A	15.9	B	6.9	A	9.1	A
	I-140 between Relocated SR-115 NB On Ramp and Relocated SR-115 SB On Ramp	5.5	A	9	A	7.1	A	14.6	B	6.4	A	8.5	A
	Relocated SR-115 NB On Ramp to I-140 EB	7.1	A	12.1	B	9.4	A	19.1	B	9.2	A	13.1	B
	I-140 between Relocated SR-115 NB On Ramp and SR-33	6.5	A	10.9	A	8.7	A	17.5	B	8.5	A	12.0	B
	I-140 Off Ramp to SR-33 SB	-	-	-	-	10.8	B	21	C	-	-	-	-
	I-140 between SR-33 SB Off Ramp and SR-33 SB On Ramp	-	-	-	-	2.5	A	9.8	A	-	-	-	-

Base Year (2026)		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
	SR-33 SB On Ramp to I-140 EB	-	-	-	-	6.8	A	15.9	B	-	-	-	-
	I-140 between SR-33 and SR-35	-	-	-	-	6.2	A	14.6	B	-	-	-	-
	I-140 Off Ramp to SR-35 WB	-	-	-	-	7.6	A	16.9	B	-	-	-	-
	I-140 between SR-35 EB Off Ramp to SR-35 EB On Ramp	-	-	-	-	4.5	A	10	A	-	-	-	-
	SR-35 On Ramp to I-140 SB	-	-	-	-	7	A	13.1	B	-	-	-	-
	I-140 between SR-35 and SR-73	-	-	-	-	6.2	A	11.8	B	-	-	-	-
	I-140 Off Ramp to SR-73 WB	-	-	-	-	7.8	A	14	B	-	-	-	-
	I-140 between SR-73 WB Off Ramp and SR-73 EB Off Ramp	-	-	-	-	3.7	A	6.5	A	-	-	-	-
I-140 West Bound	I-140 between SR-73 EB On Ramp and SR-73 WB On Ramp	-	-	-	-	5.9	A	2.3	A	-	-	-	-
	SR-73 WB On Ramp to I-140 NB	-	-	-	-	13	B	6.1	A	-	-	-	-
	I-140 between SR-73 and SR-35	-	-	-	-	12.7	B	5.4	A	-	-	-	-
	I-140 Off Ramp to Relocated SR-115 SB	-	-	-	-	16.5	B	6.8	A	-	-	-	-
	I-140 between SR-35 EB Off ramp to SR-35 WB On Ramp	-	-	-	-	11.4	B	4.7	A	-	-	-	-
	SR-35 WB On Ramp to I-140 NB	-	-	-	-	16.4	B	7	A	-	-	-	-
	I-140 between SR-35 to SR-33	-	-	-	-	15	B	6.6	A	-	-	-	-
	I-140 Off Ramp to SR-33 NB	-	-	-	-	18.8	B	7.7	A	-	-	-	-
	I-140 between SR-33 NB Off Ramp to SR-33 SB On Ramp	-	-	-	-	9.5	A	3.5	A	-	-	-	-

Base Year (2026)		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
	SR-33 SB On Ramp to I-140 WB	-	-	-	-	22.6	C	12.6	B	-	-	-	-
	I-140 between SR-33 and Relocated SR 115 NB Off Ramp	10.4	A	7.4	A	20.3	C	11.7	B	12.5	B	10.4	A
	I-140 Off Ramp to SR-115 NB	13.0	B	9.3	A	25.4	C	14.7	B	15.9	B	13.2	B
	I-140 between Relocated SR-115 NB Off Ramp and Relocated SR-115 SB Off Ramp	4.7	A	1.9	A	11.8	B	3.6	A	5.2	A	3.3	A
	I-140 Off Ramp to Relocated SR-115 SB	5.8	A	2.4	A	14.6	B	4.2	A	6.1	A	3.9	A
	I-140 between Relocated SR-115 SB Off Ramp and Relocated SR-115 SB On Ramp	3.5	A	0.6	A	9.5	A	1	A	1.8	A	0.3	A
	Relocated SR-115 SB On Ramp to I-140 WB	10.5	B	11.4	B	20.1	C	14.7	B	15.8	B	15.0	B
	I-140 between Relocated SR-115 SB On Ramp and SR-115 SB On Ramp	9.6	A	10.5	A	18.2	C	13.8	B	14.8	B	14	B
	SR-115 SB On Ramp to I-140 WB	26.6	C	21.5	C	27.1	C	21.8	C	28.0	D	22.6	C
	I-140 west of SR-115	23.9	C	19.6	C	24.1	C	19.8	C	25.2	C	20.7	C
SR-115 NB	SR-115 south of SR-35	77.4	F	22.9	C	30.2	D	21.7	C	30.5	D	22.0	C
	SR-115 NB Off-Ramp to SR-35 SB	62.7	F	27.3	C	35.9	F	25.9	C	48.3	F	26.2	C

Base Year (2026)		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
	SR-115 between SR-35 SB Off-Ramp to SR-35 NB On Ramp	80.6	F	21.8	C	28.6	D	20.6	C	73.9	F	20.8	C
	SR-35 NB On Ramp to SR-115 NB	44	F	36.9	F	46.6	F	34.9	D	44.6	F	36.1	F
	SR-115 between SR-35 to SR-335	38.2	E	33.3	D	44.5	E	31.5	D	38.2	E	32.8	D
	SR-115 between SR-335 to I-140	20.2	C	13.8	B	13.6	B	12.5	B	16.5	B	12.2	B
	SR-115 between I-140 EB On Ramp and I-140 WB Off Ramp	21.4	C	16.0	B	12.8	B	12.5	B	15.8	B	12.4	B
	SR-115 north of I-140	10.7	A	10.1	A	10.7	A	10.1	A	11	B	10.3	A
Relocated SR-115 NB	SR-115 between SR-335 to I-140	25.0	C	23.4	C	21.8	C	20.5	C	23.6	C	19.6	C
	SR-115 Off Ramp to I-140 EB	30.3	D	28.8	D	26.4	C	25.4	C	28.8	D	24.2	C
	SR-115 between I-140 EB Off Ramp and I-140 WB On Ramp	20.1	C	13.5	B	16.1	B	9.4	A	16.4	B	7.8	A
	I-140 WB On Ramp to SR-115 NB	32.2	D	24.8	C	31.8	D	24.5	C	32.1	D	24.6	C
	SR-115 north of I-140	28.8	D	22.7	C	28.8	D	22.7	C	29.1	D	22.8	C
SR-115 SB	SR-115 north of I-140	8.5	A	13.4	B	8.5	A	13.4	B	8.3	A	13.1	B
	SR-115 Off Ramp to I-140 WB	10.2	B	16.1	B	10.2	B	14.2	B	10.0	B	15.7	B
	SR-115 between I-140 EB Off Ramp and I-140 WB Off Ramp	6.2	A	12	B	7.4	A	12.4	B	5.0	A	11.1	B
	I-140 EB On Ramp to SR-115	17.7	B	28.1	D	13.9	B	19.5	B	11.4	B	20.2	C

Base Year (2026)		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
	SR-115 between I-140 to SR-335	16.3	B	25.5	C	13.0	B	18	C	10.7	A	18.8	C
	SR-115 between SR-335 to SR-35	25.7	C	57.5	F	24.6	C	57.5	F	25.4	C	57.5	F
	SR-115 SB Off-Ramp to SR-35	32.0	D	44.6	F	29.0	D	42.2	F	30.0	D	36.7	F
	SR-115 south of SR-35	14.5	B	20.9	C	14.9	B	23.4	C	15.0	B	22.5	C
Relocated SR-115 SB	SR-115 north of I-140	19.1	C	28.0	D	19.1	C	28	D	19.0	C	27.5	D
	SR-115 Off Ramp to I-140 WB	23.3	C	34.2	D	23.7	C	34.7	D	23.7	C	34.1	D
	SR-115 between I-140 EB Off Ramp and I-140 WB On Ramp	10.9	A	18.7	C	6.7	A	14.2	B	3.7	A	13.1	B
	I-140 WB On Ramp to SR-115	13.3	B	22.1	C	9.6	A	17.9	B	7.7	A	17.1	B
	I-140 EB On Ramp to SR-115	18.6	B	26,1	F	20.6	C	26.5	C	17.4	B	26.7	C
	SR-115 between SR-335 to I-140	17.1	B	23.7	C	19.2	C	24.2	C	16.3	B	24.4	C
SR-33	South of SR-35	16.4	E	11.3	D	16.5	E	11.8	D	16.7	E	17.9	E
	SR-35 to Wildwood Road	16.2	E	18.1	E	13.5	D	18.6	E	11.6	D	17.9	E
	Wildwood Road to SR-335	9.2	C	14.6	D	7.0	C	12.5	D	8.4	C	14.4	D
	SR-335 to SR-162	28.4	E	31.7	E	20.9	E	28.3	E	25.6	E	31.9	E
	SR-162 to Sam Houston School Road	28.3	E	27.6	E	26.0	E	31.7	E	#	F	#	F
	North of Sam Houston School Road	17.3	E	22.8	E	17.5	E	27.9	E	#	F	#	E

Base Year (2026)		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
SR-35/US 411	SR-447 to Peppermint Road/SR-447 to SR-162*	13.6	D	13.5	D	14.3	D	14.3	D	13.5	D	14.1	D
	SR-162 to Peppermint Road*	-	-	-	-	19.7	E	14.5	D	-	-	-	-
	Peppermint Road to Hitch Road	18.7	E	16.8	E	20.5	E	16.7	E	-	-	-	-
	West of Hitch Road	7.5	C	6.7	C	8.7	D	7.2	C	6.2	C	7.4	C
SR-73 - EB	SR-33 to SR-35/SR-447	15.3	B	19.8	C	15.6	B	19.5	C	15.1	B	19.6	C
	SR-35/SR-447 to Helton Road/Jones Avenue to SR-162*	20.3	C	32.2	D	16.8	B	25.6	C	20.4	C	32.2	D
	SR-162 and Helton Road*	-	-	-	-	7.1	A	16.1	B	-	-	-	-
	East of Helton Road	8.4	A	11.3	B	8.4	A	11.3	B	8.1	A	10.5	A
SR-73 - WB	SR-33 to SR-35/SR-447	16.5	B	13.7	C	16.7	B	13.5	B	16.9	B	13.3	B
	SR-35/SR-447 to Helton Road/Jones Avenue to SR-162*	18	B	16.4	B	17.7	B	14.7	B	17.4	B	15	B
	SR-162 and Helton Road*	-	-	-	-	17.6	B	11.4	B	-	-	-	-
	East of Helton Road	12.8	B	9.3	A	13.7	B	9.9	A	12	B	9.1	A
Sam Houston Road	Between SR-33 and Wildwood Road	8.8	C	4.6	B	4.0	B	2.2	A	13.9	D	10.4	D
Wildwood Road	SR-33 to Peppermint Road	3.4	B	4.9	B	4.0	B	6.9	C	4.1	B	4.7	B
	Peppermint Road to Sam Houston School Road	6.9	C	6.4	C	6.3	C	5.3	C	-	-	-	-

Base Year (2026)		No-Build				Selected Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
	East of Sam Houston School Road	5.6	C	4.1	B	7.5	C	6.3	C	7.2	C	6.4	C
Peppermint Road	Between Wildwood Road and SR-35	5.8	C	4.9	B	4.9	B	6.3	C	16.1	E	13.5	D
Hitch Rd	Between SR-35 and Davis Ford Road	1.6	A	1.5	A	1.4	A	1.1	A	8.1	C	1.0	A
Davis Ford Rd	West of Helton Road	0.7	A	0.8	A	1.2	A	1.4	A	1.4	A	1	A
	Helton Road to Hitch Road	0.8	A	1.0	A	1.4	A	1.6	A	-	-	-	-
	East of Hitch Road	2.2	A	2.0	A	2.4	A	2.6	B	1.6	A	1.3	A
Helton Road	Between Davis Ford Road and Tuckaleechee Pike	0.2	A	0.3	A	0.2	A	0.3	A	12.6	D	12.7	D

*Build Segmentation

#Demand Exceeds Capacity

Table 11: Design Year (2046) Corridor Density (pc/mi/ln) and Level of Service

Design Year (2046)		No Build				Selected Build Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
I-140 East Bound	I-140 west of SR-115	35.0	E	56.6	F	35.2	E	56.3	F	31.7	D	57.5	F
	I-140 Off Ramp to SR-115 SB	43.5	F	47.5	F	42.0	F	44.5	F	39.3	F	43.9	F

Design Year (2046)		No Build				Selected Build Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
	I-140 between SR-115 SB Off Ramp and Relocated SR-115 SB Off Ramp	13.2	B	8.1	A	22.3	C	22.7	C	18.0	C	21.4	C
	I-140 Off Ramp to Relocated SR-115 SB	17.1	B	13.0	B	28.1	D	28.2	D	26.2	C	31.8	D
	I-140 between Relocated SR-115 SB Off Ramp and Relocated SR-115 NB On Ramp	2.1	A	0.0	A	2.7	A	6.1	A	1.8	A	3.3	A
	SR-115 NB On Ramp to I-140 EB	10.5	B	10.9	B	14.2	B	20	C	12.1	B	15.6	B
	I-140 between Relocated SR-115 NB On Ramp and Relocated SR-115 SB On Ramp	9.5	A	9.8	A	12.8	B	18	C	10.9	A	14	B
	Relocated SR-115 NB On Ramp to I-140 EB	12.2	B	13.9	B	16.8	B	21.7	C	15.5	B	21.7	C
	I-140 between Relocated SR-115 NB On Ramp and SR-33	11.1	B	12.6	B	15.4	B	22.4	C	14	B	19.4	C
	I-140 Off Ramp to SR-33 SB	-	-	-	-	18.4	B	27.1	C	-	-	-	-
	I-140 between SR-33 SB Off Ramp and SR-33 SB On Ramp	-	-	-	-	7.2	A	12.3	B	-	-	-	-
	SR-33 SB On Ramp to I-140 EB	-	-	-	-	12.7	B	19.7	B	-	-	-	-
	I-140 between SR-33 and SR-35	-	-	-	-	11.5	B	17.7	B	-	-	-	-

Design Year (2046)		No Build				Selected Build Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
	I-140 Off Ramp to SR-35 WB	-	-	-	-	13.3	B	20.9	C	-	-	-	-
	I-140 between SR-35 EB Off Ramp to SR-35 EB On Ramp	-	-	-	-	8.9	A	10.8	A	-	-	-	-
	SR-35 On Ramp to I-140 SB	-	-	-	-	12.8	B	15	B	-	-	-	-
	I-140 between SR-35 and SR-73	-	-	-	-	11.4	B	13.4	B	-	-	-	-
	I-140 Off Ramp to SR-73 WB	-	-	-	-	13.5	B	16.2	B	-	-	-	-
	I-140 between SR-73 WB Off Ramp and SR-73 EB Off Ramp	-	-	-	-	7.6	A	5.3	A	-	-	-	-
I-140 West Bound	I-140 between SR-73 EB On Ramp and SR-73 WB On Ramp	-	-	-	-	9.5	A	3.6	A	-	-	-	-
	SR-73 WB On Ramp to I-140 NB	-	-	-	-	23.1	C	9.7	A	-	-	-	-
	I-140 between SR-73 and SR-35	-	-	-	-	20.7	C	8.7	A	-	-	-	-
	I-140 Off Ramp to Relocated SR-115 SB	-	-	-	-	24.7	C	10.8	B	-	-	-	-
	I-140 between SR-35 EB Off ramp to SR-35 WB On Ramp	-	-	-	-	18.2	C	7.6	A	-	-	-	-
	SR-35 WB On Ramp to I-140 NB	-	-	-	-	26.6	C	11.2	B	-	-	-	-
	I-140 between SR-35 to SR-33	-	-	-	-	24	C	10.5	A	-	-	-	-
	I-140 Off Ramp to SR-33 NB	-	-	-	-	28.6	D	12.3	B	-	-	-	-

Design Year (2046)		No Build				Selected Build Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
	I-140 between SR-33 NB Off Ramp to SR-33 SB On Ramp	-	-	-	-	18.3	C	7.4	A	-	-	-	-
	SR-33 SB On Ramp to I-140 WB	-	-	-	-	37.4	E	20.4	C	-	-	-	-
	I-140 between SR-33 and Relocated SR-115 NB Off Ramp	16.6	B	11.8	B	33.4	D	18.8	C	25.7	C	19.0	C
	I-140 Off Ramp to SR-115 NB	18.5	B	15.1	B	40.7	E	23.9	C	43.3	F	32.9	D
	I-140 between Relocated SR-115 NB Off Ramp and Relocated SR-115 SB Off Ramp	7.4	A	2.8	A	19.1	C	6.1	A	20	C	16.4	B
	I-140 Off Ramp to Relocated SR-115 SB	9.2	A	3.5	A	22.4	C	7.2	A	26.0	C	21.2	C
	I-140 between Relocated SR-115 SB Off Ramp and Relocated SR-115 SB On Ramp	5.6	A	0.9	A	15.6	B	2	A	8.5	A	5.2	A
	Relocated SR-115 SB On Ramp to I-140 WB	16.9	B	18.4	B	31.7	D	23.7	C	10.8	B	6.2	A
	I-140 between Relocated SR-115 SB On Ramp and SR-115 SB On Ramp	15.2	B	16.3	B	70.9	F	18	C	3.3	A	0.5	A
	SR-115 SB On Ramp to I-140 WB	47.9	F	35.5	F	42.2	F	30.8	D	25.8	C	20.2	C
	I-140 west of SR-115	31.6	D	31.9	D	38.4	E	27.7	D	19.0	C	16.2	B

Design Year (2046)		No Build				Selected Build Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
SR-115 NB	SR-115 south of SR-35	77.1	F	25.5	C	76.7	F	23.4	C	76.6	F	24.5	C
	SR-115 NB Off-Ramp to SR-35 SB	74.4	F	30.4	D	65.6	F	28	D	70.6	F	29.3	D
	SR 115 between SR-35 SB Off-Ramp to SR-35 NB On Ramp	86.8	F	24.1	C	82.7	F	22	C	85	F	23.0	C
	SR-35 NB On Ramp to SR-115 NB	47.6	F	43.7	F	49.6	F	39.7	F	48.3	F	49.6	F
	SR-115 between SR-35 to SR-335	38.2	E	40.7	E	38.2	E	36.6	E	38.2	E	53.8	F
	SR-115 between SR-335 to I-140	54.4	F	21.5	C	21.2	C	19.5	C	22	C	20.6	C
	SR-115 between I-140 EB On Ramp and I-140 WB Off Ramp	27.5	C	28.0	D	21.8	C	21.4	C	21.3	C	20.9	C
	SR-115 north of I-140	7.7	A	15.7	B	16.7	B	15.7	B	16.7	B	15.7	B
Relocated SR-115 NB	SR-115 between SR-335 to I-140	50.2	F	38.8	E	35.4	E	32.6	D	40.2	E	30.6	D
	SR-115 Off Ramp to I-140 EB	43.6	F	45.3	F	41.6	F	40.6	F	45.5	F	38.7	F
	SR-115 between I-140 EB Off Ramp and I-140 WB On Ramp	62.2	F	20.4	C	25.5	C	15.3	B	25.8	C	12.6	B
	I-140 WB On Ramp to SR-115 NB	50.3	F	41.2	F	55.0	F	41.4	F	55.7	F	41.8	F
	SR-115 north of I-140	38.2	E	37.6	E	43.2	E	31.8	D	43.1	E	28.7	D
SR-115 SB	SR-115 north of I-140	13.3	B	21.0	C	13.3	B	21	C	13.3	B	21.0	C
	SR-115 Off Ramp to I-140 WB	16.0	B	25.1	C	15.9	B	25.1	C	15.9	B	25.1	C

Design Year (2046)		No Build				Selected Build Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
	SR-115 between I-140 EB Off Ramp and I-140 WB Off Ramp	9.6	A	18.7	C	11.6	B	19.3	C	11.2	B	19	C
	I-140 EB On Ramp to SR-115	27.8	C	49	F	17.8	B	30.6	D	22.9	C	32.3	D
	SR-115 between I-140 to SR-335	25.3	C	36.9	E	19.7	C	28.1	D	21.3	C	29.3	D
	SR-115 between SR-335 to SR-35	29.3	D	57.5	F	28.7	D	57.5	F	29.1	D	57.5	F
	SR 115 SB Off-Ramp to SR-35	36.7	F	45.2	F	34.1	D	42.6	F	34.5	D	42.7	F
	SR-115 south of SR-35	15.8	B	18.0	C	17.0	B	21	C	16.6	B	20.0	C
Relocated SR-115 SB	SR-115 north of I-140	29.9	D	56.9	F	29.9	D	56.9	F	29.7	D	56.9	F
	SR-115 Off Ramp to I-140 WB	36.9	F	45.0	F	37.8	F	45.8	F	38.2	F	46.1	F
	SR-115 between I-140 EB Off Ramp and I-140 WB On Ramp	17.4	B	21.1	C	11.3	B	15.4	B	6.4	A	14.1	B
	I-140 WB On Ramp to SR-115	21.3	C	25.6	C	16.4	B	21.5	B	13.0	B	20.8	C
	I-140 EB On Ramp to SR-115	30.3	D	32.4	D	33.8	C	33.7	C	28.3	D	35.6	F
	SR-115 between SR-335 to I-140	27.3	D	28.8	D	30.0	D	30.5	D	25.4	C	31.6	D
SR-33	South of SR-35	19.6	E	13.7	D	23.7	E	15.5	E	18.3	E	17.7	E
	SR-35 to Wildwood Road	20.0	E	22.1	E	17.6	E	22.7	E	14.9	D	21.6	E
	Wildwood Road to SR 335	11.1	D	16.2	E	7.8	C	13.9	D	9.4	C	16.0	E
	SR-335 to SR-162		F		F	26.0	E	34.3	E	35.3	E		F
	SR-162 to Sam Houston School Road		F		F	29.9	E	36.2	E	#	F	#	F

Design Year (2046)		No Build				Selected Build Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
	North of Sam Houston School Road	23.9	E	31.2	E	22.4	E	34.6	E	#	F	#	E
SR-35/US 411	SR-447 to Peppermint Road/SR-447 to SR-162*	17.5	E	16.9	E	25.1	E	25.2	E	19.5	E	24.8	E
	SR-162 to Peppermint Road*	-	-	-	-	36.4	E	26.2	E	-	-	-	-
	Peppermint Road to Hitch Road	22.4	E	20.2	E	36.3	E	27.9	E	-	-	-	-
	West of Hitch Road	9	D	8.3	D	17.1	E	12.9	E	10.6	D	12.6	E
SR-73 - EB	SR-33 to SR-35/SR-447	16.6	B	21.6	C	16.9	B	21.2	C	14.1	B	21.4	C
	SR-35/SR-447 to Helton Road/Jones Avenue to SR-162*	23.2	C	38.8	E	19	C	29.5	D	21.3	C	38.5	E
	SR-162 and Helton Road*	-	-	-	-	10.2	A	23.5	C	-	-	-	-
	East of Helton Road	14.3	B	12.7	B	12.1	B	16.4	B	17.6	B	15.4	B
SR-73 - WB	SR-33 to SR-35/SR-447	17.8	B	14.6	B	18.2	C	14.7	B	18.4	C	14.6	B
	SR-35/SR-447 to Helton Road/Jones Avenue to SR-162*	20.3	C	18.7	C	17.7	B	16.7	B	19.5	C	17.1	B
	SR-162 and Helton Road*	-	-	-	-	26.6	D	16.5	B	-	-	-	-
	East of Helton Road	9.4	A	10.4	A	20.1	C	14.4	B	11.7	B	13.1	B
Sam Houston Road	Between SR-33 and Wildwood Road	12.7	D	6.9	C	7.3	C	4.1	B	24.2	E	18.6	E

Design Year (2046)		No Build				Selected Build Alternative				Build Alternative D			
		AM		PM		AM		PM		AM		PM	
Roadway	Segment	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS	Density (pc/mi/ln)	LOS
Wildwood Road	SR-33 to Peppermint Road	5.6	C	8.1	C	5.4	C	8	C	4.7	B	5.3	C
	Peppermint Road to Sam Houston School Road	10.3	D	12.6	D	9.6	C	8.1	C	-	-	-	-
	East of Sam Houston School Road	8.6	C	8.4	C	5.2	C	4.5	B	7.8	C	7.0	C
Peppermint Road	Between Wildwood Road and SR-35	8.0	C	6.9	C	7.0	C	8.7	C	28.7	E	23.6	E
Hitch Rd	Between SR-35 and Davis Ford Road	2.0	A	2.0	A	1.8	A	1.4	A	14.9	D	15.2	E
Davis Ford Rd	West of Helton Road	0.9	A	1.1	A	2.7	B	3.1	B	2.8	B	2.5	A
	Helton Road to Hitch Road	1.1	A	1.4	A	2.9	B	3.4	B	-	-	-	-
	East of Hitch Road	2.9	B	2.7	B	4.0	B	4.8	B	3.1	B	3.0	B
Helton Road	Between Davis Ford Road and Tuckaleechee Pike	0.2	A	0.4	A	0.4	A	0.4	A	23.3	E	23.2	E

*Build Segmentation
#Demand Exceeds Capacity

7. Conclusion

Following the 2017 ROD, traffic operations and safety analyses were updated with the latest available data. Traffic analyses were performed for Existing, Base, and Design Years (2022, 2026, and 2046, respectively) using the latest traffic forecasts provided by TDOT. A historic crash analysis was performed for the most recent five years of available data for 2018 to 2022. Traffic operational performance of the study area network is compared between the Selected Alternative and Build Alternative D for both Base and Design Years of the project.

Key findings from this updated analysis include the following:

- Several key intersections within the study area provide operational improvements under the Selected Alternative when compared with Build Alternative D. Under Build Alternative D, traffic operations worsened with intersections operating at LOS E or F by Base and Design Years.
- The Selected Alternative relieves congestion within the study area corridors when compared with Build Alternative D.
- Although Build Alternative D proposes intersection re-alignments and improvements, it does not address the project's goal of enhancing roadway safety due to the fact that roadway functional classifications within the study area remain unchanged. Further, converting some of the existing three-legged stop-controlled intersections to four-leg stop controlled increases conflicts and the potential for more crashes to occur. The Selected Alternative on the other hand proposes traffic to be diverted onto a system with fewer intersections and conflict points improving safety. Statewide averages for existing facility were also noted to be higher than proposed facility.
- The Selected Alternative proposes freeway extension that meets design standards thereby allowing safer conditions. Also, as traffic migrates from existing non-freeway roads to the proposed freeway, the traffic migration will assist with reduction of crashes at existing intersections.

Appendix A. Traffic Forecasts

TENNESSEE DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

PROJECT NO.: HPP/NH-162(7) : 05097-1233-14 ROUTE: S.R. 162 EXTENSION
COUNTY: BLOUNT CITY: MARYVILLE
PROJECT PIN NUMBER: 101423.00
PROJECT DESCRIPTION: FROM S.R. 33 TO S.R. 73.

INCLUDES NO-BUILD AND BUILD TRAFFIC FORECASTS

DIVISION REQUESTING:

		PAVEMENT DESIGN	☐
MAINTENANCE	☐	STRUCTURES	☐
S.T.I.D.	☐	SURVEY & ROADWAY DESIGN	☐
PROG. DEVELOPMENT & ADM.	☐	TRAFFIC SIGNAL DESIGN	☐
PUBLIC TRANS. & AERO.	☐	OTHER ENVIRONMENTAL	☒

YEAR PROJECT PROGRAMMED FOR CONSTRUCTION: 2026
PROJECTED LETTING DATE: 2026

TRAFFIC ASSIGNMENT:

BASE YEAR			SEE ATTACHMENTS	DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
	2022									
	2026				2046					

REQUESTED BY: NAME ERICK HUNT-HAWKINS DATE 5/19/23
DIVISION ENVIRONMENTAL
ADDRESS 900 J. K. POLK BUILDING
NASHVILLE TN 37246

REVIEWED BY: RANDY BOGUSKIE Randy Boguskie DATE 7/25/2023
TRANSPORTATION MANAGER 1
SUITE 1000, JAMES K. POLK BUILDING

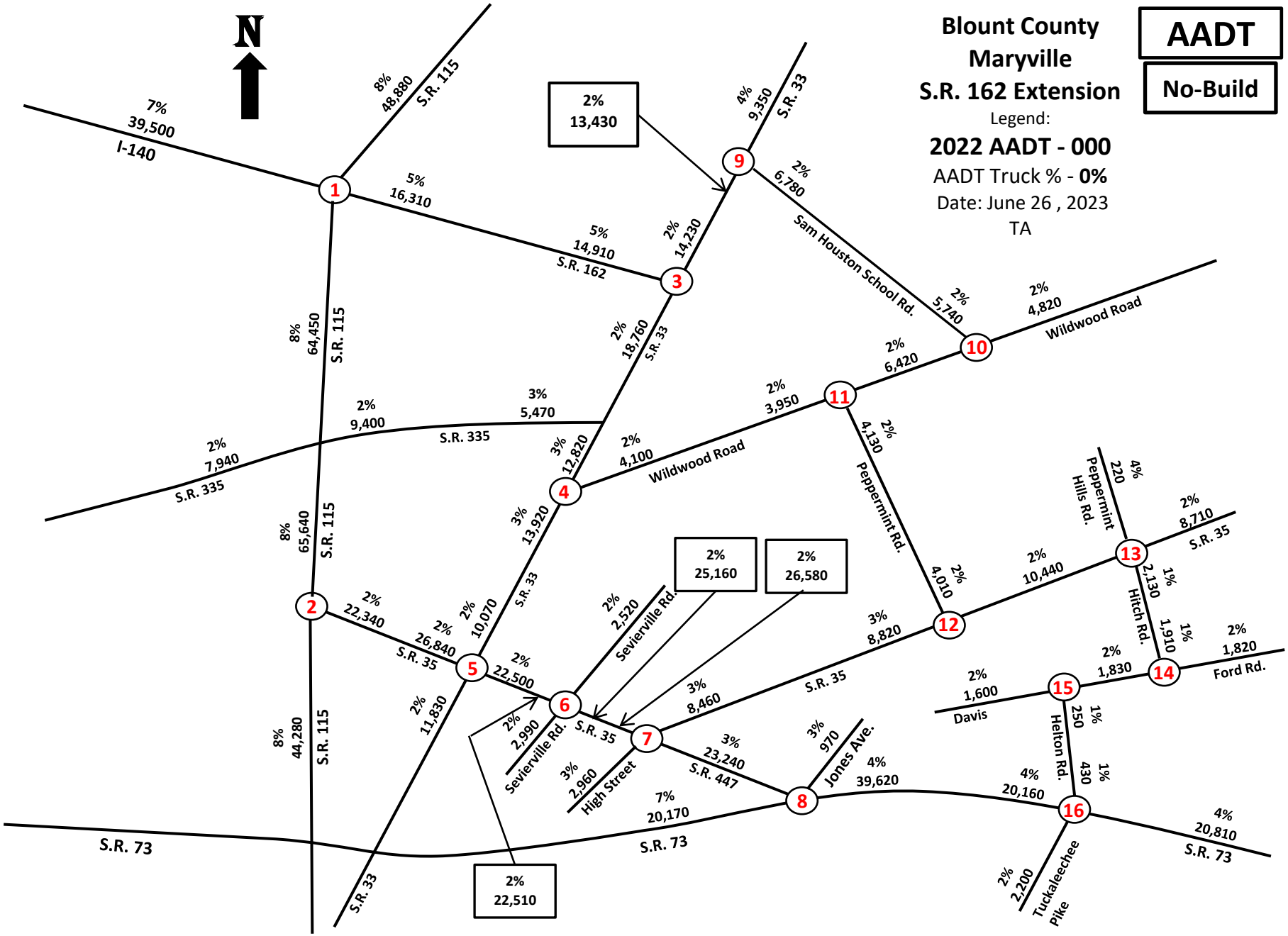
APPROVED BY: TONY ARMSTRONG Tony Armstrong DATE 7/25/2023
TRANSPORTATION MANAGER 2
SUITE 1000, JAMES K. POLK BUILDING

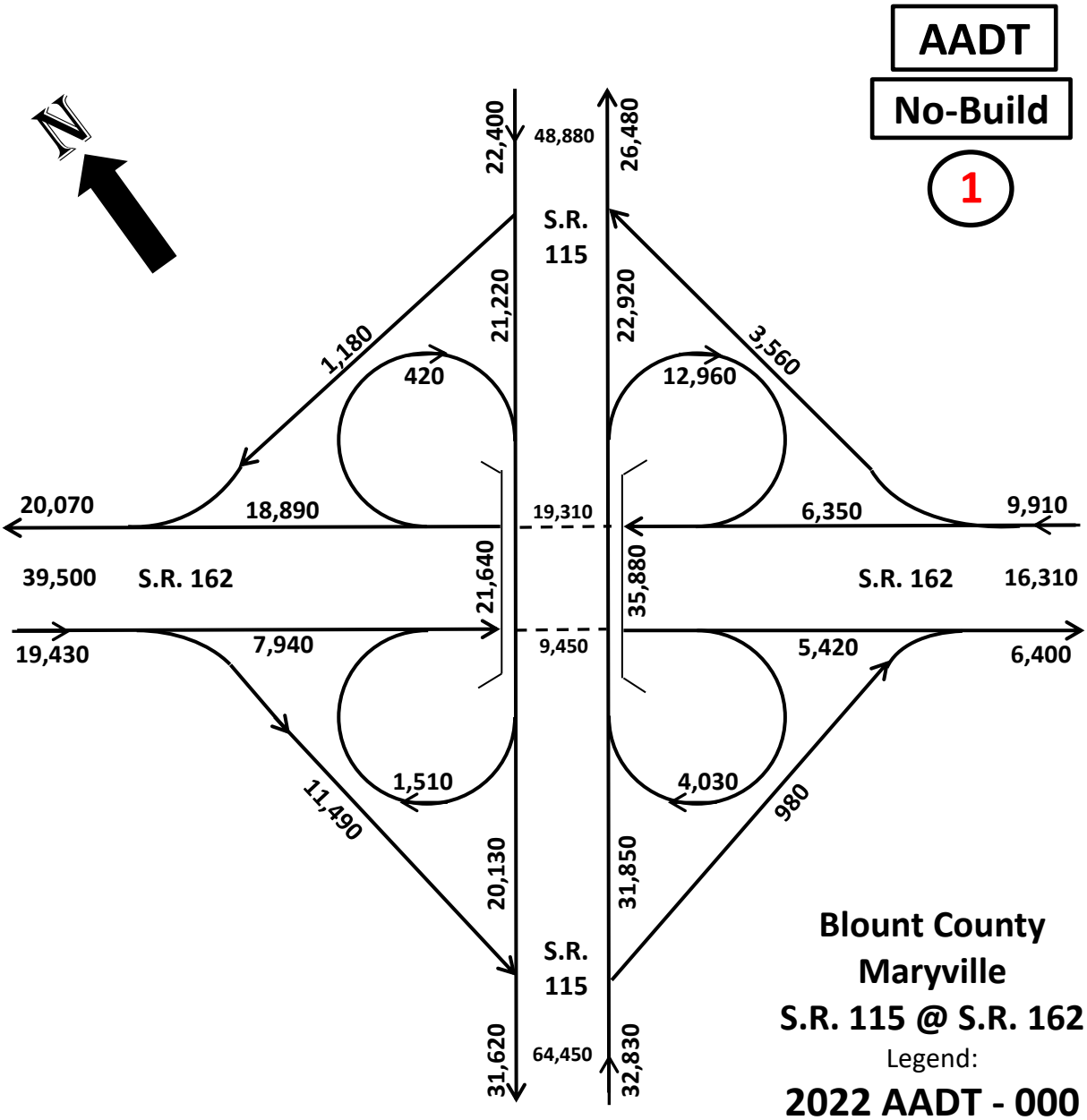
COMMENTS:

THIS TRAFFIC UPDATES THE PREVIOUS TRAFFIC FORECAST STUDY PREPARED BY SAIN ASSOCIATES DATED 12/23/2013 AND IS BASED ON 2022 CYCLE COUNTS. THE DESIGN YEAR TRAFFIC IS BASED ON GROWTH RATES FROM THE KNOXVILLE TPO COMPUTER ASSIGNMENT MODELS. THIS TRAFFIC INCLUDES NO-BUILD AND BUILD AADT's AND BOTH YEAR DHV's.

DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.

NOTE: FOR BRIDGE REPLACEMENT PROJECTS, ADLs ARE NOT REQUIRED FOR ADTs OF 1000 OR LESS AND PERCENTAGE OF TRUCKS OF 7% OR LESS.
SEE ATTACHMENTS FOR TURNING MOVEMENTS AND/OR OTHER DETAILS. (REV. 6/9/21)


N
Blount County
Maryville
S.R. 162 Extension
Legend:
2022 AADT - 000
AADT Truck % - 0%
Date: June 26 , 2023
TA
AADT
No-Build
7%
39,500
I-140
8%
48,880
S.R. 115
5%
16,310
2%
13,430
4%
9,350
S.R. 33
2%
6,780
Sam Houston School Rd.
5%
14,910
S.R. 162
2%
14,230
2%
5,740
2%
4,820
Wildwood Road
8%
64,450
S.R. 115
2%
18,760
S.R. 33
2%
6,420
3%
5,470
2%
9,400
S.R. 335
2%
7,940
S.R. 335
3%
12,820
2%
4,100
Wildwood Road
2%
3,950
2%
4,130
Peppermint Rd.
Peppermint Hills Rd.
220
4%
2%
8,710
S.R. 35
8%
65,640
S.R. 115
3%
13,920
S.R. 33
2%
25,160
2%
26,580
2%
4,010
2%
10,440
2%
2,130
1%
Hitch Rd.
1,910
1%
2%
22,340
2%
26,840
S.R. 35
2%
10,070
2%
22,500
2%
2,520
Sevierville Rd.
3%
8,820
2%
1,830
2%
1,820
Ford Rd.
2%
1,600
Davis
8%
44,280
S.R. 115
2%
11,830
S.R. 33
2%
2,990
Sevierville Rd.
S.R. 35
3%
8,460
S.R. 35
3%
23,240
S.R. 447
3%
970
Jones Ave.
4%
39,620
4%
20,160
Helton Rd.
250
1%
430
1%
7%
20,170
S.R. 73
S.R. 73
4%
20,810
S.R. 73
3%
2,960
High Street
2%
22,510
2%
2,200
Tuckaleechee Pike



Blount County
Maryville
S.R. 115 @ S.R. 162

Legend:

2022 AADT - 000

AADT Truck % - **0%**

Date: June 26, 2023

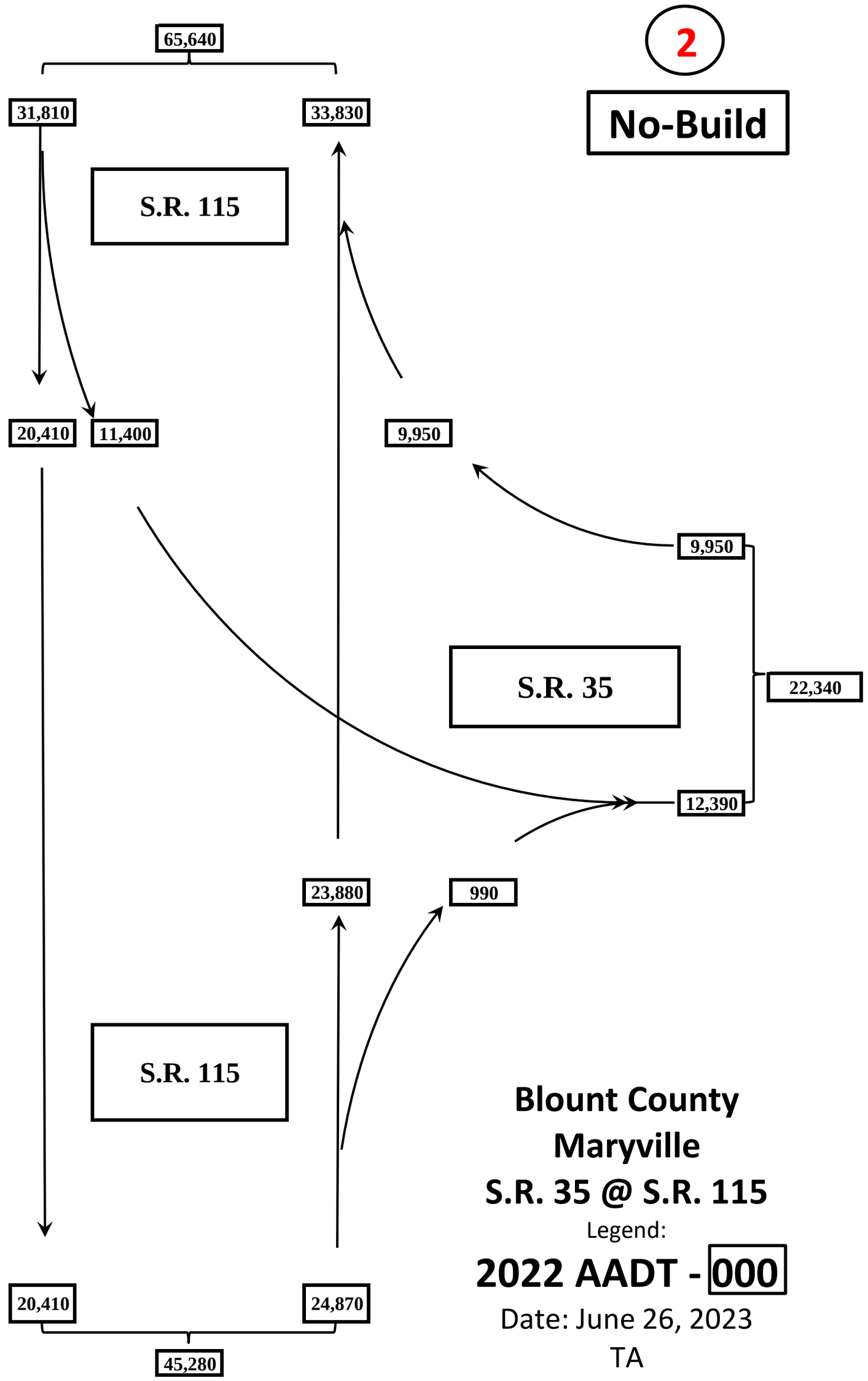
TA

N

AADT

2

No-Build



Blount County
Maryville
S.R. 35 @ S.R. 115

Legend:

2022 AADT - 000

Date: June 26, 2023

TA

AADT

3

No Build

N

14,230

6,950

7,280

S.R. 33

3,050

3,900

7,540

S.R. 162

14,910

2,140

7,370

5,230

4,490

5,140

S.R. 33

9,130

9,630

18,760

Blount County
Maryville
S.R. 33 @ S.R. 162

Legend:

2022 AADT - 000

Date: June 26, 2023

TA

N

AADT

4

No Build

12,820

6,340

6,480

S.R. 33

5,890

450

1,050

2,020

970

Wildwood Road

4,100

2,080

5,430

1,630

S.R. 33

6,860

7,060

13,920

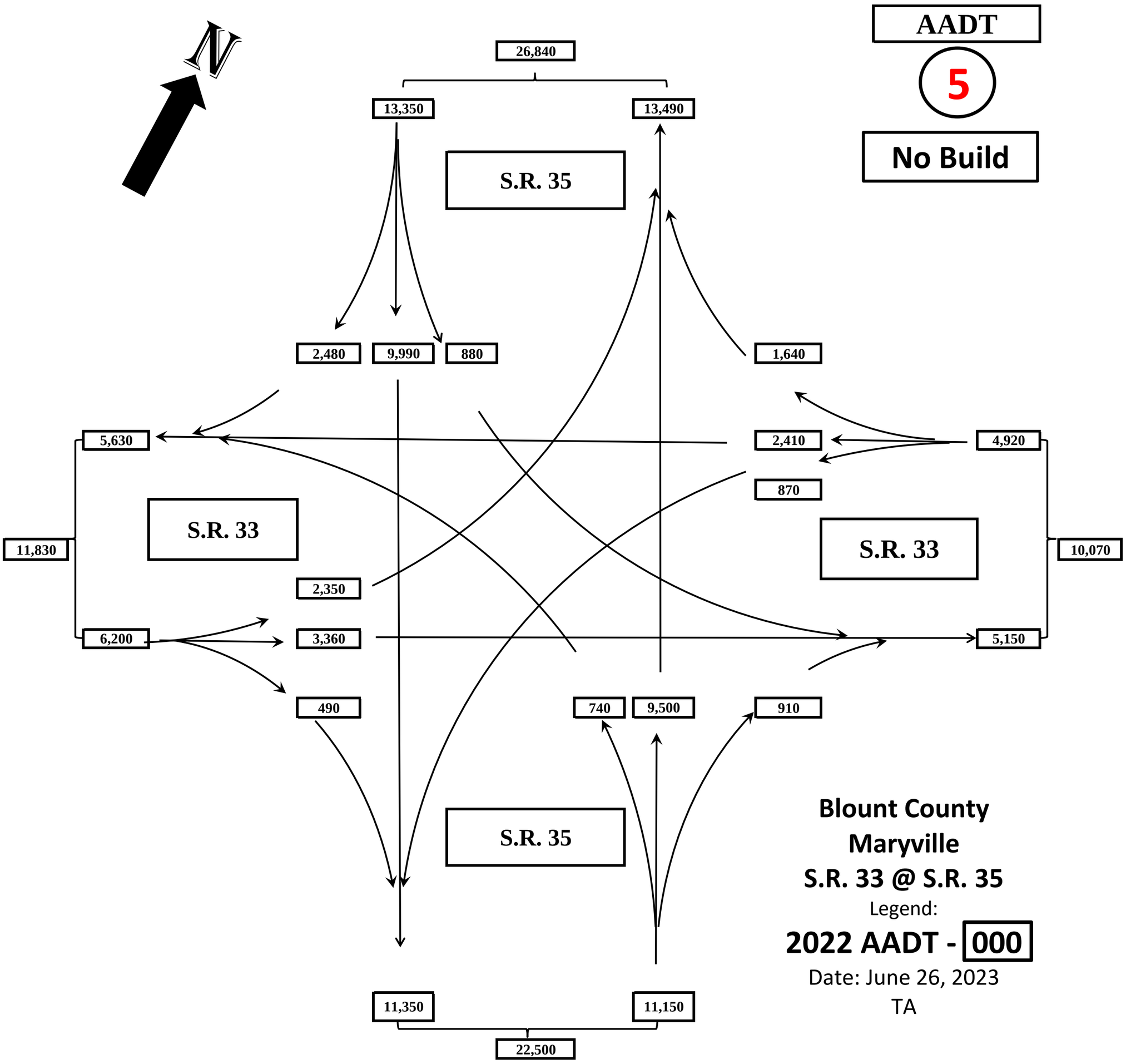
Blount County
Maryville
S.R. 33 @ Wildwood Road

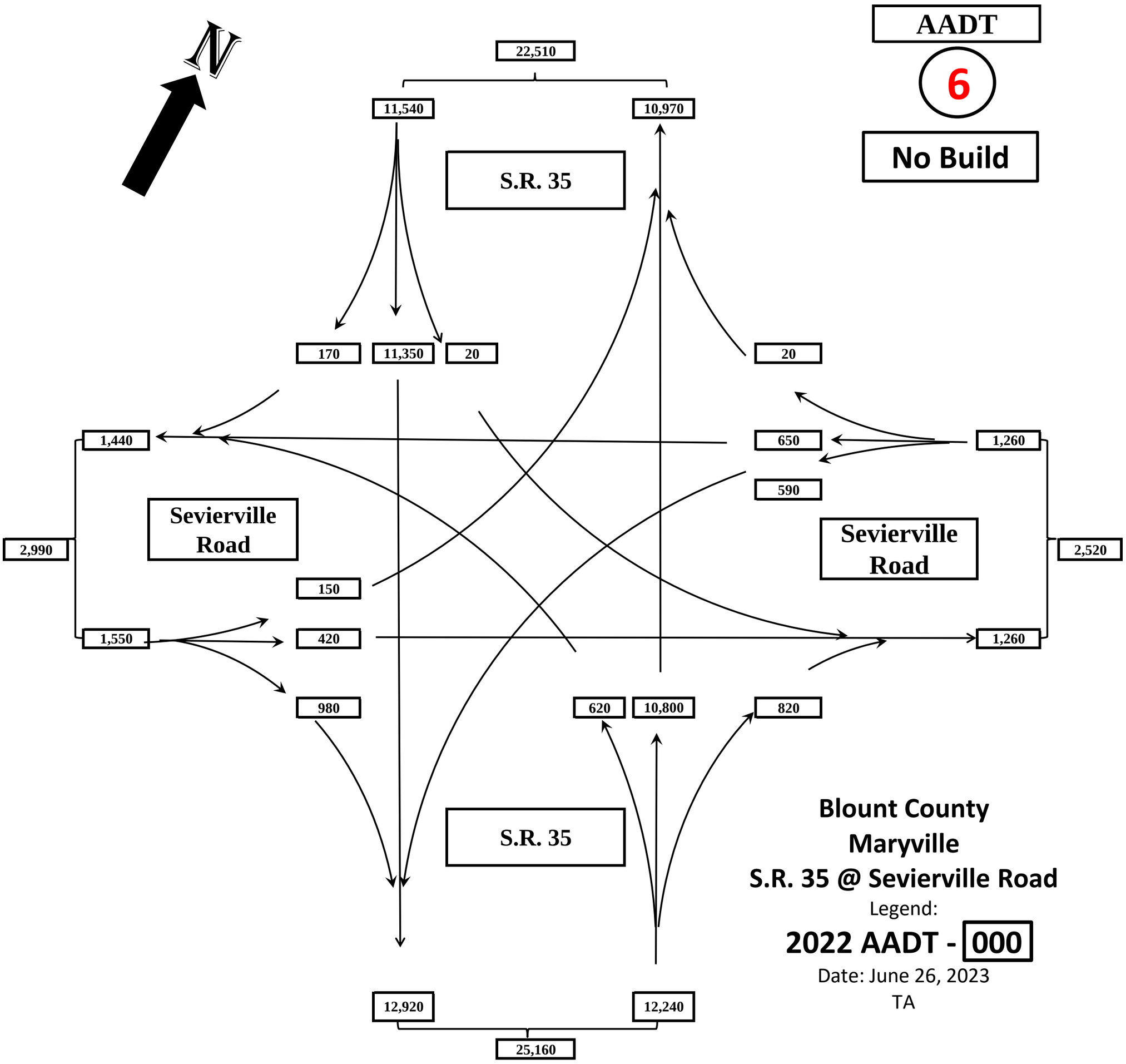
Legend:

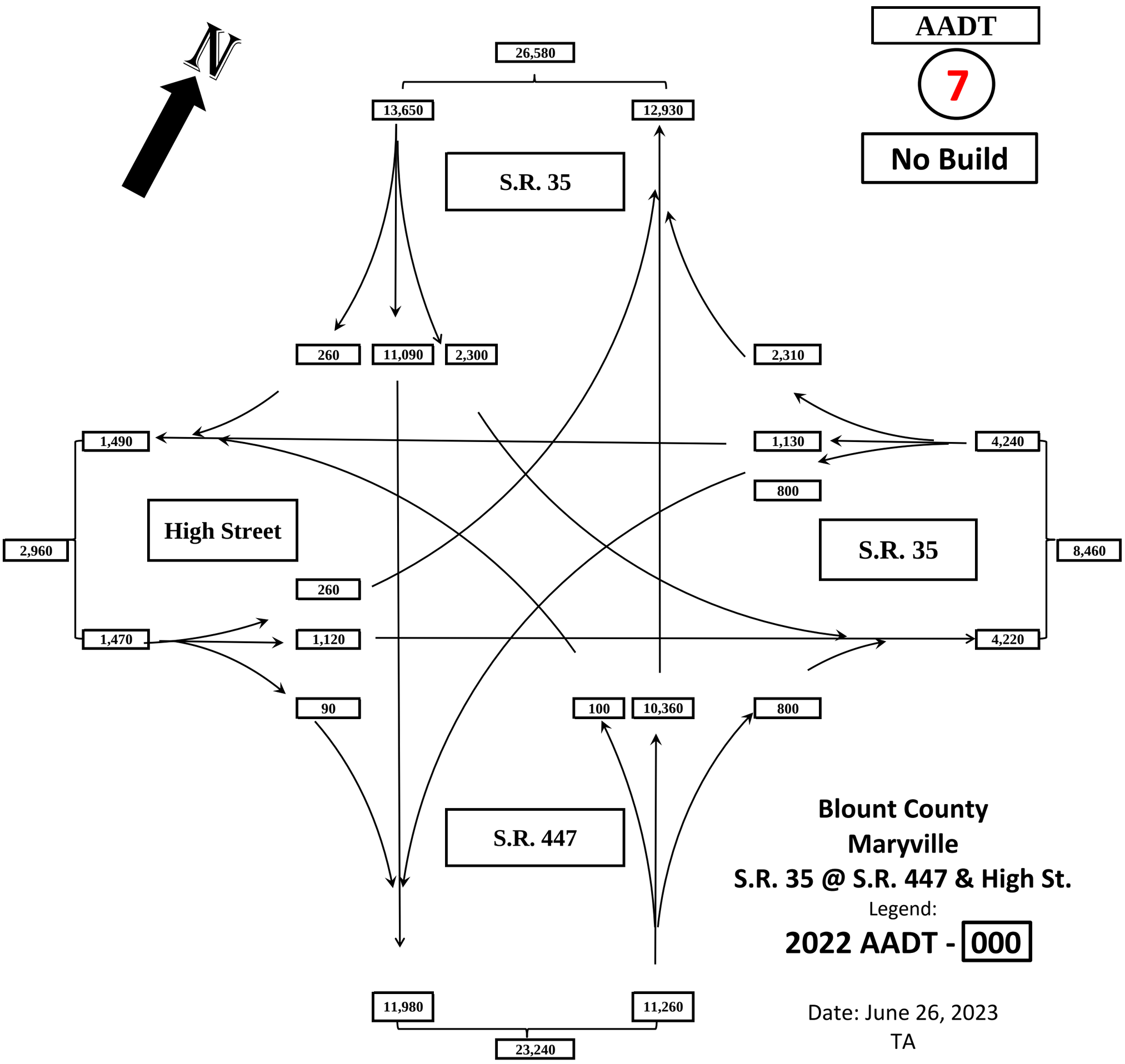
2022 AADT - 000

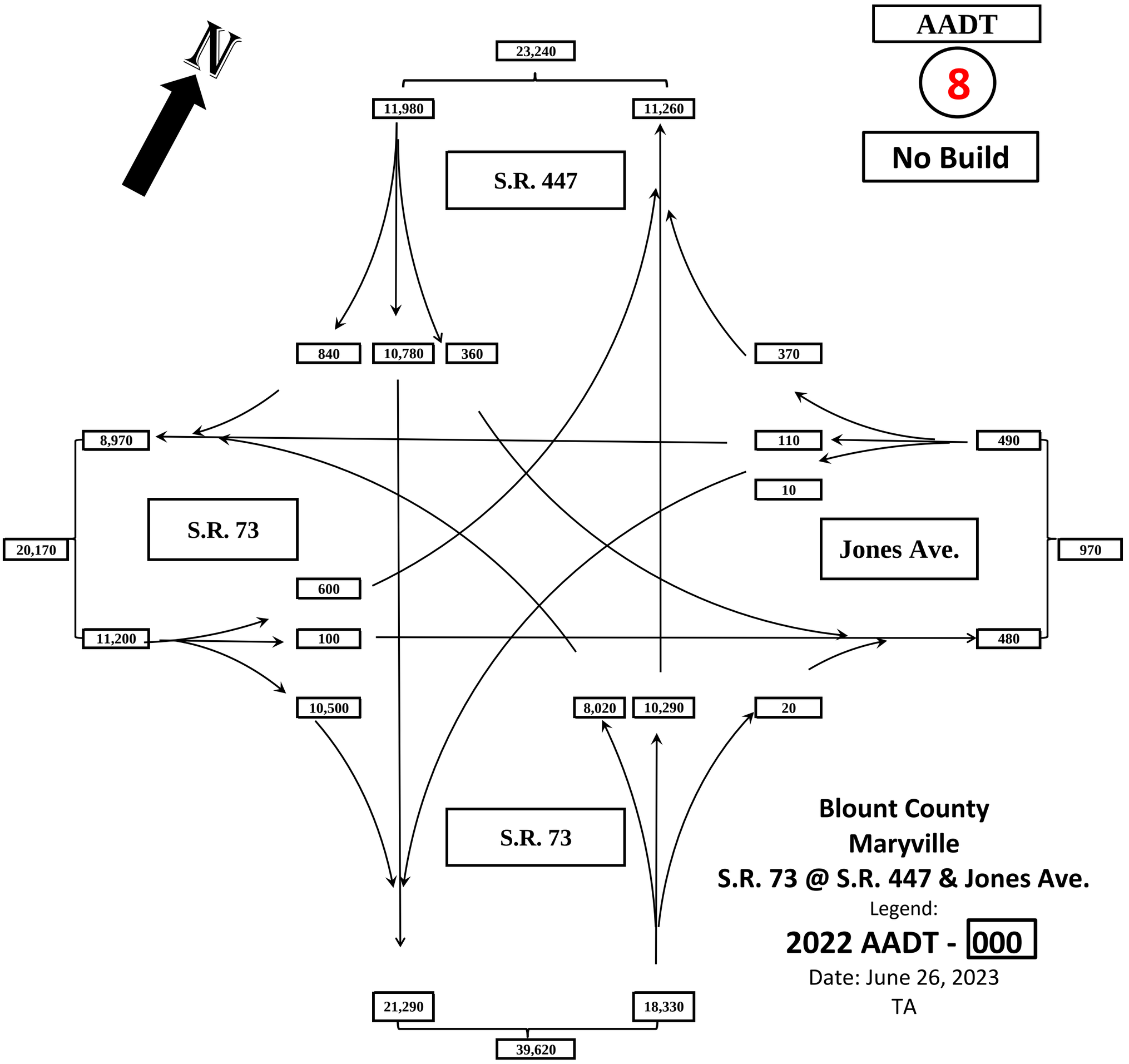
Date: May 23, 2023

TA


N
AADT
5
No Build
26,840
13,350
13,490
S.R. 35
2,480
9,990
880
1,640
5,630
2,410
4,920
870
S.R. 33
S.R. 33
11,830
10,070
2,350
6,200
3,360
5,150
490
740
9,500
910
S.R. 35
11,350
11,150
22,500
Blount County
Maryville
S.R. 33 @ S.R. 35
Legend:
2022 AADT - 000
Date: June 26, 2023
TA


N
22,510
11,540
10,970
S.R. 35
170
11,350
20
20
1,440
650
1,260
590
Sevierville Road
Sevierville Road
2,990
2,520
150
1,550
420
1,260
980
620
10,800
820
S.R. 35
12,920
12,240
25,160
AADT
6
No Build
Blount County
Maryville
S.R. 35 @ Sevierville Road
Legend:
2022 AADT - 000
Date: June 26, 2023
TA


N
AADT
7
No Build
26,580
13,650
12,930
S.R. 35
260
11,090
2,300
2,310
1,490
1,130
4,240
800
High Street
S.R. 35
2,960
8,460
260
1,470
1,120
4,220
90
100
10,360
800
S.R. 447
11,980
11,260
23,240
Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.
Legend:
2022 AADT - 000
Date: June 26, 2023
TA



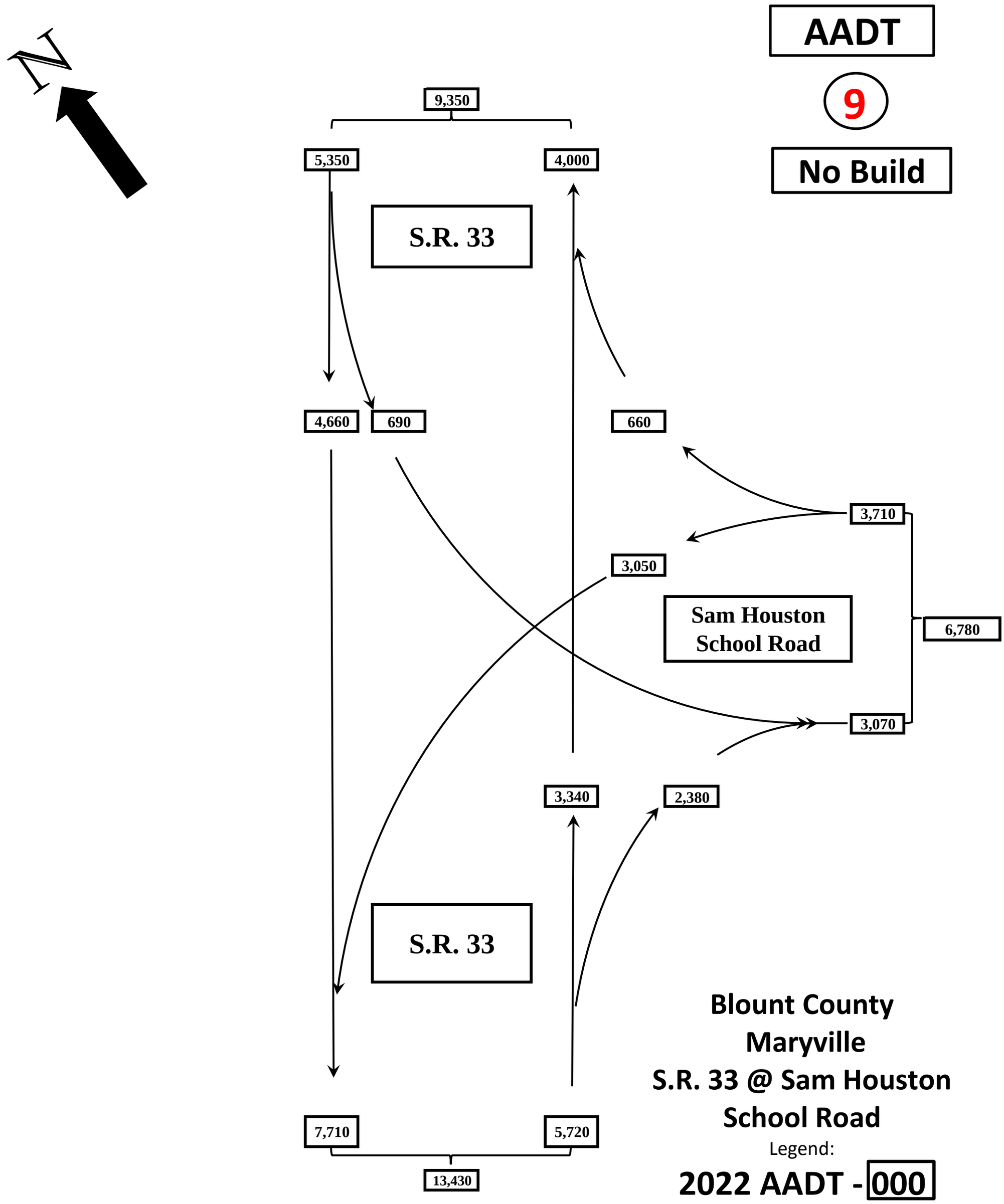
Blount County
Maryville
S.R. 73 @ S.R. 447 & Jones Ave.

Legend:

2022 AADT - 000

Date: June 26, 2023

TA



AADT

9

No Build

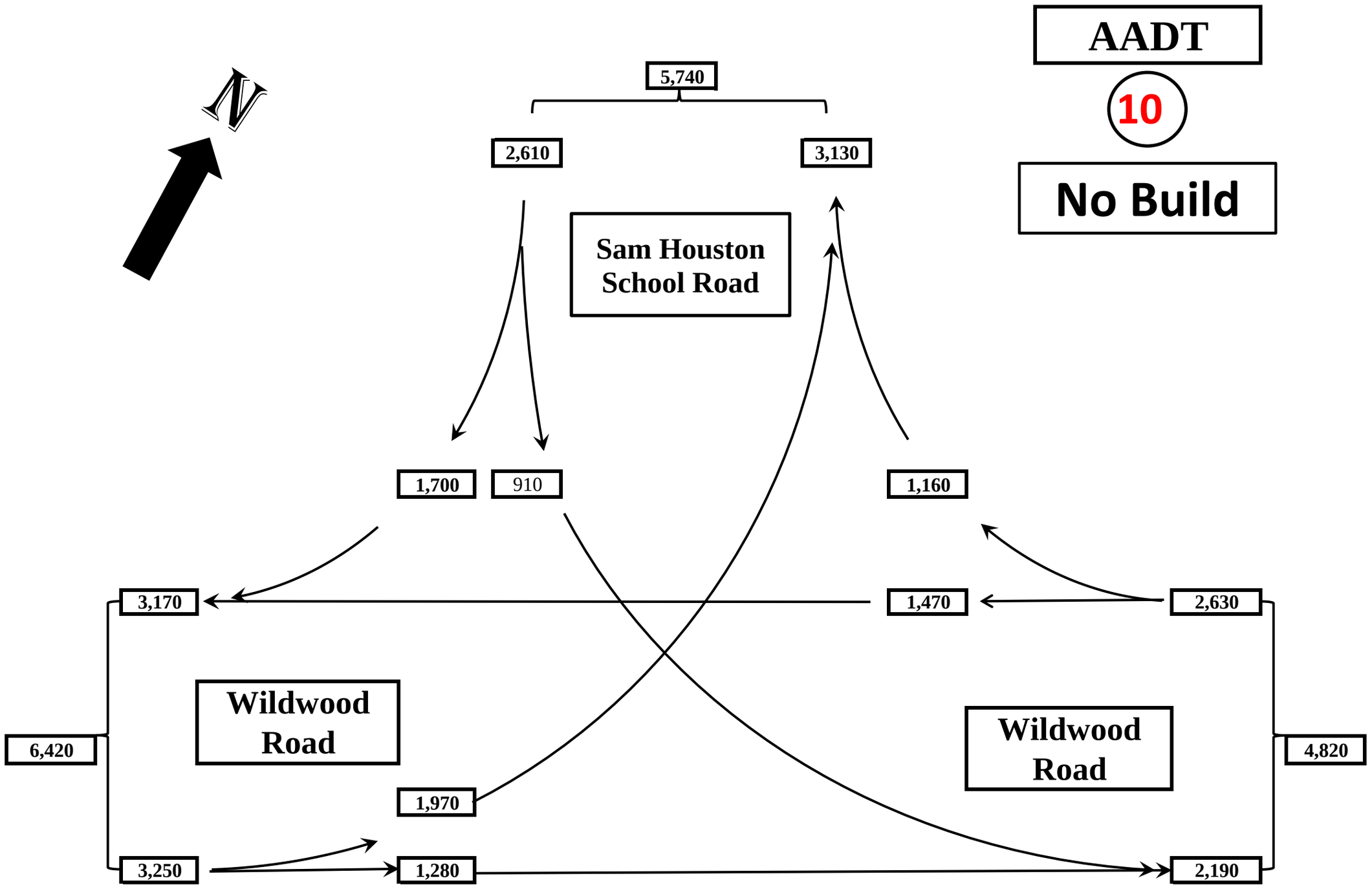
Blount County
Maryville
S.R. 33 @ Sam Houston School Road

Legend:

2022 AADT - 000

Date: June 26, 2023

TA



Blount County
Maryville
Wildwood Road @ Sam Houston School Road

Legend:

2022 AADT - 000

Date: June 26, 2023

TA

N

AADT

11

No Build

1,960

1,560

3,170

1,610

Wildwood Road

Wildwood Road

3,950

6,420

1,990

1,560

3,250

430

400

1,690

Peppermint Road

Blount County
Maryville
Wildwood Road @
Peppermint Road

Legend:

2022 AADT - 000

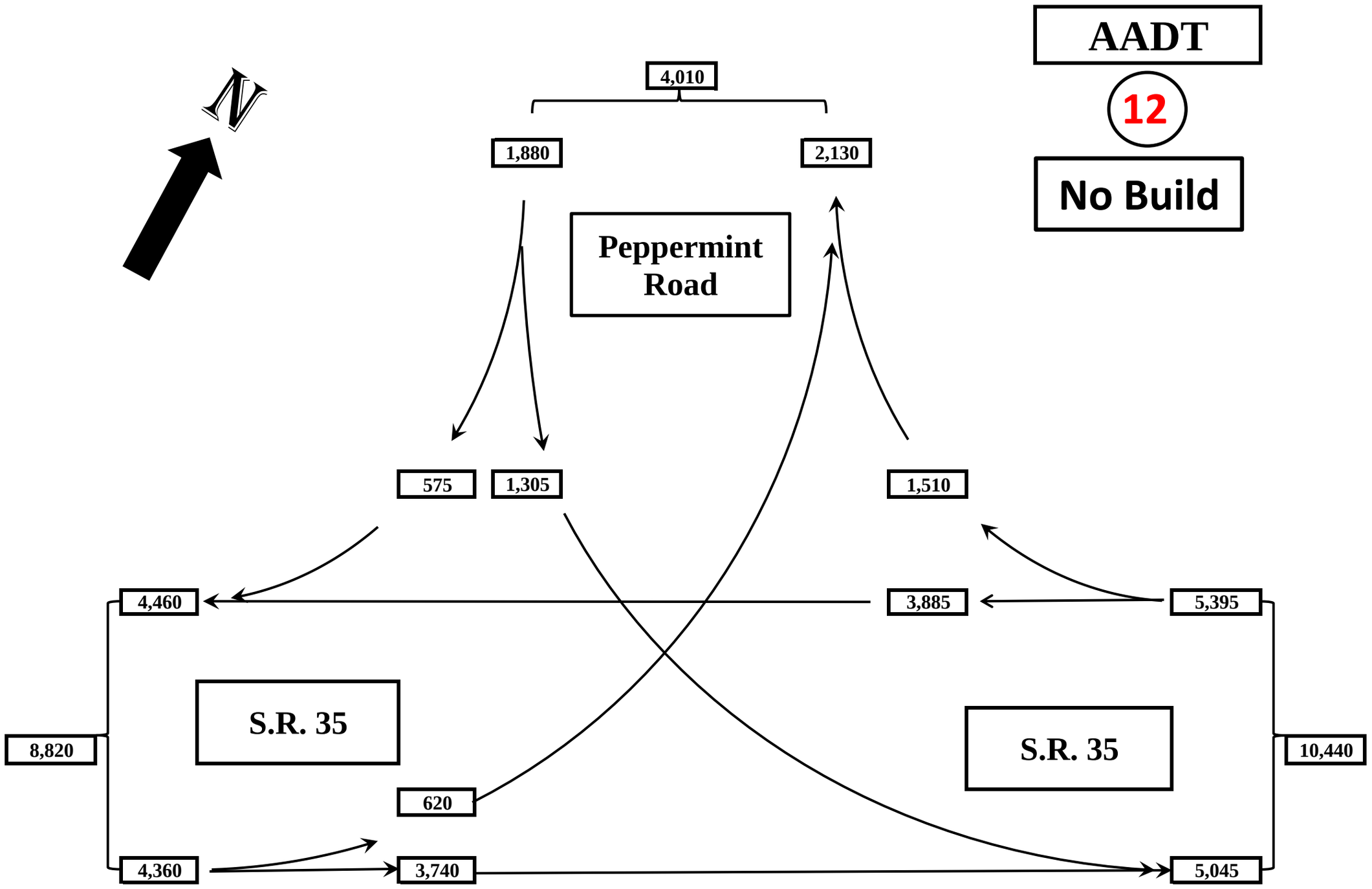
Date: June 26, 2023

TA

2,040

2,090

4,130



Blount County

Maryville

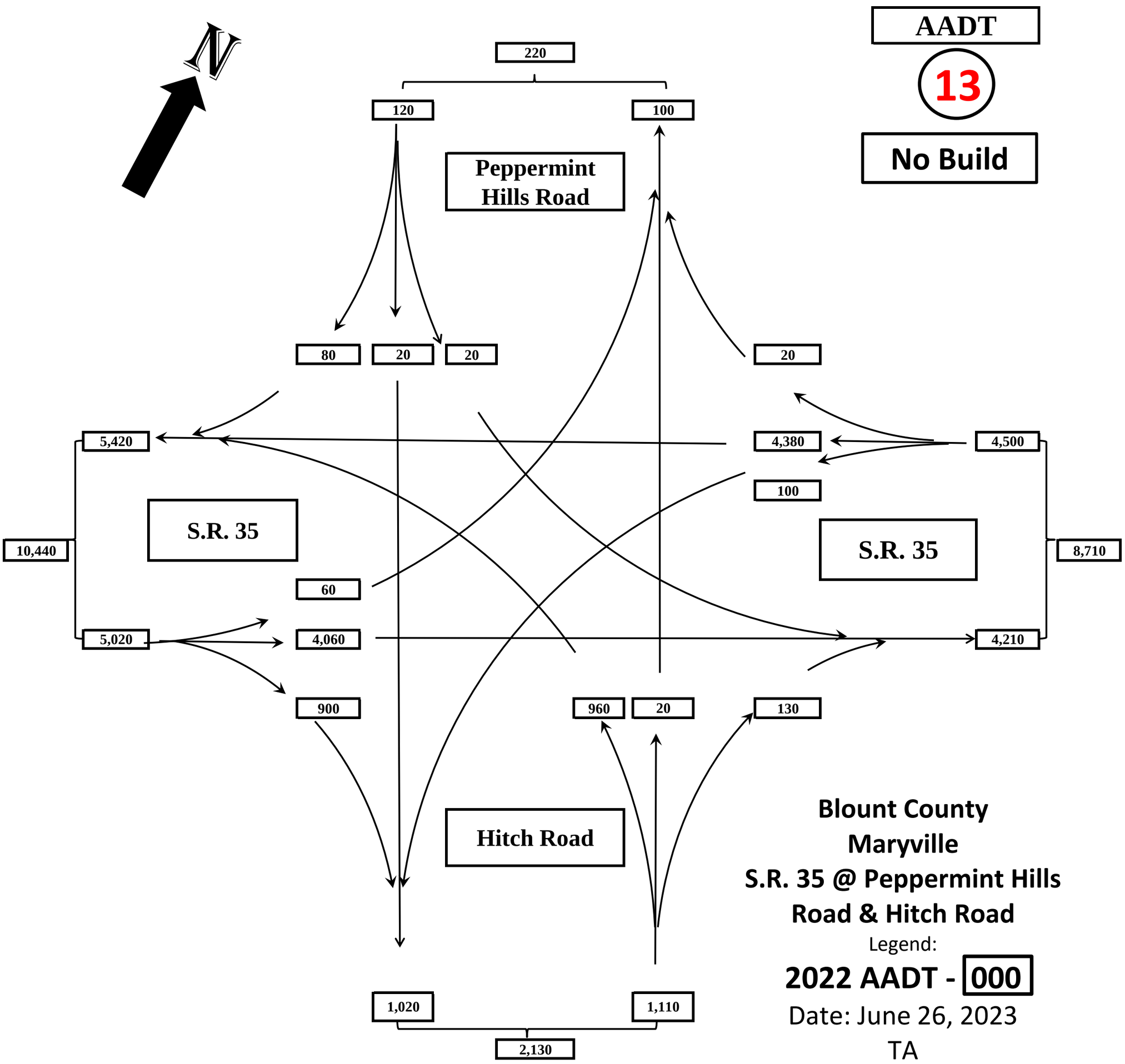
S.R. 35 @ Peppermint Road

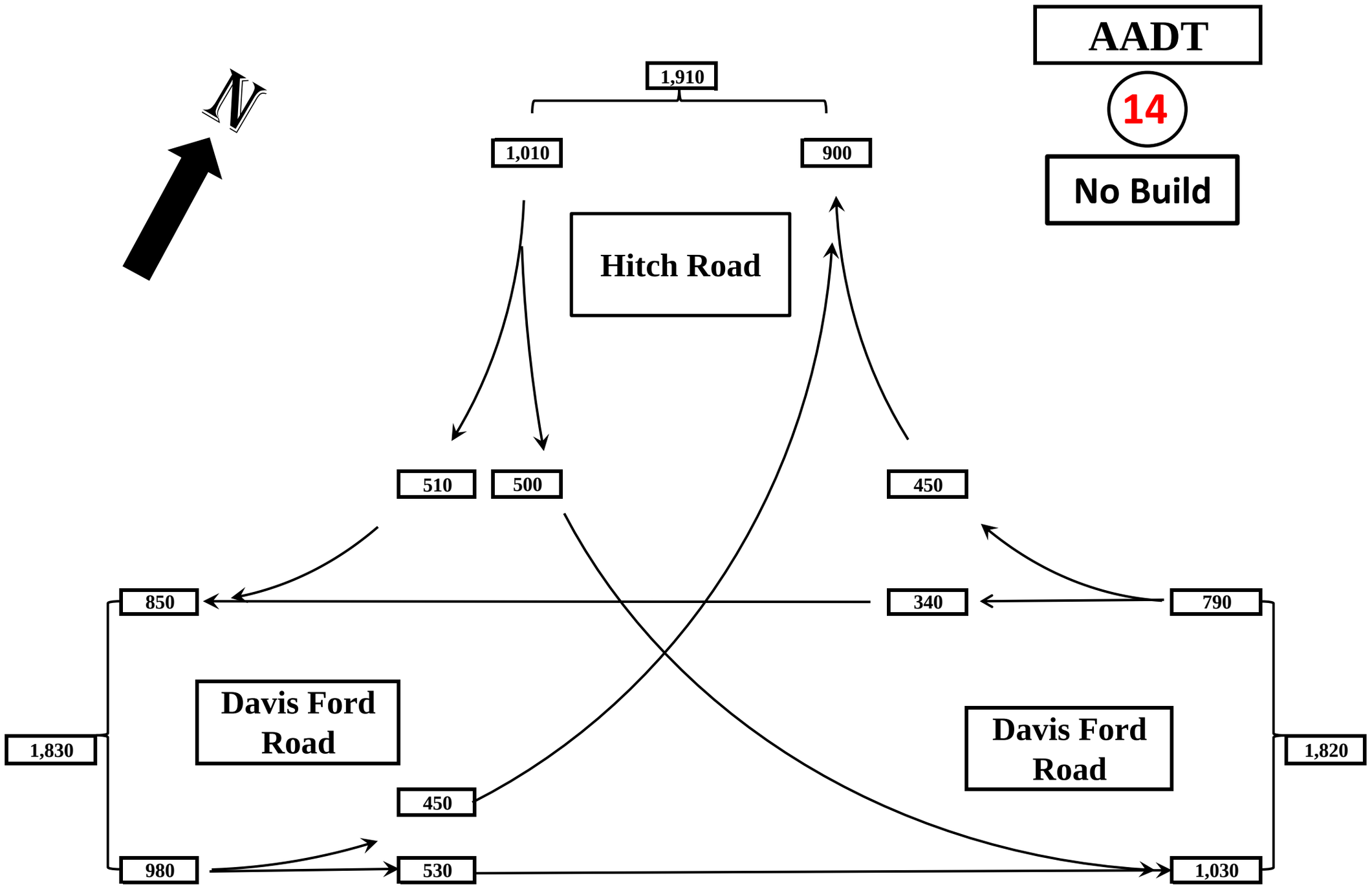
Legend:

2022 AADT - 000

Date: June 26, 2023

TA


N
220
120
100
Peppermint Hills Road
80
20
20
20
5,420
4,380
4,500
100
S.R. 35
S.R. 35
10,440
8,710
60
5,020
4,060
4,210
900
960
20
130
Hitch Road
1,020
1,110
2,130
AADT
13
No Build
Blount County
Maryville
S.R. 35 @ Peppermint Hills Road & Hitch Road
Legend:
2022 AADT - 000
Date: June 26, 2023
TA



Blount County

Maryville

Davis Ford Road @ Hitch Road

Legend:

2022 AADT - 000

Date: June 26, 2023

TA

N

AADT

15

No Build

770

760

850

90

Davis Ford Road

Davis Ford Road

1,600

1,830

830

830

980

0

10

150

Helton Road

90

160

250

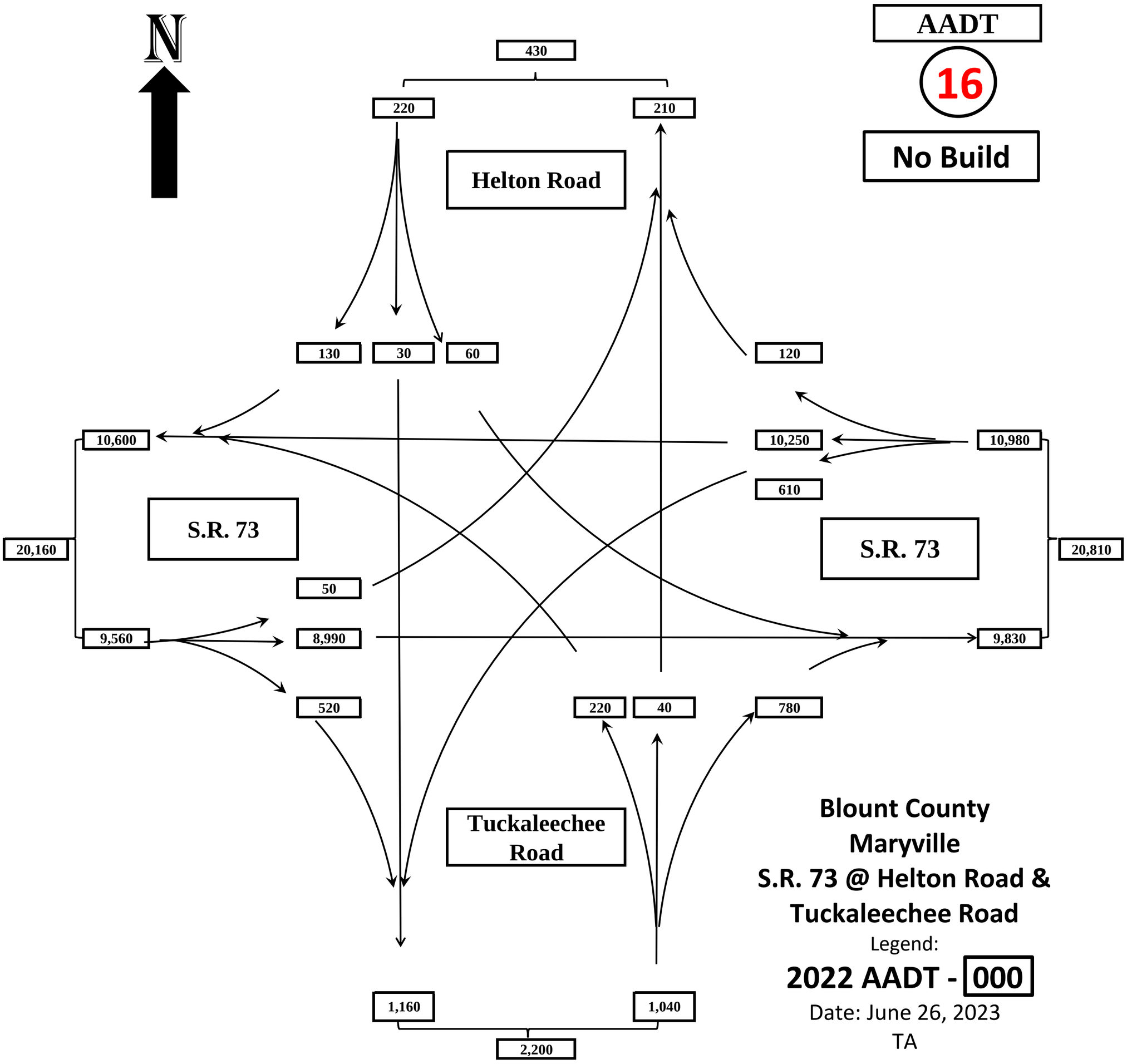
Blount County
Maryville
Davis Ford Road @ Helton Road

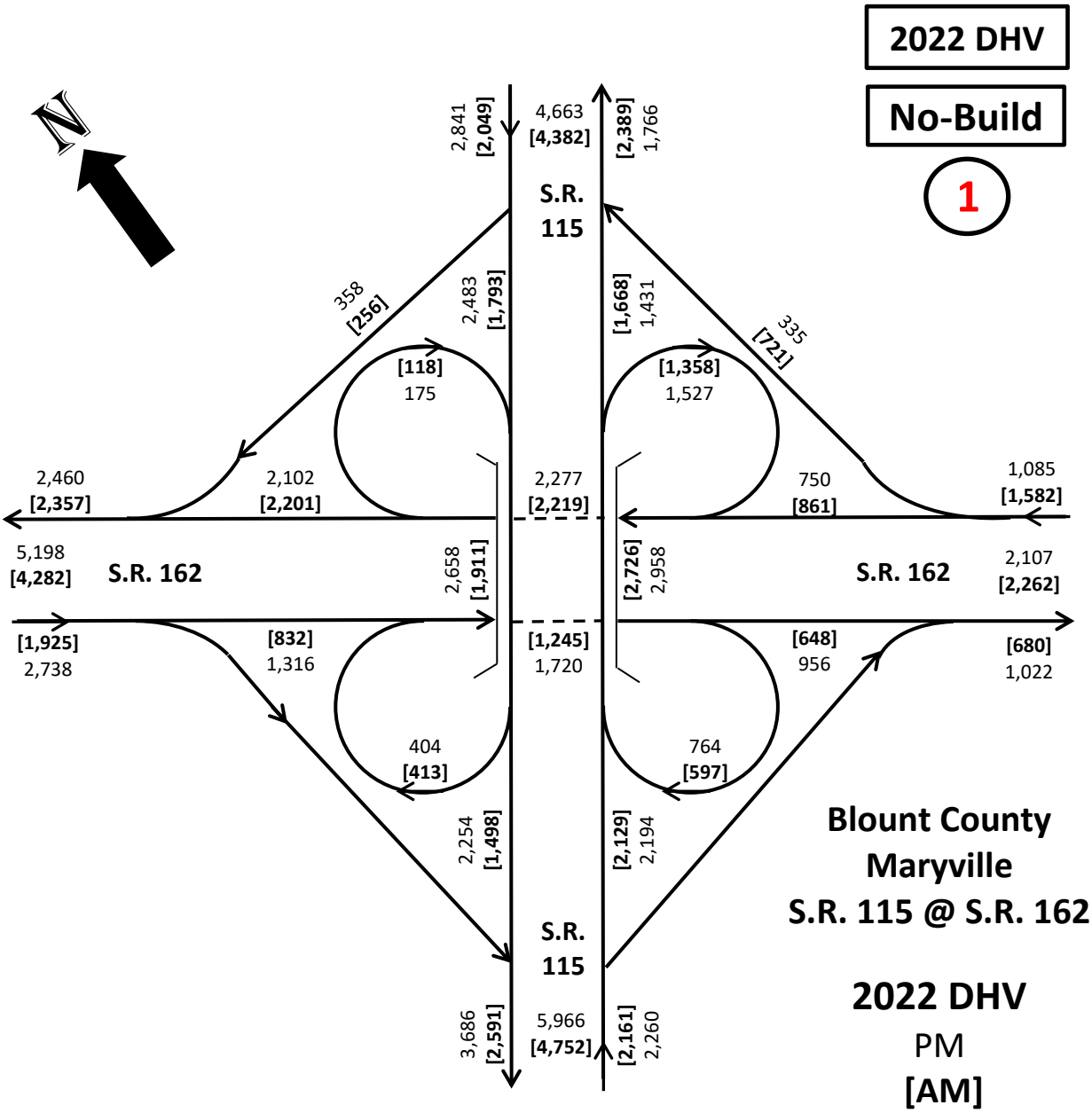
Legend:

2022 AADT - 000

Date: June 26, 2023

TA


N
AADT
16
No Build
430
220
210
Helton Road
130
30
60
120
10,600
10,250
10,980
610
S.R. 73
S.R. 73
20,160
20,810
50
9,560
8,990
9,830
520
220
40
780
Tuckaleechee Road
1,160
1,040
2,200
Blount County
Maryville
S.R. 73 @ Helton Road &
Tuckaleechee Road
Legend:
2022 AADT - 000
Date: June 26, 2023
TA



Blount County
Maryville
S.R. 115 @ S.R. 162

2022 DHV

PM

[AM]

Date: June 29 , 2023

TA

N

2022 DHV

2

No Build

7,190
6,555

3,984
2,554

3,206
4,001

S.R. 115

2,936
1,764

1,048
790

756
724

756
724

S.R. 35

1,884
1,617

1,128
893

2,450
3,277

80
103

S.R. 115

Blount County
Maryville
S.R. 35 @ S.R. 115

2022 DHV

PM

AM

2,936
1,764

2,530
3,380

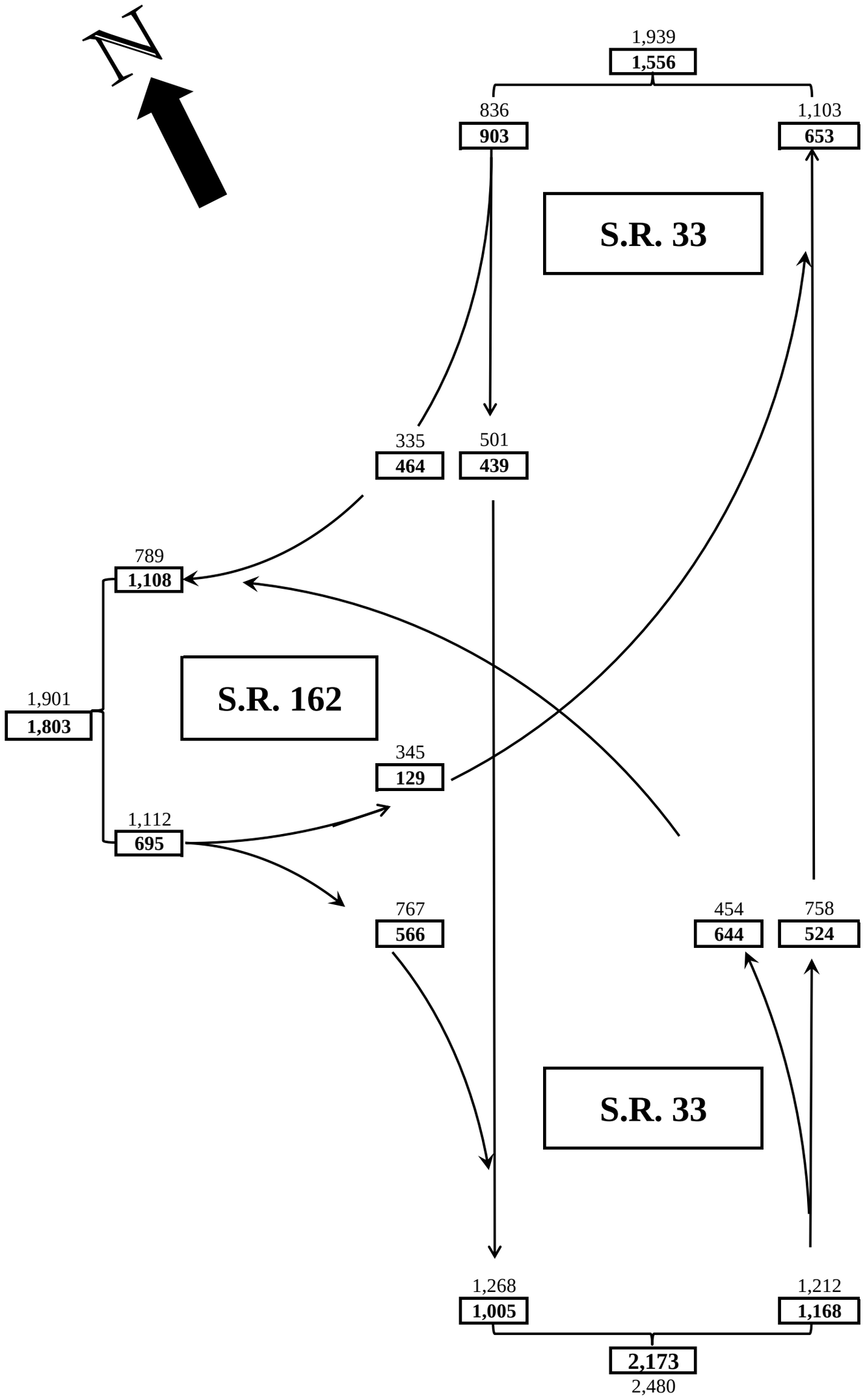
5,144
5,466

Date: May 23, 2023
TA

2022 DHV

No Build

3



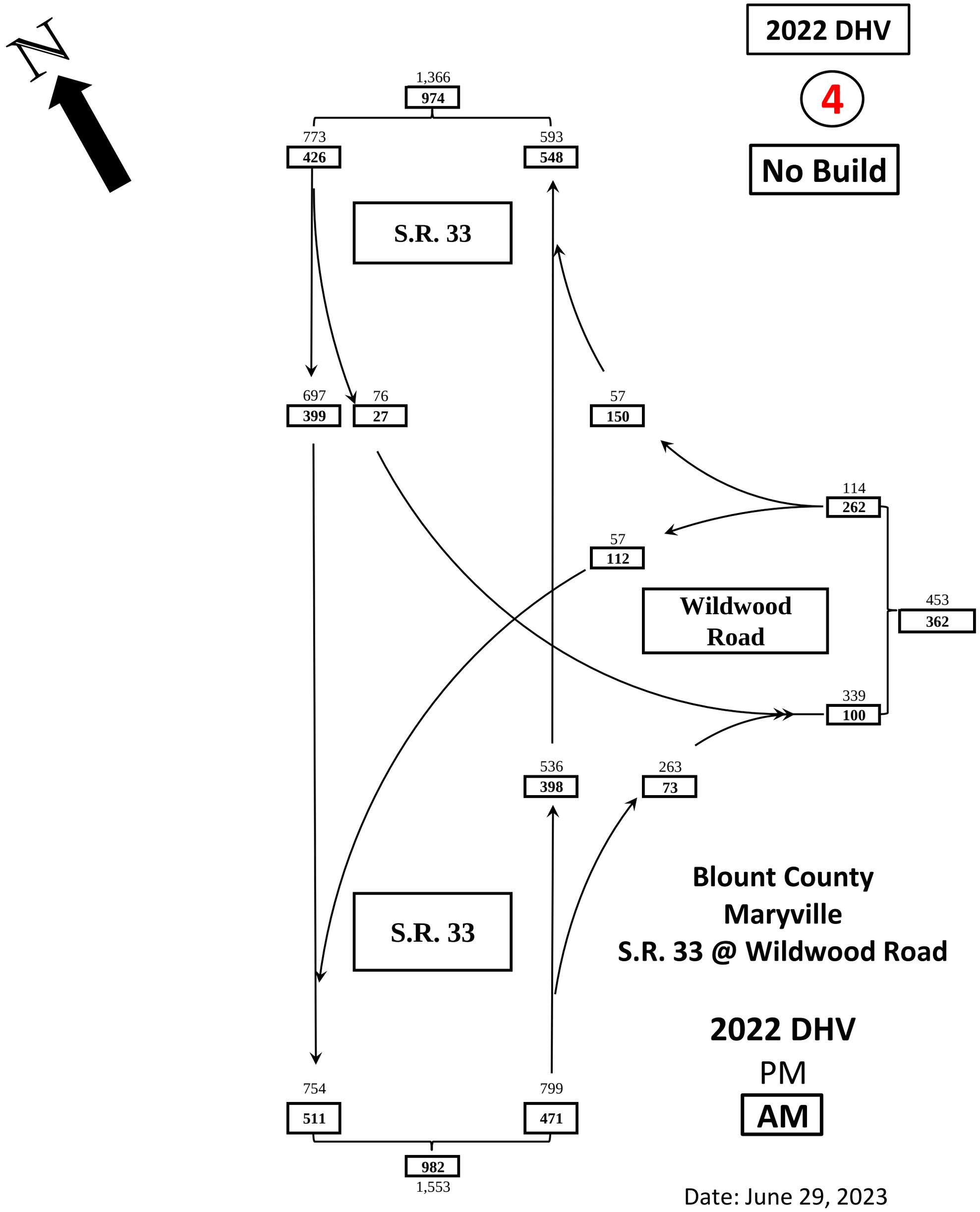
Blount County
Maryville
S.R. 33 @ S.R. 162

2022 DHV

PM

AM

Date: June 29, 2023
TA



2022 DHV

4

No Build

Blount County
Maryville
S.R. 33 @ Wildwood Road

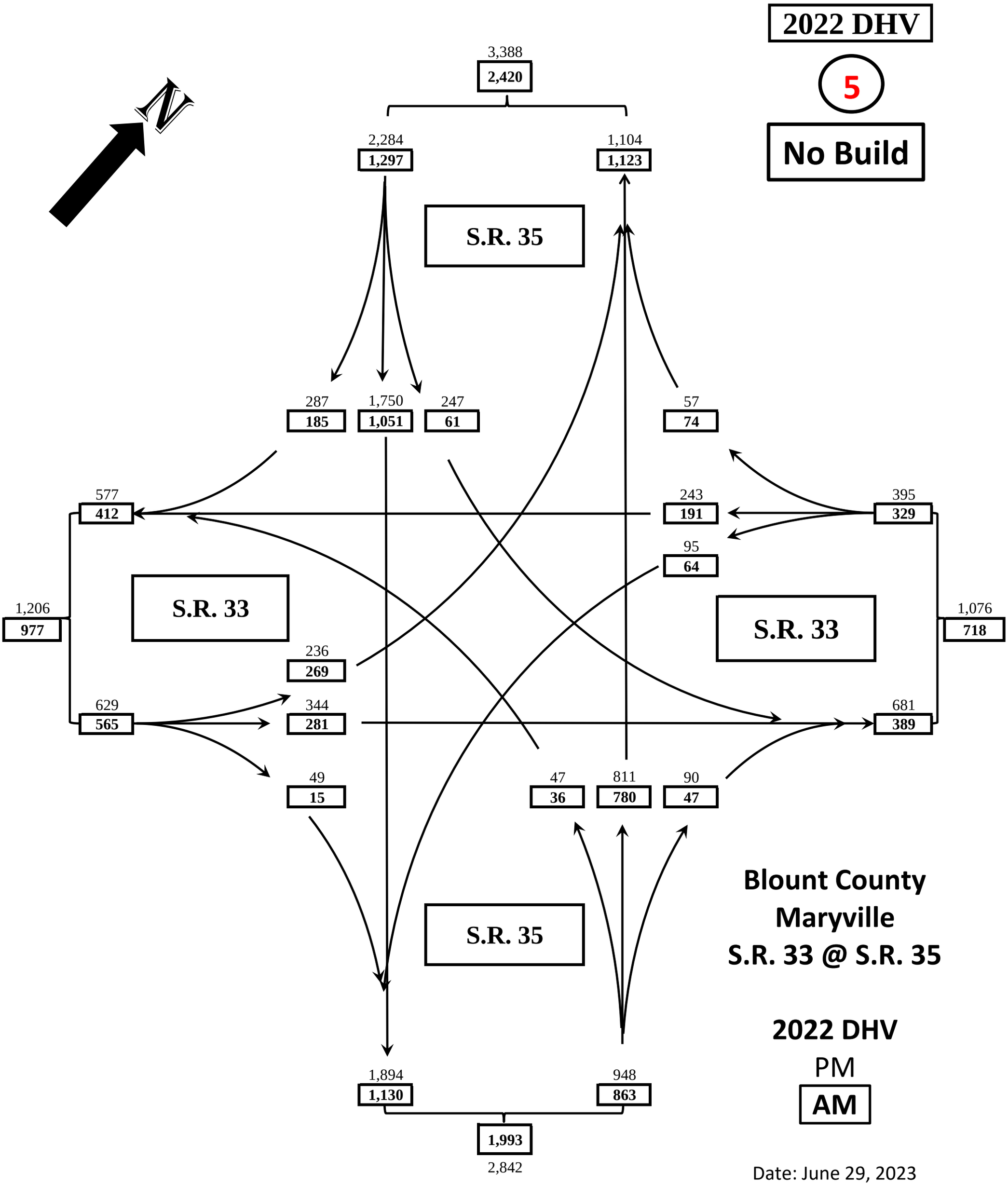
2022 DHV

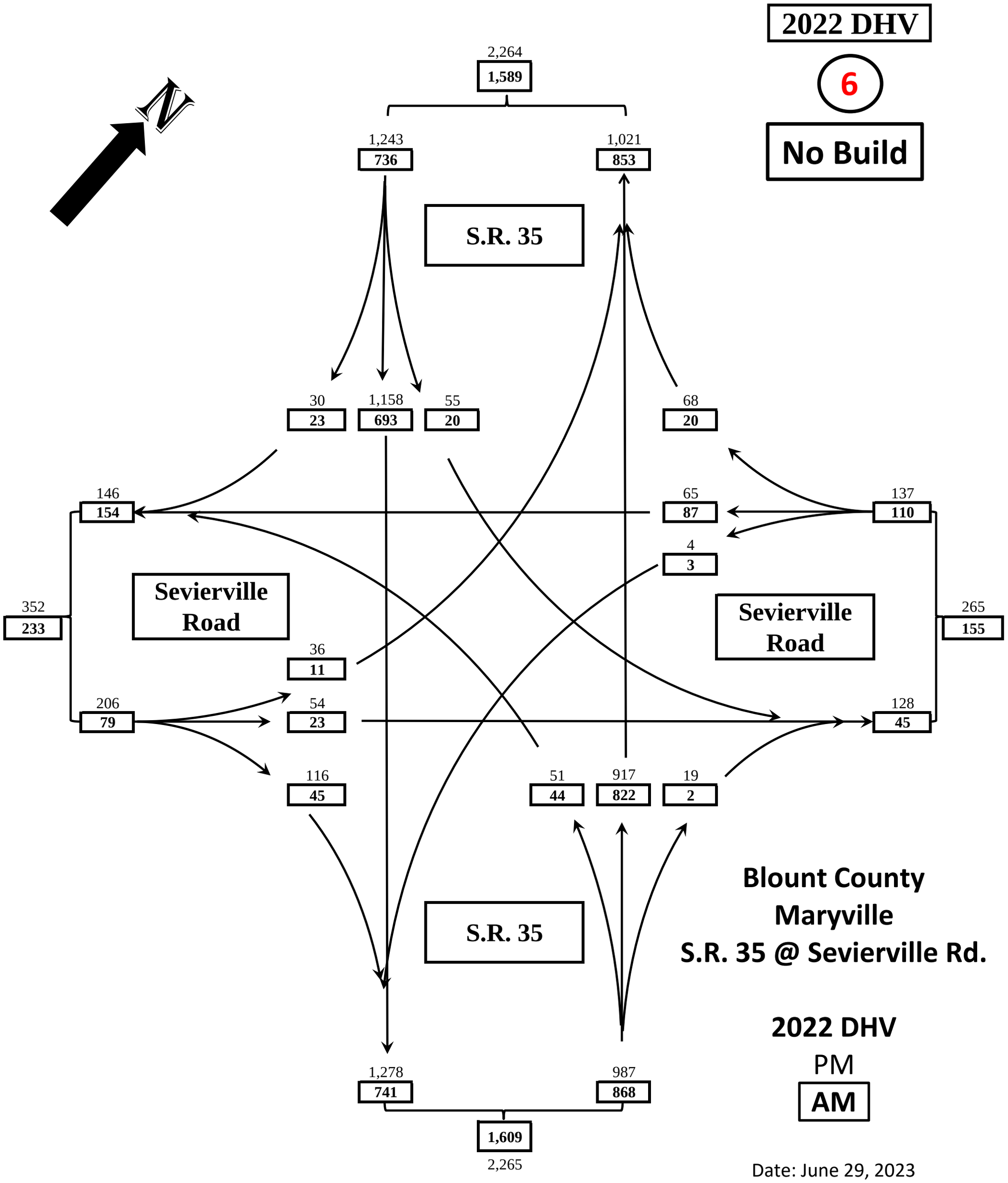
PM

AM

Date: June 29, 2023

TA

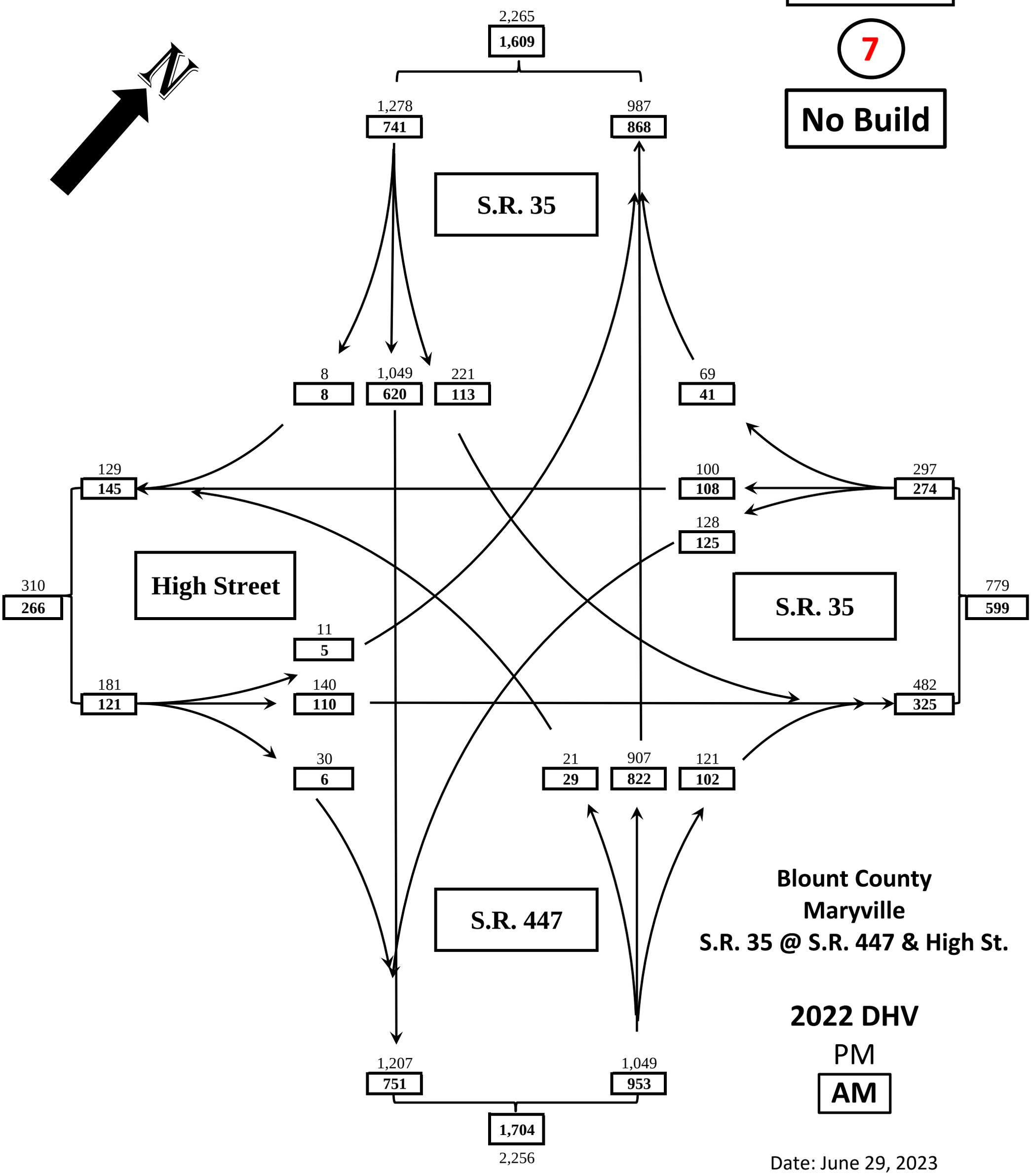

2022 DHV
5
No Build
N
3,388
2,420
2,284
1,297
1,104
1,123
S.R. 35
287
185
1,750
1,051
247
61
57
74
577
412
243
191
395
329
95
64
1,206
977
S.R. 33
S.R. 33
1,076
718
236
269
629
565
344
281
681
389
49
15
47
36
811
780
90
47
S.R. 35
1,894
1,130
948
863
1,993
2,842
Blount County
Maryville
S.R. 33 @ S.R. 35
2022 DHV
PM
AM
Date: June 29, 2023
TA


2022 DHV
6
No Build
N
2,264
1,589
1,243
736
1,021
853
S.R. 35
30
23
1,158
693
55
20
68
20
146
154
65
87
137
110
4
3
Sevierville Road
Sevierville Road
352
233
265
155
36
11
206
79
54
23
128
45
116
45
51
44
917
822
19
2
S.R. 35
Blount County
Maryville
S.R. 35 @ Sevierville Rd.
1,278
741
987
868
1,609
2,265
2022 DHV
PM
AM
Date: June 29, 2023
TA

2022 DHV

7

No Build



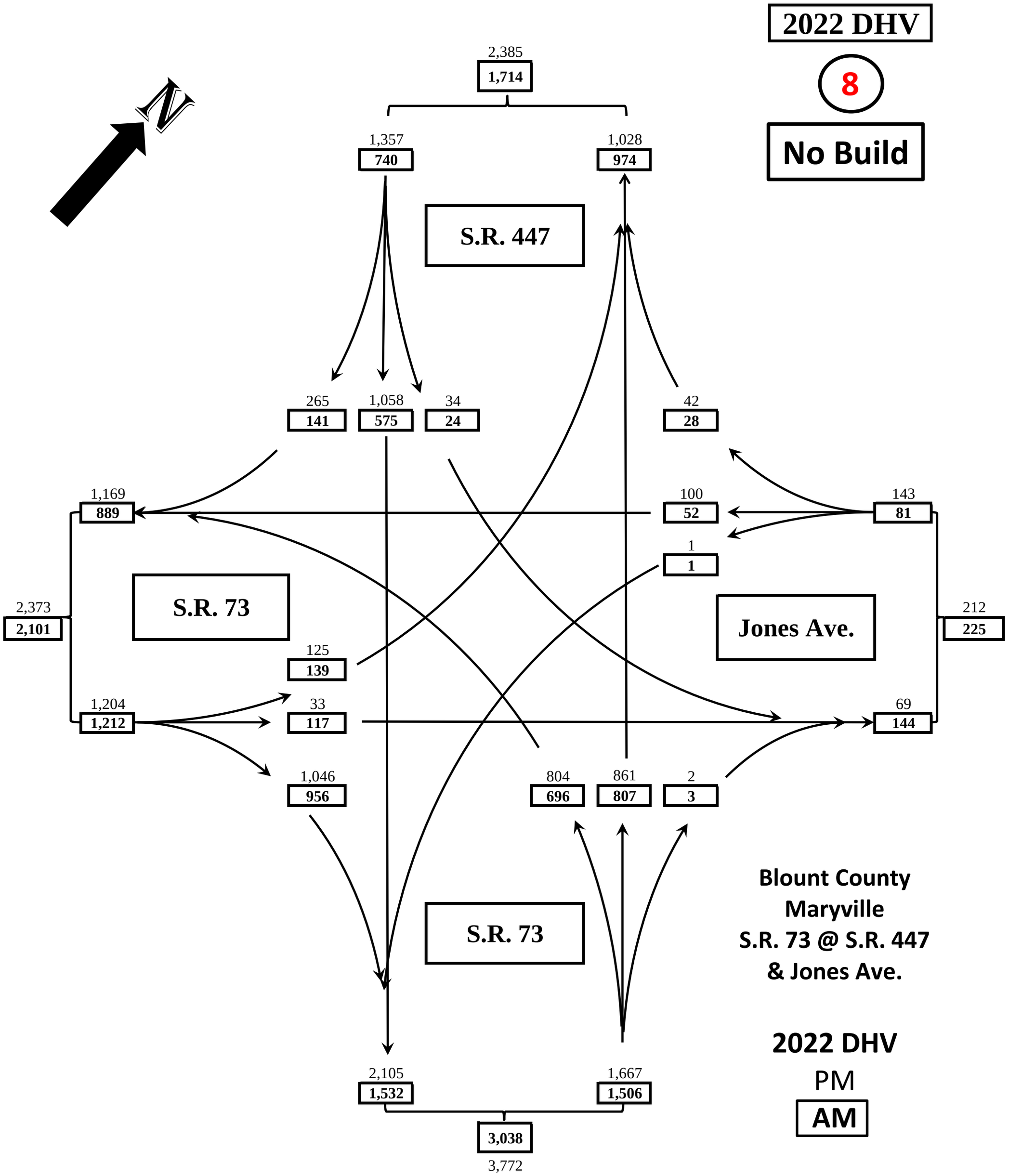
Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.

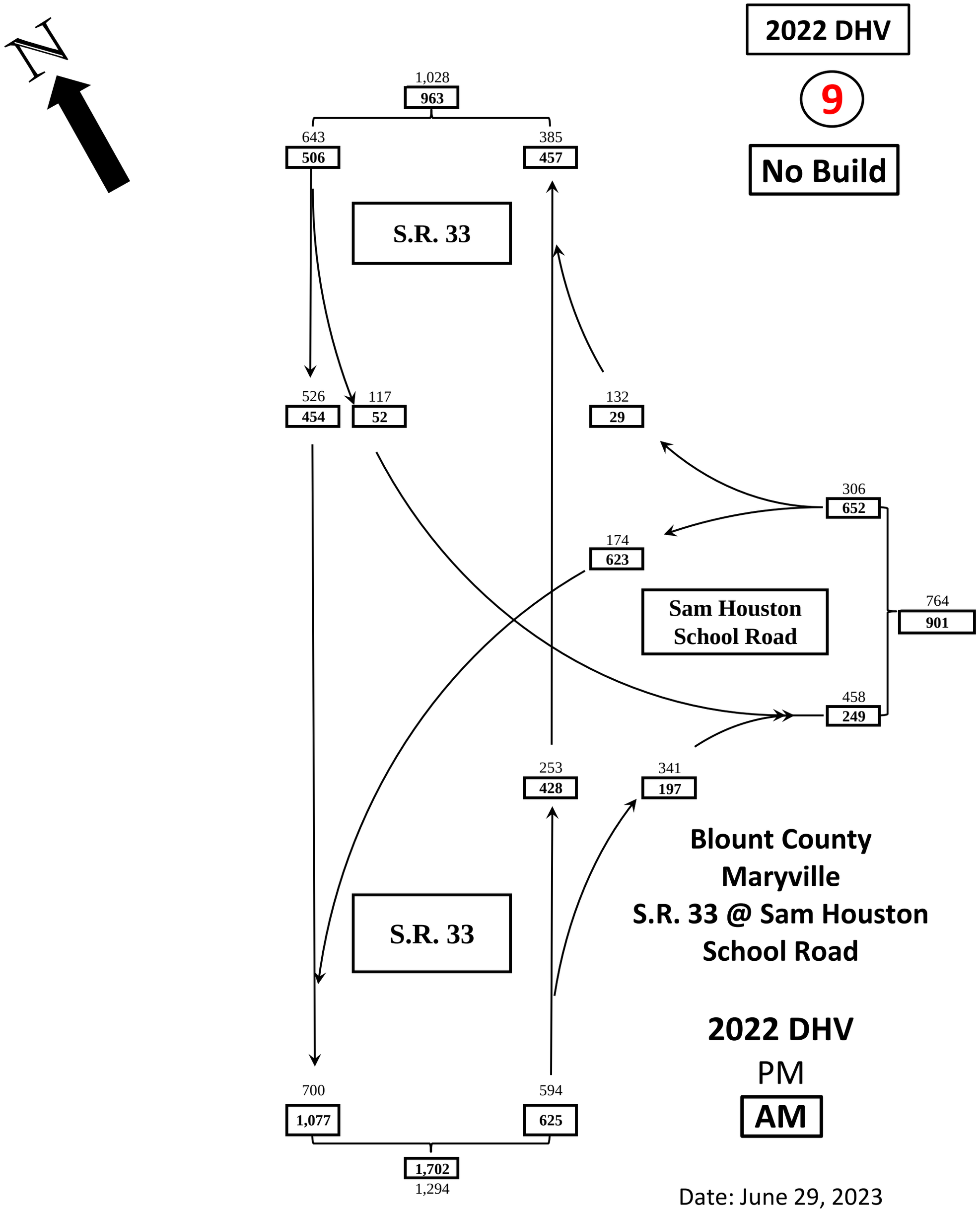
2022 DHV

PM

AM

Date: June 29, 2023
TA


2022 DHV
8
No Build
N
2,385
1,714
1,357
740
1,028
974
S.R. 447
265
141
1,058
575
34
24
42
28
1,169
889
100
52
143
81
1
1
S.R. 73
Jones Ave.
2,373
2,101
212
225
125
139
1,204
1,212
33
117
69
144
1,046
956
804
696
861
807
2
3
S.R. 73
2,105
1,532
1,667
1,506
3,038
3,772
Blount County
Maryville
S.R. 73 @ S.R. 447
& Jones Ave.
2022 DHV
PM
AM
Date: June 29, 2023
TA



2022 DHV

9

No Build

Blount County
Maryville
S.R. 33 @ Sam Houston
School Road

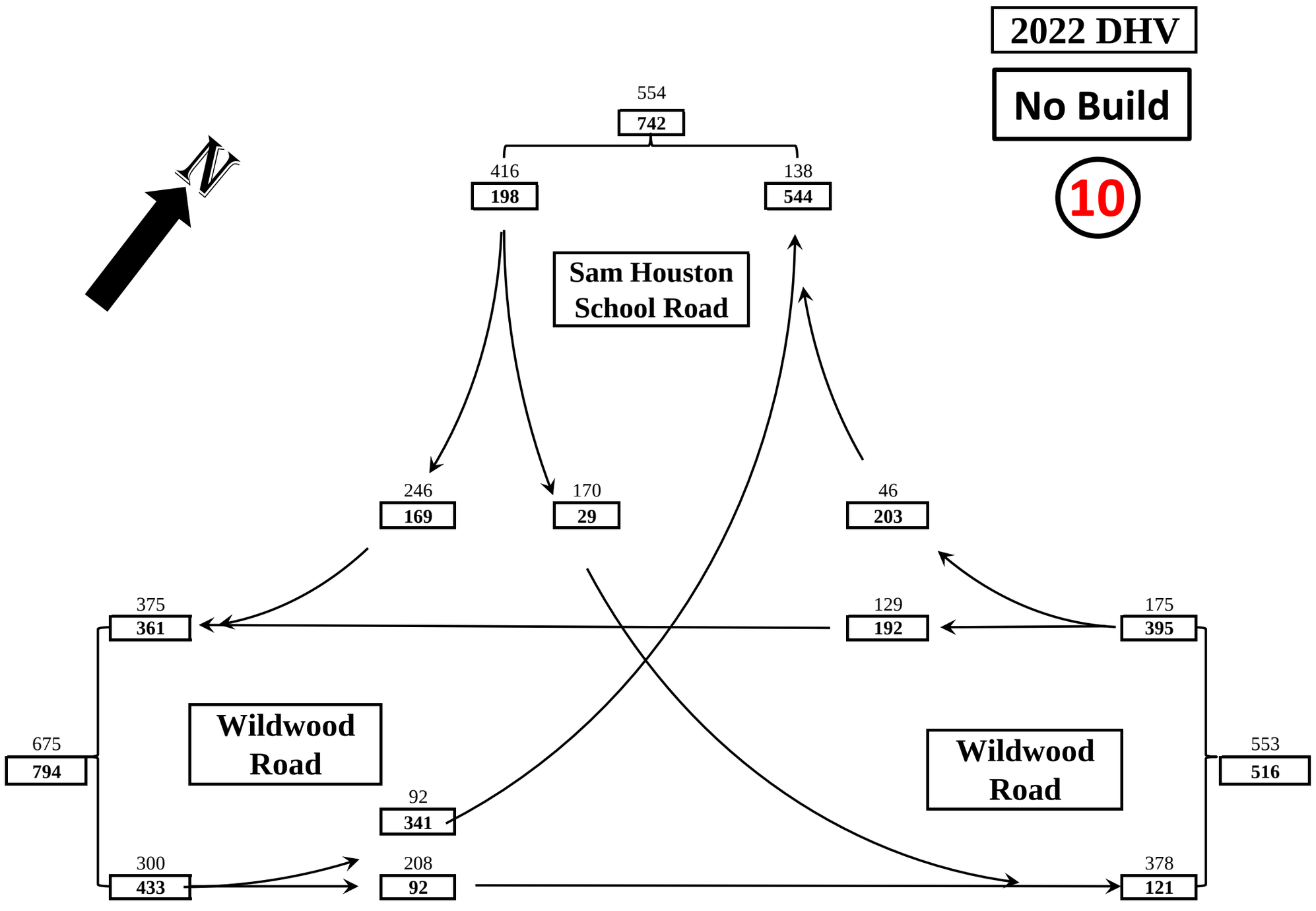
2022 DHV

PM

AM

Date: June 29, 2023

TA



2022 DHV

No Build

10

Blount County
Maryville
Wildwood Road @
Sam Houston School Rd.

2022 DHV

PM

AM

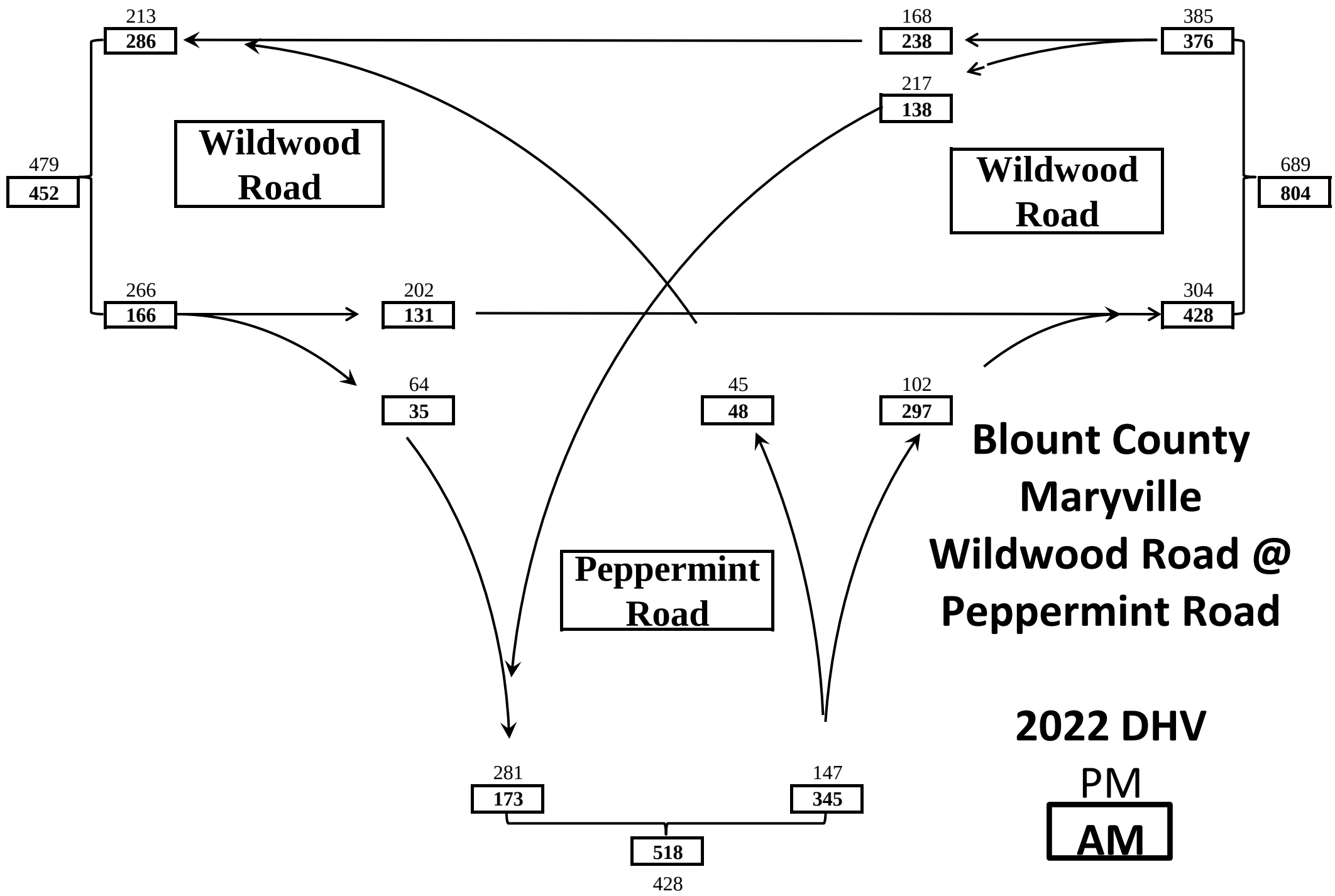
Date: June 29, 2023

TA

2022 DHV

11

No-Build



Blount County
Maryville
Wildwood Road @
Peppermint Road

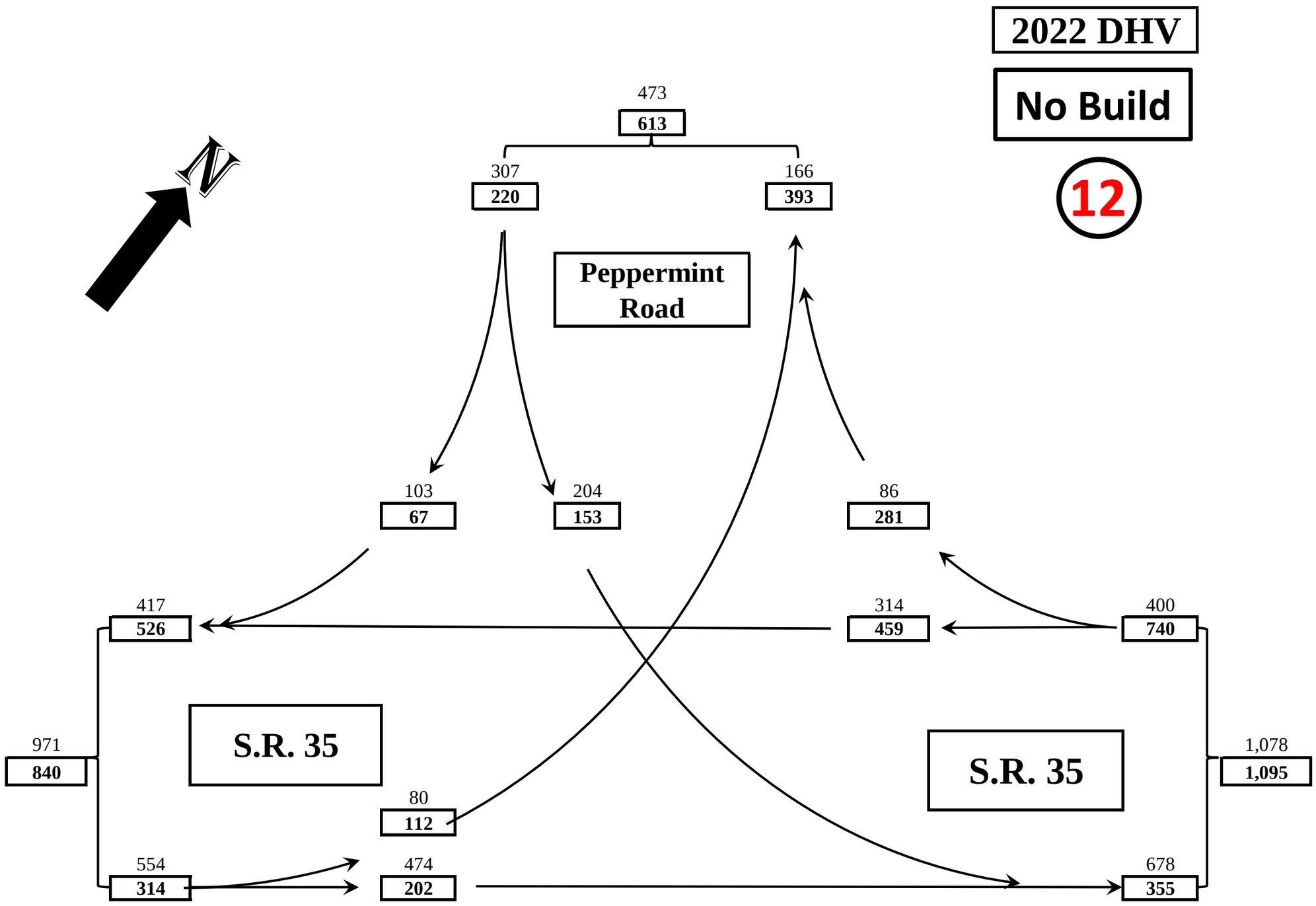
2022 DHV

PM

AM

Date: June 29, 2023

TA



Blount County
Maryville
S.R. 35 @ Peppermint Rd.

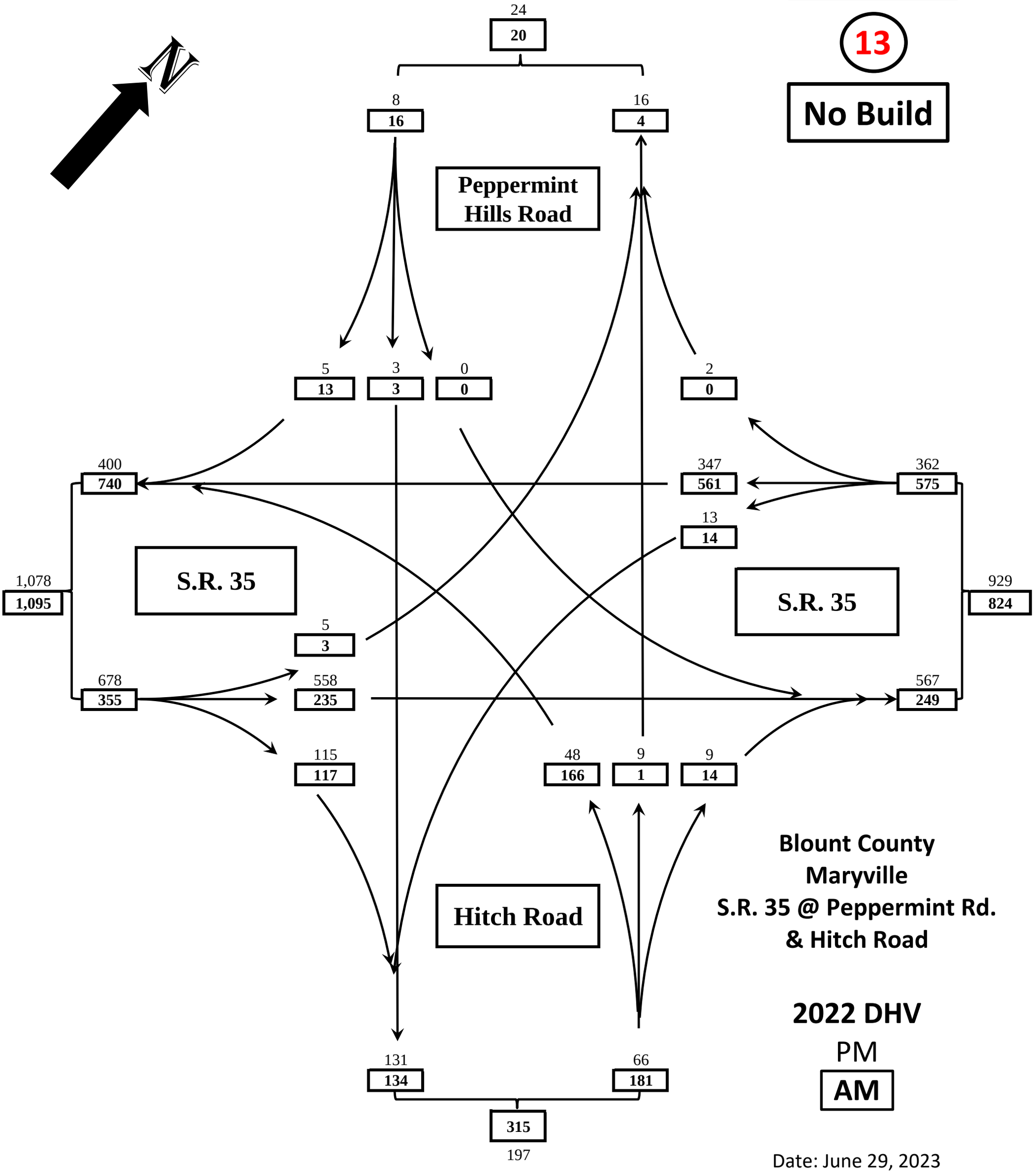
2022 DHV

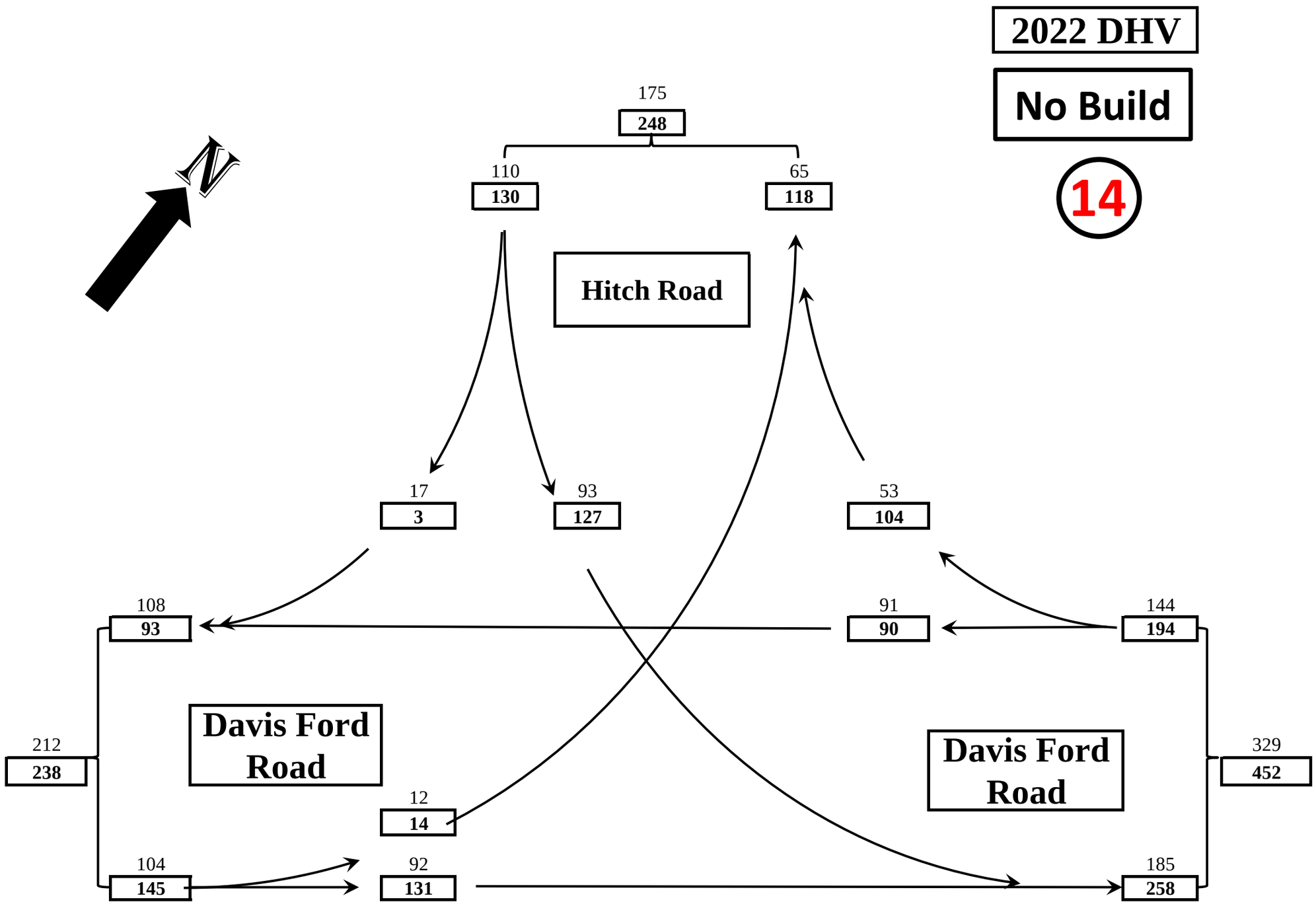
PM

AM

Date: June 29, 2023

TA


2022 DHV
13
No Build
N
24
20
8
16
16
4
Peppermint
Hills Road
5
13
3
3
0
0
2
0
400
740
347
561
362
575
13
14
1,078
1,095
S.R. 35
S.R. 35
929
824
5
3
678
355
558
235
567
249
115
117
48
166
9
1
9
14
Hitch Road
Blount County
Maryville
S.R. 35 @ Peppermint Rd.
& Hitch Road
131
134
66
181
315
197
2022 DHV
PM
AM
Date: June 29, 2023
TA



2022 DHV

No Build

14

Blount County
Maryville
Davis Ford Rd. @ Hitch Rd.

2022 DHV
PM

AM

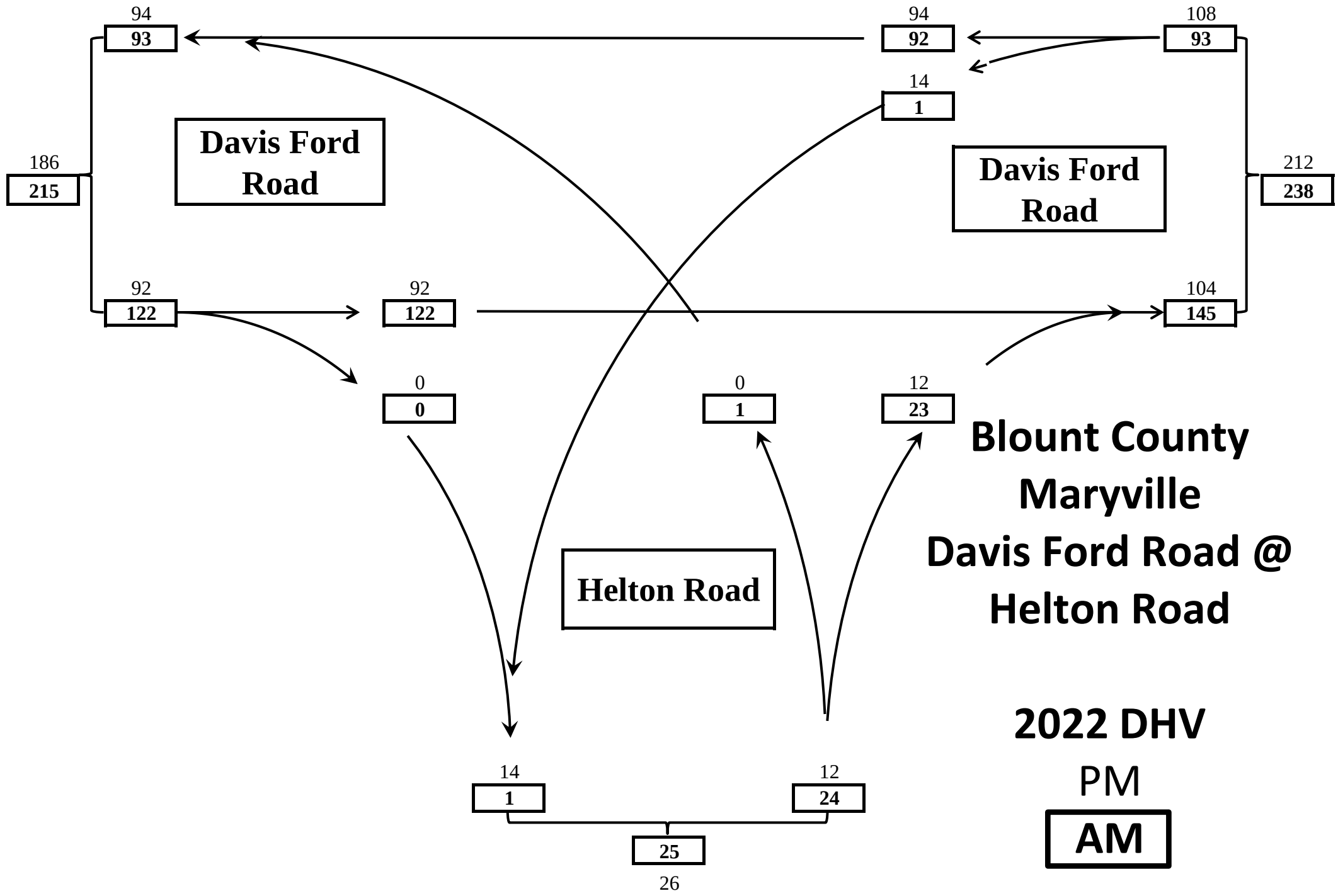
Date: June 29, 2023
TA

N

2022 DHV

15

No-Build



Blount County
Maryville
Davis Ford Road @
Helton Road

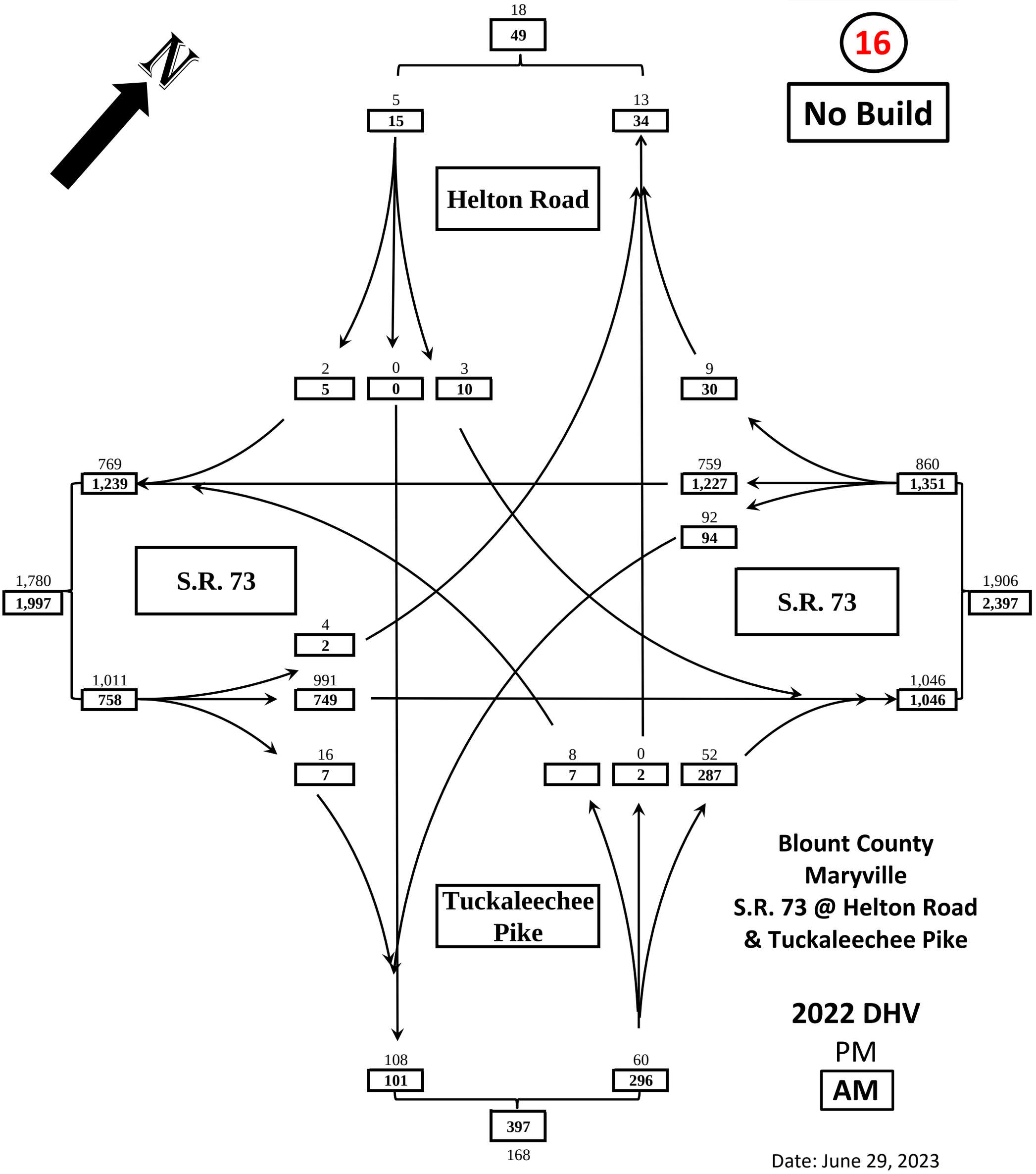
2022 DHV

PM

AM

Date: June 29, 2023

TA



2022 DHV

16

No Build

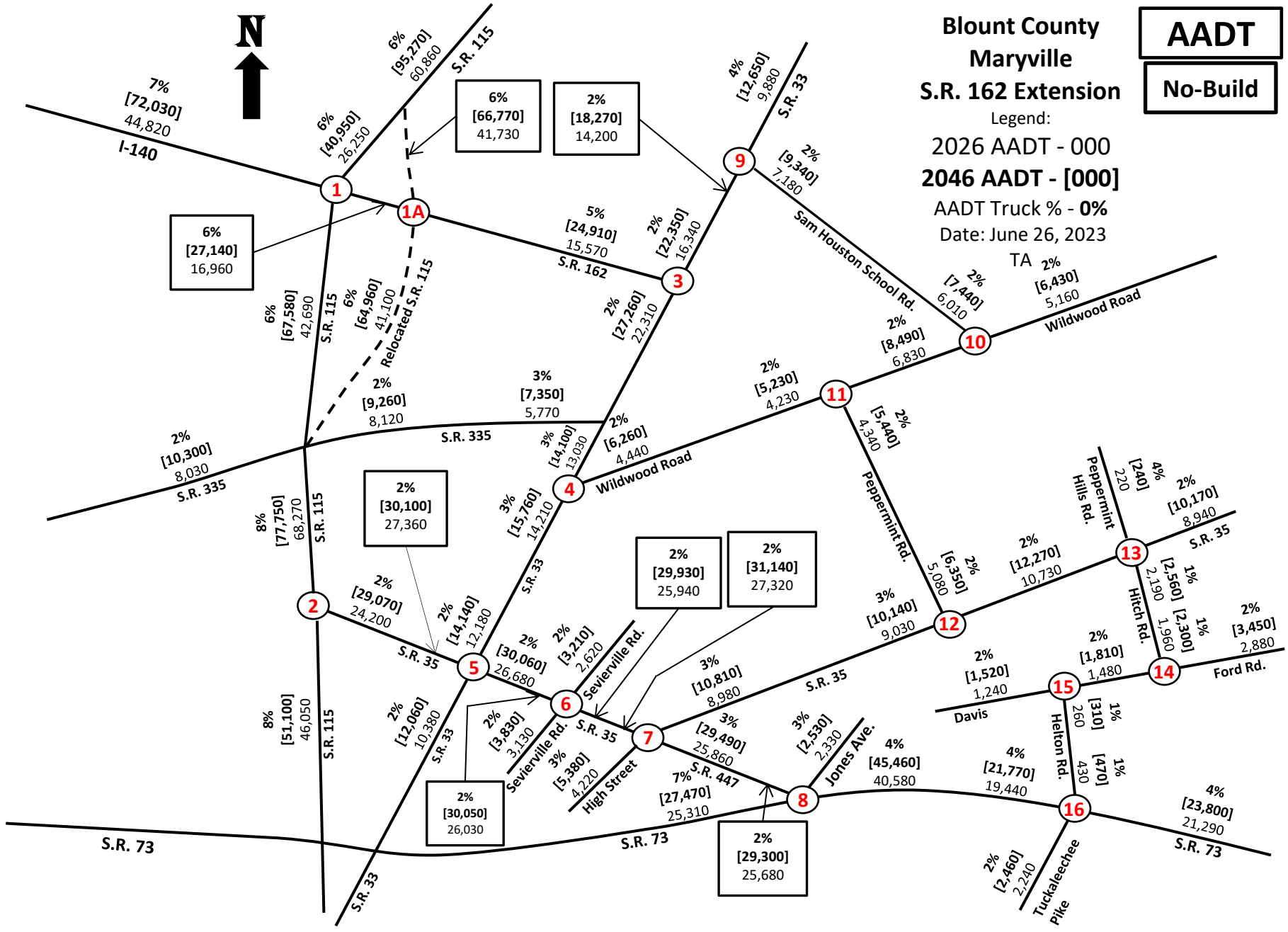
Blount County
Maryville
S.R. 73 @ Helton Road
& Tuckaleechee Pike

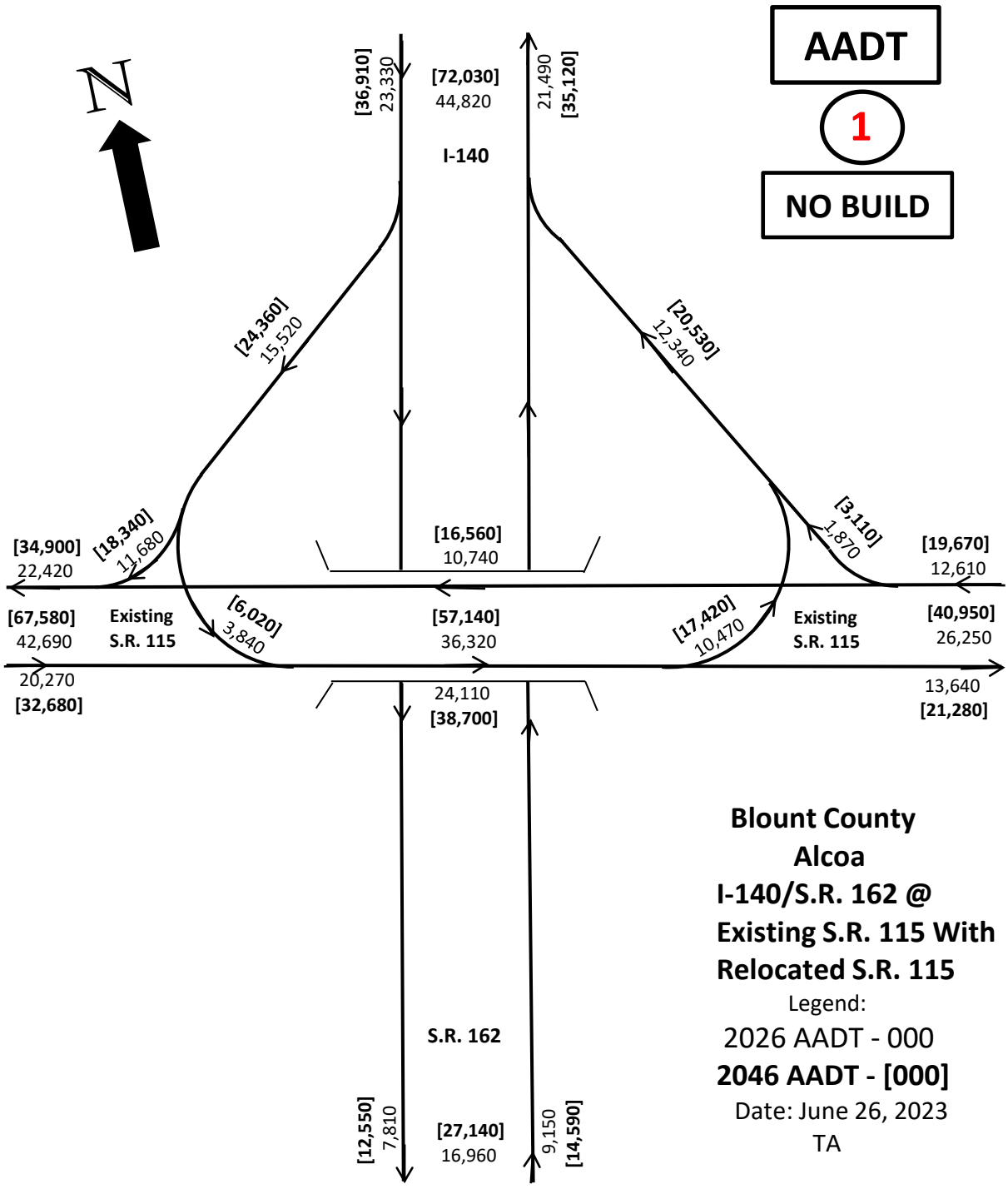
2022 DHV

PM

AM

Date: June 29, 2023
TA


N
Blount County
Maryville
S.R. 162 Extension
Legend:
2026 AADT - 000
2046 AADT - [000]
AADT Truck % - 0%
Date: June 26, 2023
TA
AADT
No-Build
I-140
S.R. 115
S.R. 33
S.R. 162
Sam Houston School Rd.
Wildwood Road
Relocated S.R. 115
S.R. 335
Peppermint Rd.
Peppermint Hills Rd.
S.R. 35
Hitch Rd.
Ford Rd.
Sevierville Rd.
High Street
Jones Ave.
Helton Rd.
Davis
S.R. 447
S.R. 73
Tuckaleechee Pike
1
1A
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16



Blount County
Alcoa
I-140/S.R. 162 @
Existing S.R. 115 With
Relocated S.R. 115

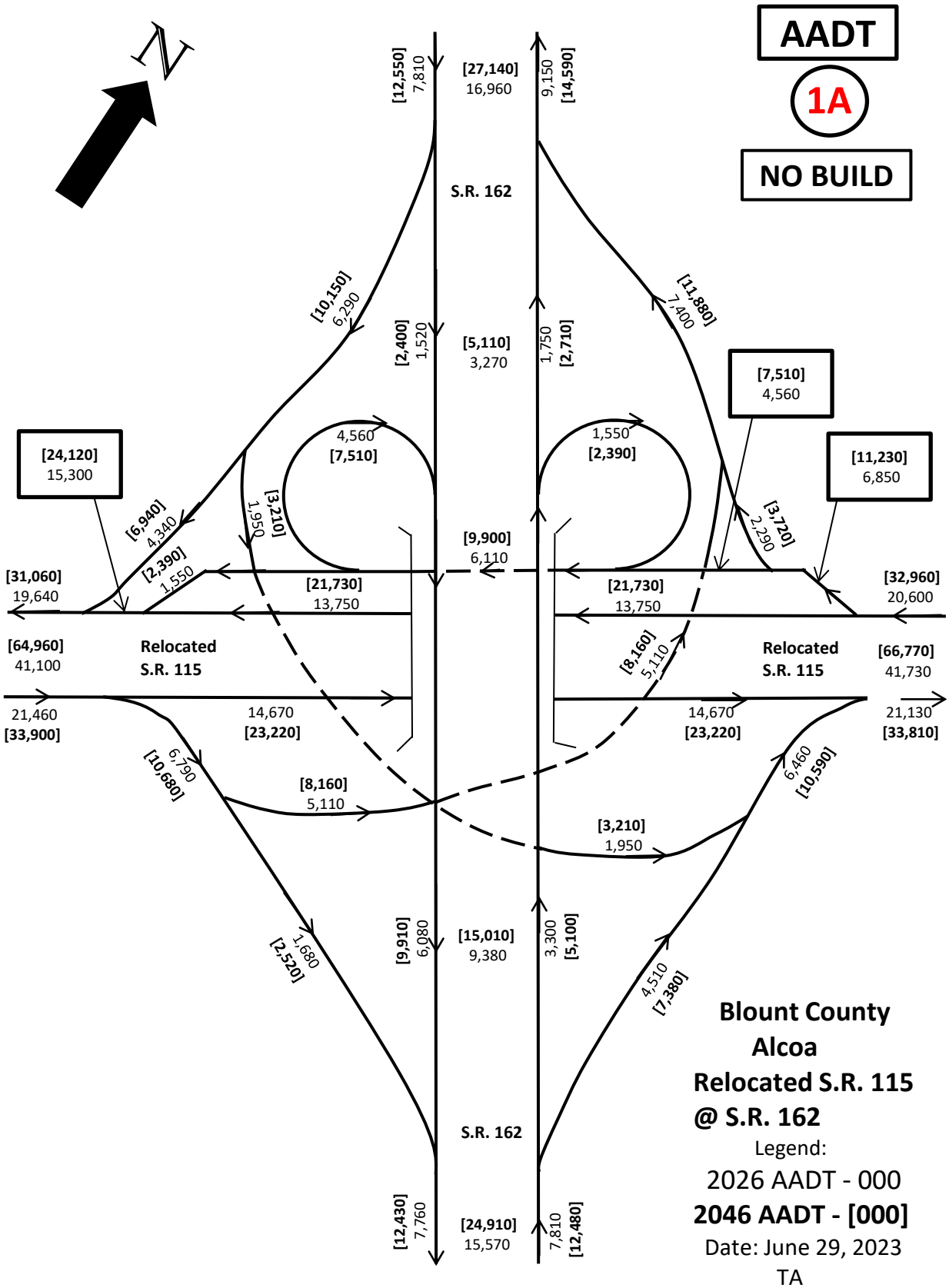
Legend:

2026 AADT - 000

2046 AADT - [000]

Date: June 26, 2023

TA


AADT
1A
NO BUILD
N
S.R. 162
Relocated S.R. 115
Relocated S.R. 115
S.R. 162
[12,550] 7,810
[27,140] 16,960
9,150 [14,590]
[10,150] 6,290
[2,400] 1,520
[5,110] 3,270
1,750 [2,710]
[11,880] 7,400
[7,510] 4,560
[24,120] 15,300
4,560 [7,510]
1,550 [2,390]
[11,230] 6,850
[6,940] 4,340
[3,210] 1,950
[3,720] 2,290
[9,900] 6,110
[2,390] 1,550
[31,060] 19,640
[21,730] 13,750
[21,730] 13,750
[32,960] 20,600
[64,960] 41,100
[8,160] 5,110
[66,770] 41,730
21,460 [33,900]
14,670 [23,220]
14,670 [23,220]
21,130 [33,810]
6,790 [10,680]
[8,160] 5,110
[3,210] 1,950
6,460 [10,590]
1,680 [2,520]
[9,910] 6,080
[15,010] 9,380
3,300 [5,100]
4,510 [7,380]
[12,430] 7,760
[24,910] 15,570
7,810 [12,480]
Blount County
Alcoa
Relocated S.R. 115
@ S.R. 162
Legend:
2026 AADT - 000
2046 AADT - [000]
Date: June 29, 2023
TA

N

AADT

2

No-Build

68,270
77,750

33,110
37,860

35,160
39,890

S.R. 115

20,720
22,990

12,390
14,870

10,820
12,990

10,820
12,990

S.R. 35

24,200
29,070

13,380
16,080

24,340
26,900

990
1,210

S.R. 115

e

20,720
22,990

25,330
28,110

51,100
46,050

Blount County
Maryville
S.R. 35 @ S.R. 115

Legend:

2026 AADT - 000

2046 AADT - 000

Date: July 6, 2023

TA

N

AADT

3

No Build

16,340
22,350

7,920
10,830

8,420
11,520

S.R. 33

2,840
5,020

5,080
5,810

8,640
13,220

S.R. 162

15,570
24,910

1,960
4,980

6,930
11,690

4,970
6,710

5,800
8,200

6,460
6,540

S.R. 33

10,880
12,520

11,430
14,740

27,260
22,310

Blount County
Maryville
S.R. 33 @ S.R. 162

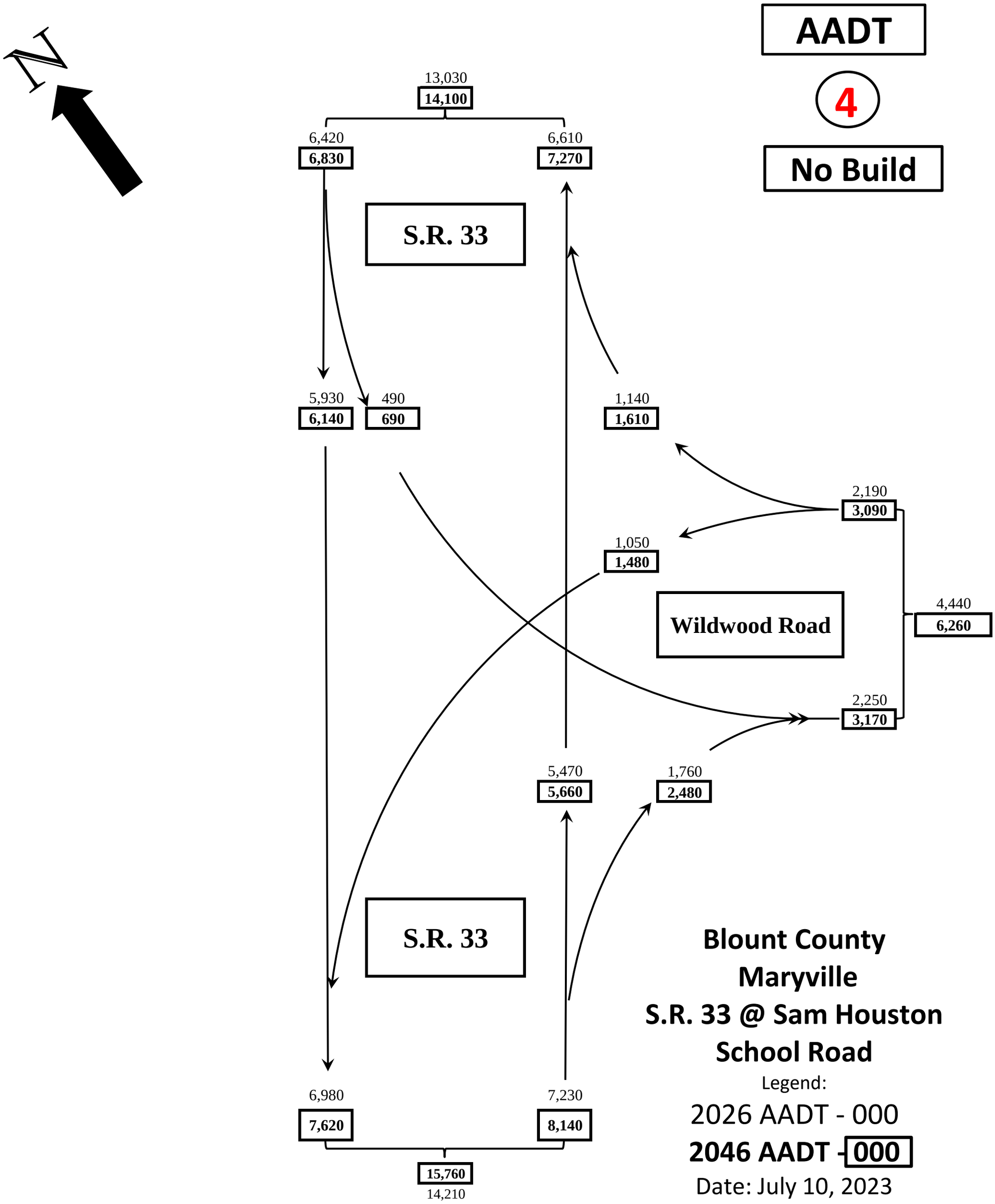
Legend:

2026 AADT - 000

2046 AADT - 000

Date: July 6, 2023

TA



AADT

4

No Build

Blount County
Maryville
S.R. 33 @ Sam Houston School Road

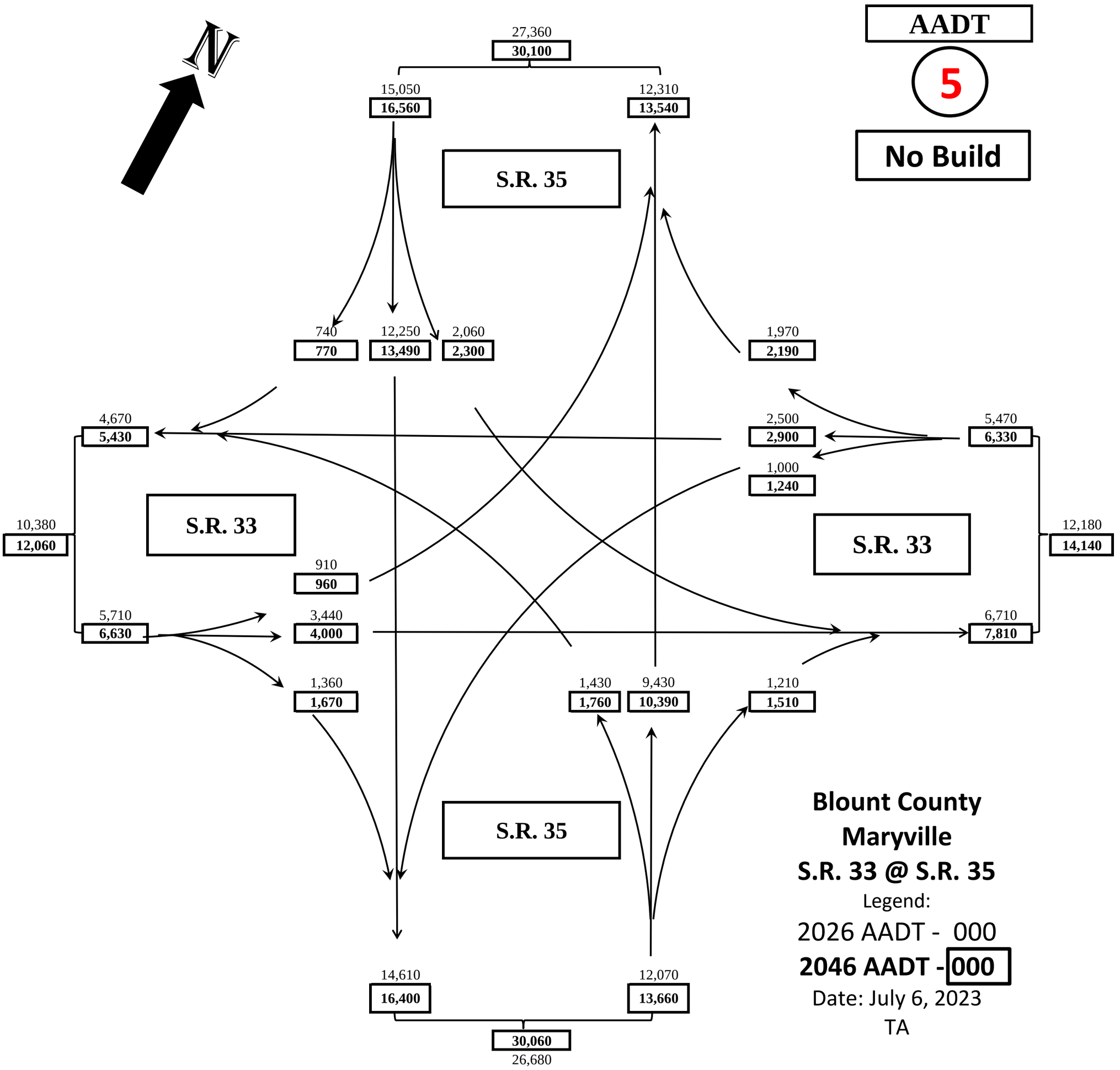
Legend:

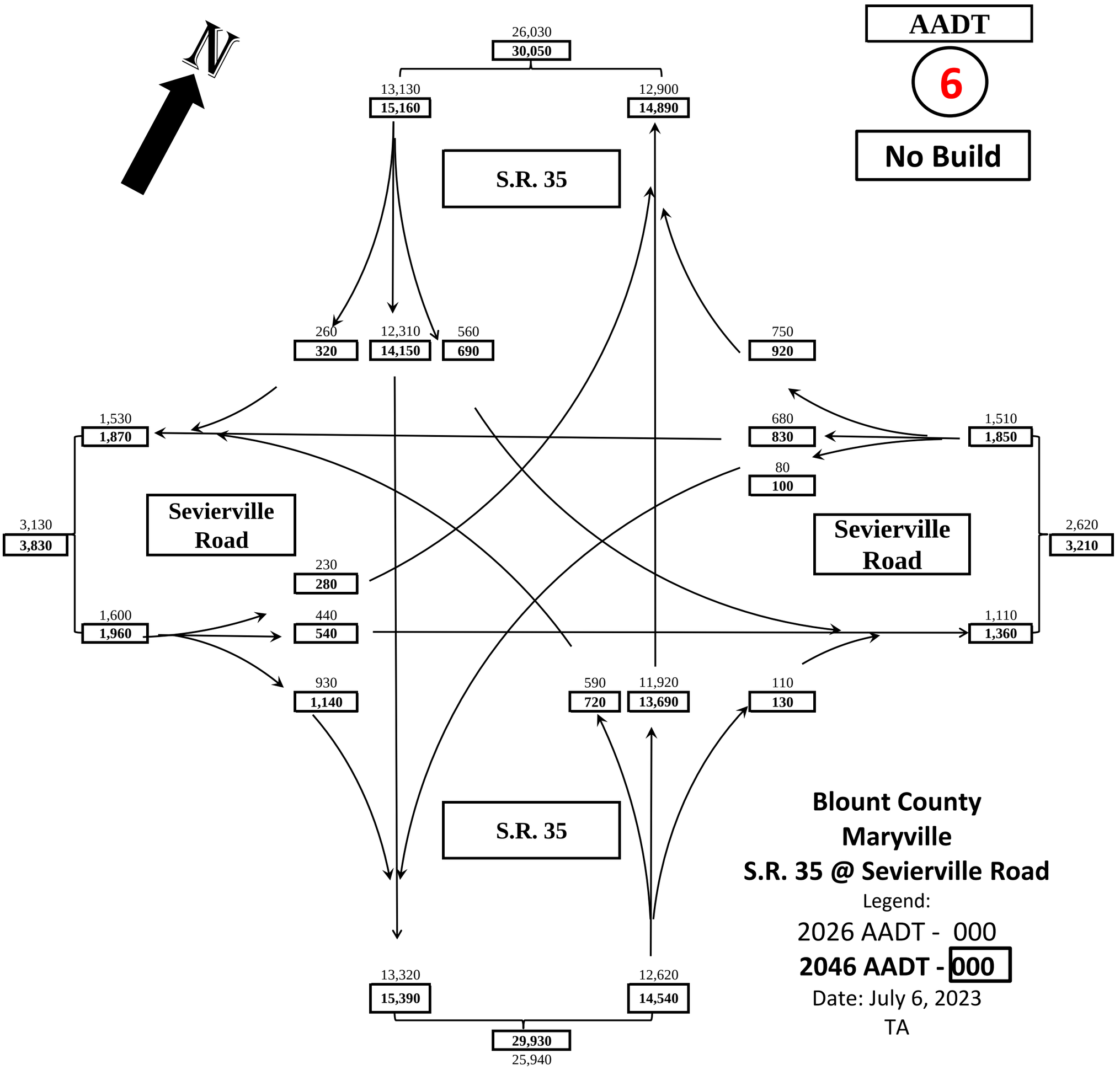
2026 AADT - 000

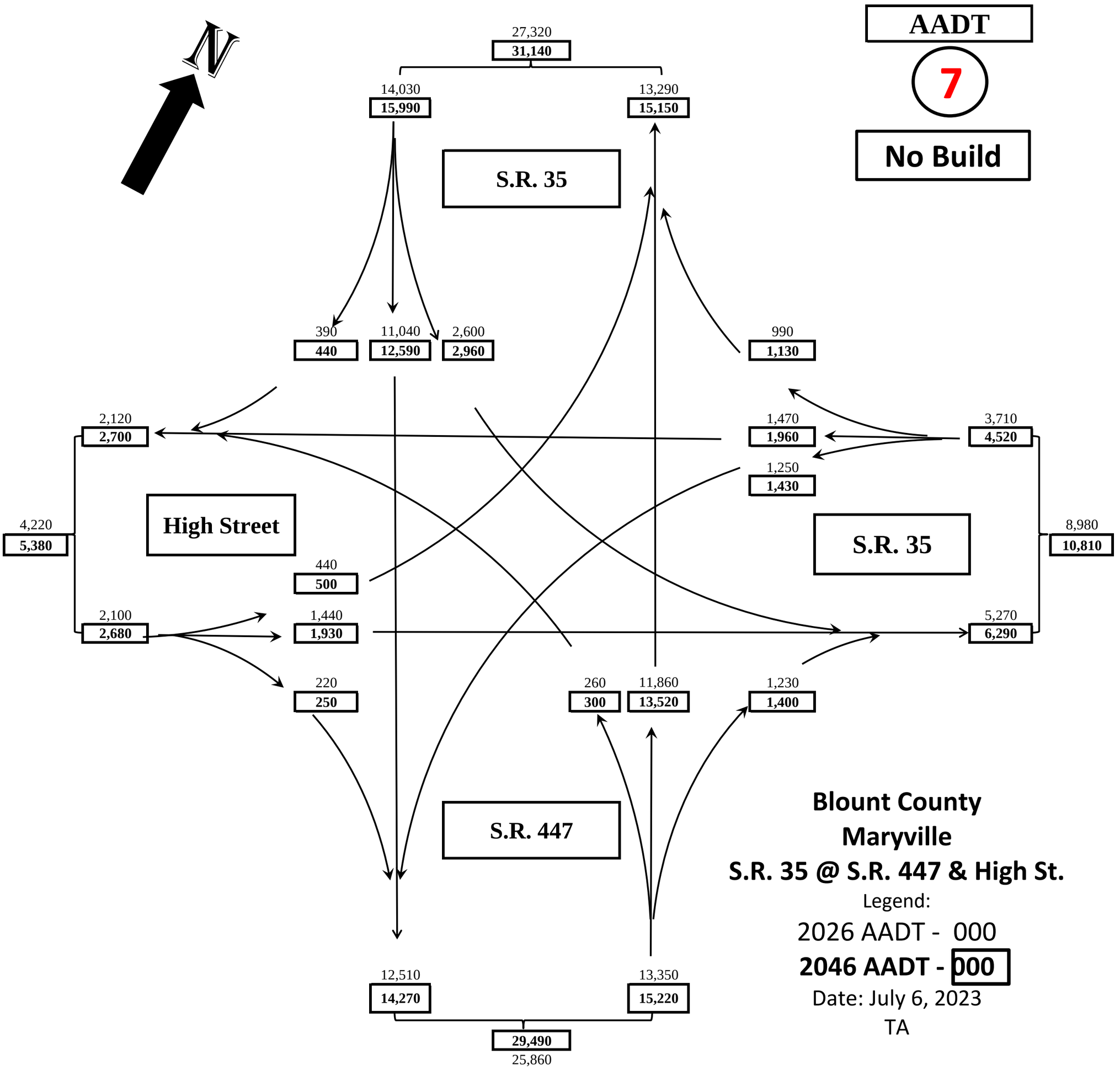
2046 AADT - 000

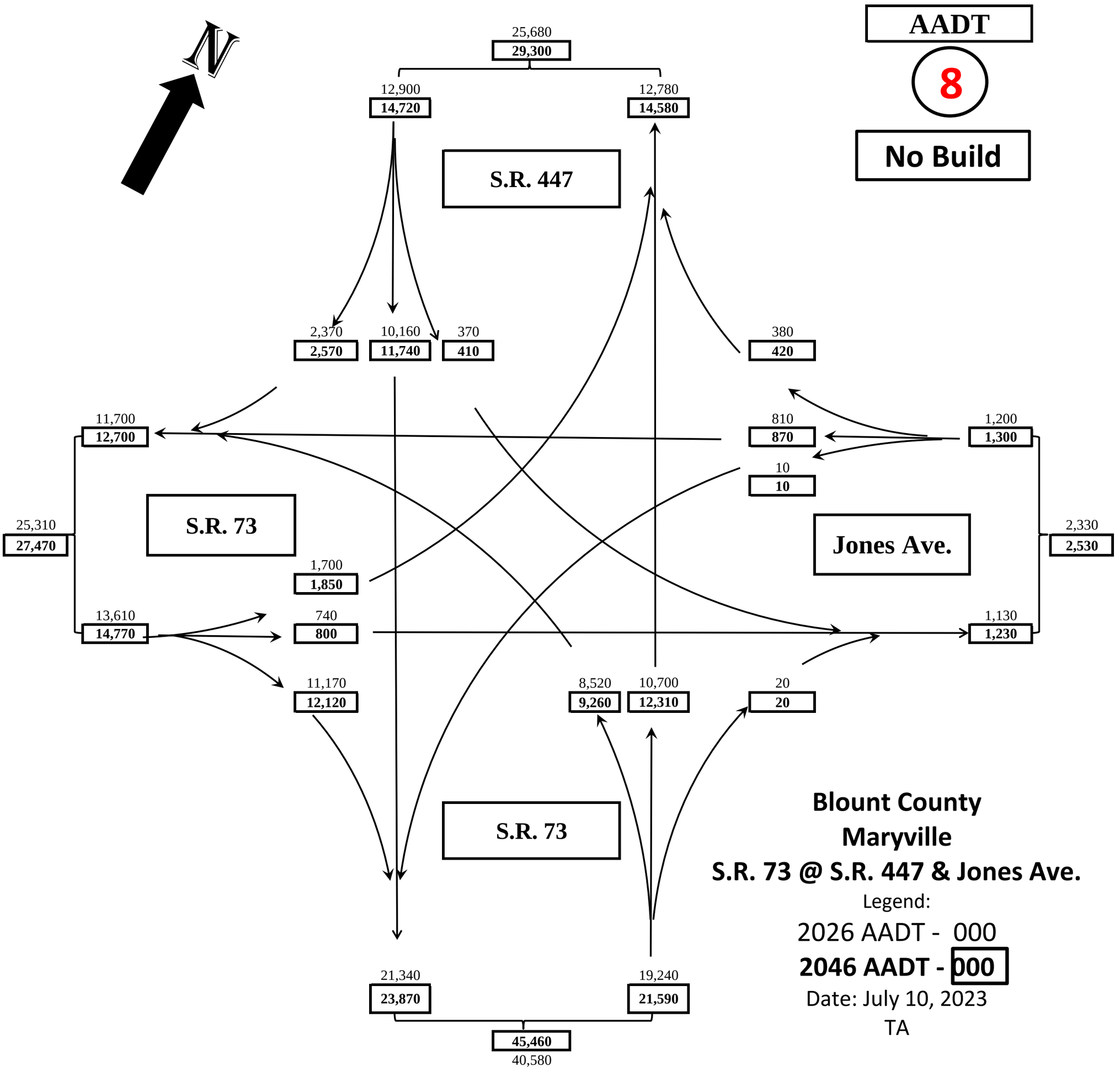
Date: July 10, 2023

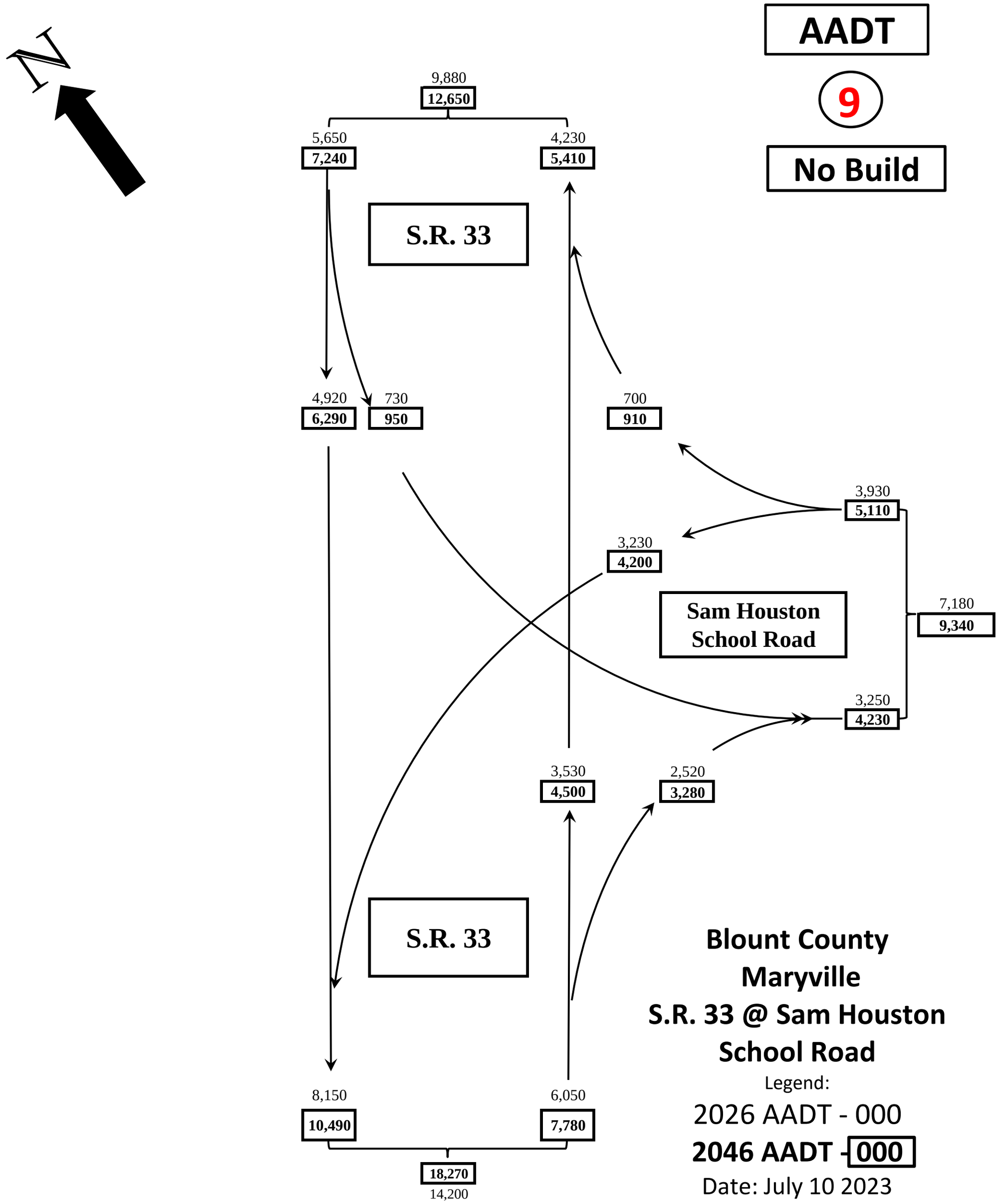
TA


N
27,360
30,100
15,050
16,560
12,310
13,540
S.R. 35
740
770
12,250
13,490
2,060
2,300
1,970
2,190
4,670
5,430
2,500
2,900
5,470
6,330
1,000
1,240
S.R. 33
S.R. 33
10,380
12,060
12,180
14,140
910
960
5,710
6,630
3,440
4,000
6,710
7,810
1,360
1,670
1,430
1,760
9,430
10,390
1,210
1,510
S.R. 35
14,610
16,400
12,070
13,660
30,060
26,680
AADT
5
No Build
Blount County
Maryville
S.R. 33 @ S.R. 35
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 6, 2023
TA


N
AADT
6
No Build
26,030
30,050
13,130
15,160
12,900
14,890
S.R. 35
260
320
12,310
14,150
560
690
750
920
1,530
1,870
680
830
1,510
1,850
80
100
Sevierville Road
Sevierville Road
3,130
3,830
2,620
3,210
230
280
1,600
1,960
440
540
1,110
1,360
930
1,140
590
720
11,920
13,690
110
130
S.R. 35
13,320
15,390
12,620
14,540
29,930
25,940
Blount County
Maryville
S.R. 35 @ Sevierville Road
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 6, 2023
TA


AADT
7
No Build
27,320
31,140
14,030
15,990
13,290
15,150
S.R. 35
390
440
11,040
12,590
2,600
2,960
990
1,130
2,120
2,700
1,470
1,960
3,710
4,520
1,250
1,430
High Street
4,220
5,380
S.R. 35
8,980
10,810
440
500
2,100
2,680
1,440
1,930
5,270
6,290
220
250
260
300
11,860
13,520
1,230
1,400
S.R. 447
12,510
14,270
13,350
15,220
29,490
25,860
Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 6, 2023
TA


AADT
8
No Build
25,680
29,300
12,900
14,720
12,780
14,580
S.R. 447
2,370
2,570
10,160
11,740
370
410
380
420
11,700
12,700
810
870
1,200
1,300
10
10
25,310
27,470
S.R. 73
Jones Ave.
2,330
2,530
1,700
1,850
13,610
14,770
740
800
1,130
1,230
11,170
12,120
8,520
9,260
10,700
12,310
20
20
S.R. 73
21,340
23,870
19,240
21,590
45,460
40,580
Blount County
Maryville
S.R. 73 @ S.R. 447 & Jones Ave.
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 10, 2023
TA



AADT

9

No Build

Blount County
Maryville
S.R. 33 @ Sam Houston School Road

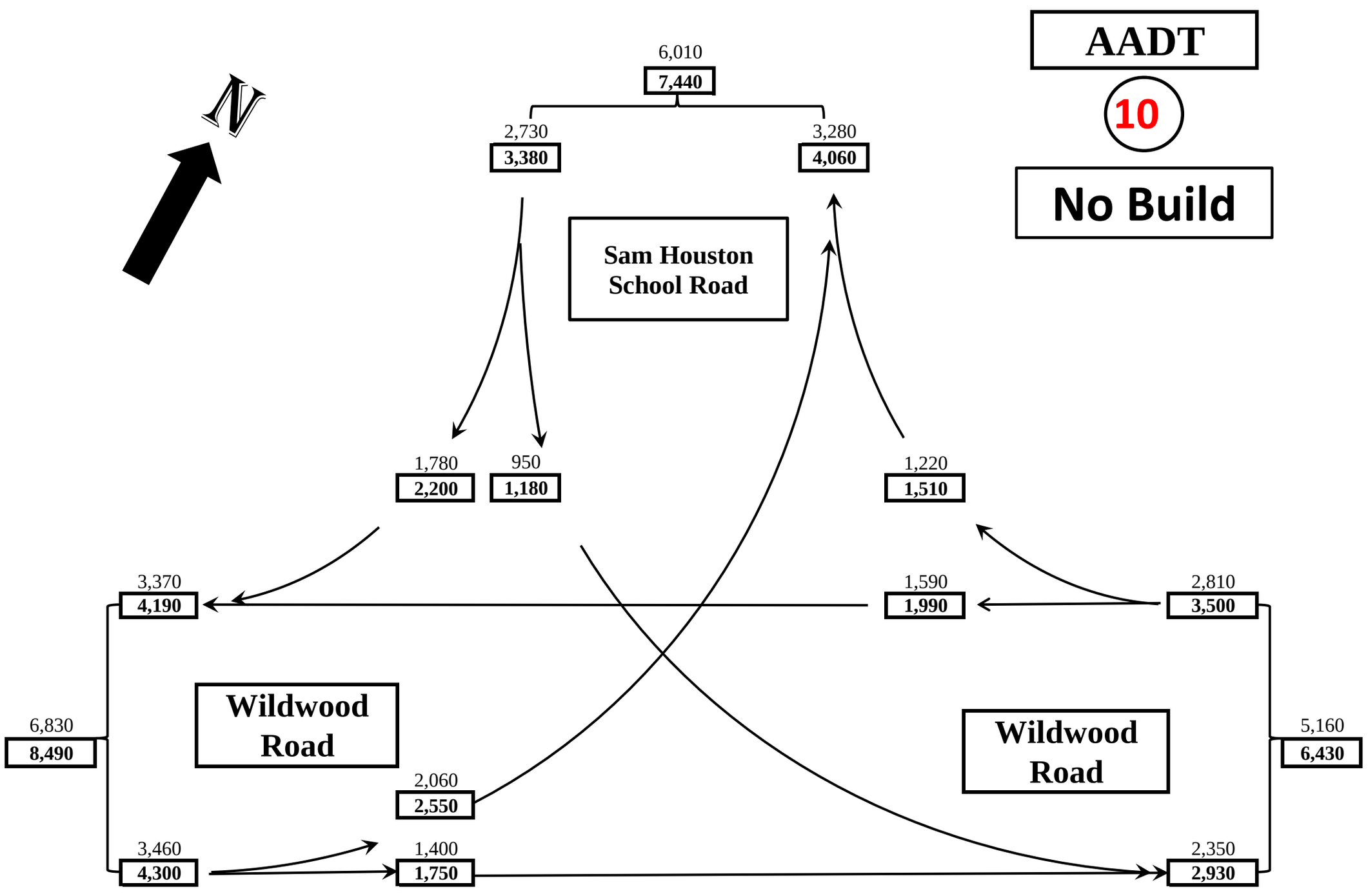
Legend:

2026 AADT - 000

2046 AADT - 000

Date: July 10 2023

TA



AADT

10

No Build

Blount County
Maryville
Wildwood Road @ Sam Houston School Road

Legend:
2026 AADT - 000
2046 AADT - 000

Date: July 10, 2023
TA

N

AADT

11

No Build

2,100

2,600

2,070

4,190

1,690

2,120

Wildwood Road

Wildwood Road

4,230

5,230

6,830

8,490

2,130

2,630

1,680

2,070

3,460

4,300

450

560

420

530

1,780

2,230

Peppermint Road

2,140

2,680

2,200

2,760

5,440

4,340

Blount County
Maryville
Wildwood Road @
Peppermint Road

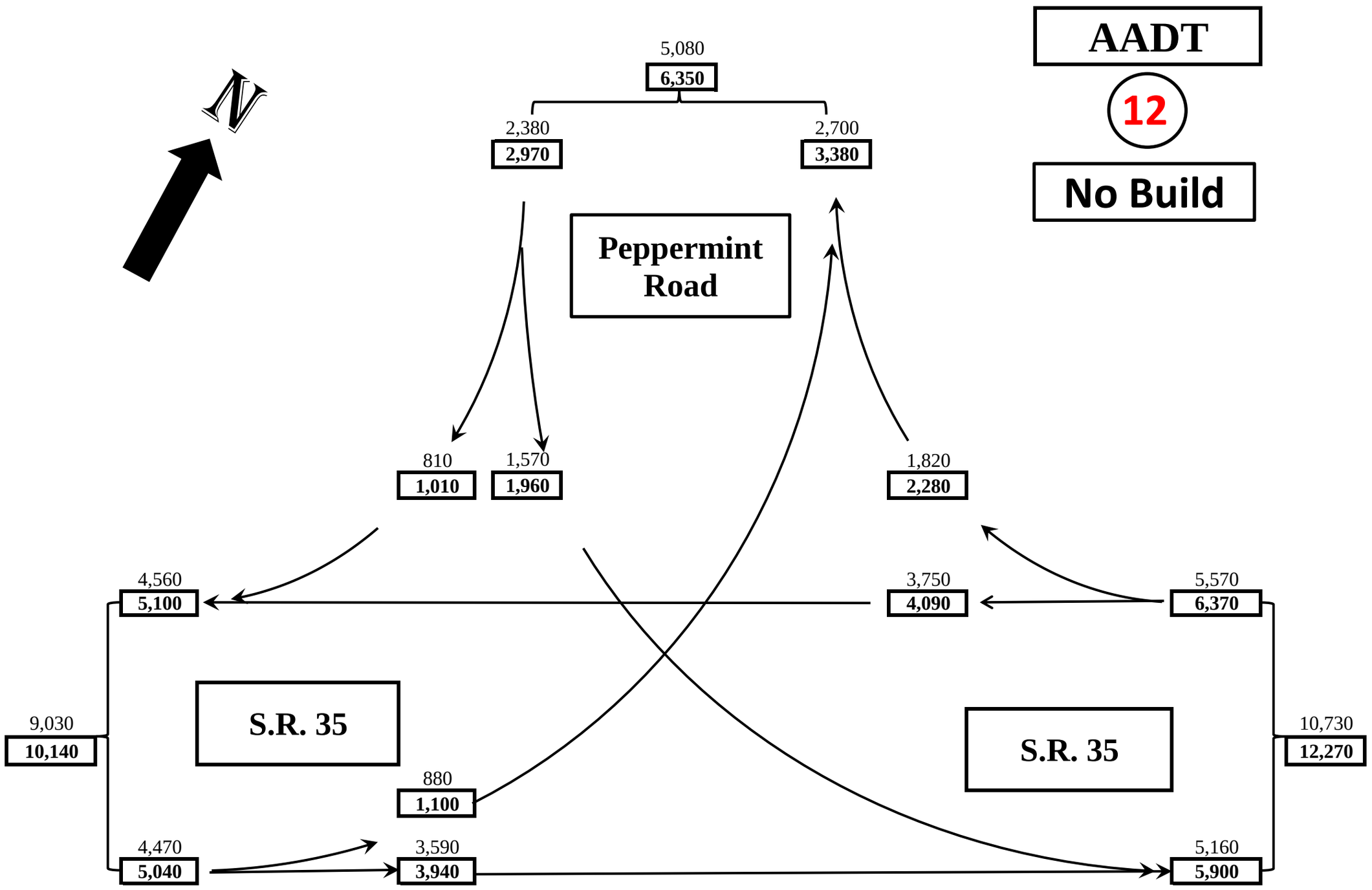
Legend:

2026 AADT - 000

2046 AADT - 000

Date: July 10, 2023

TA



Blount County

Maryville

S.R. 35 @ Peppermint Road

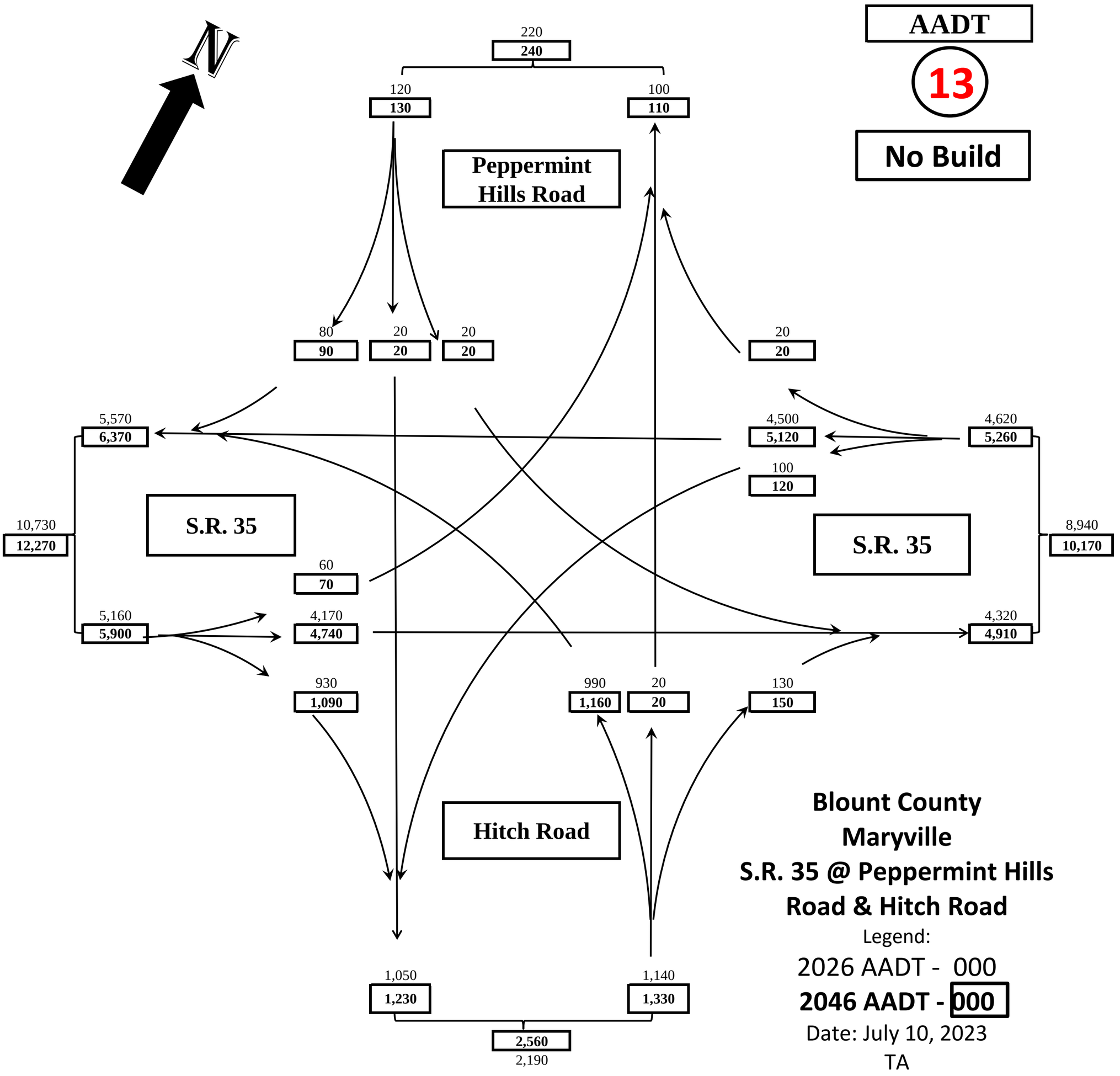
Legend:

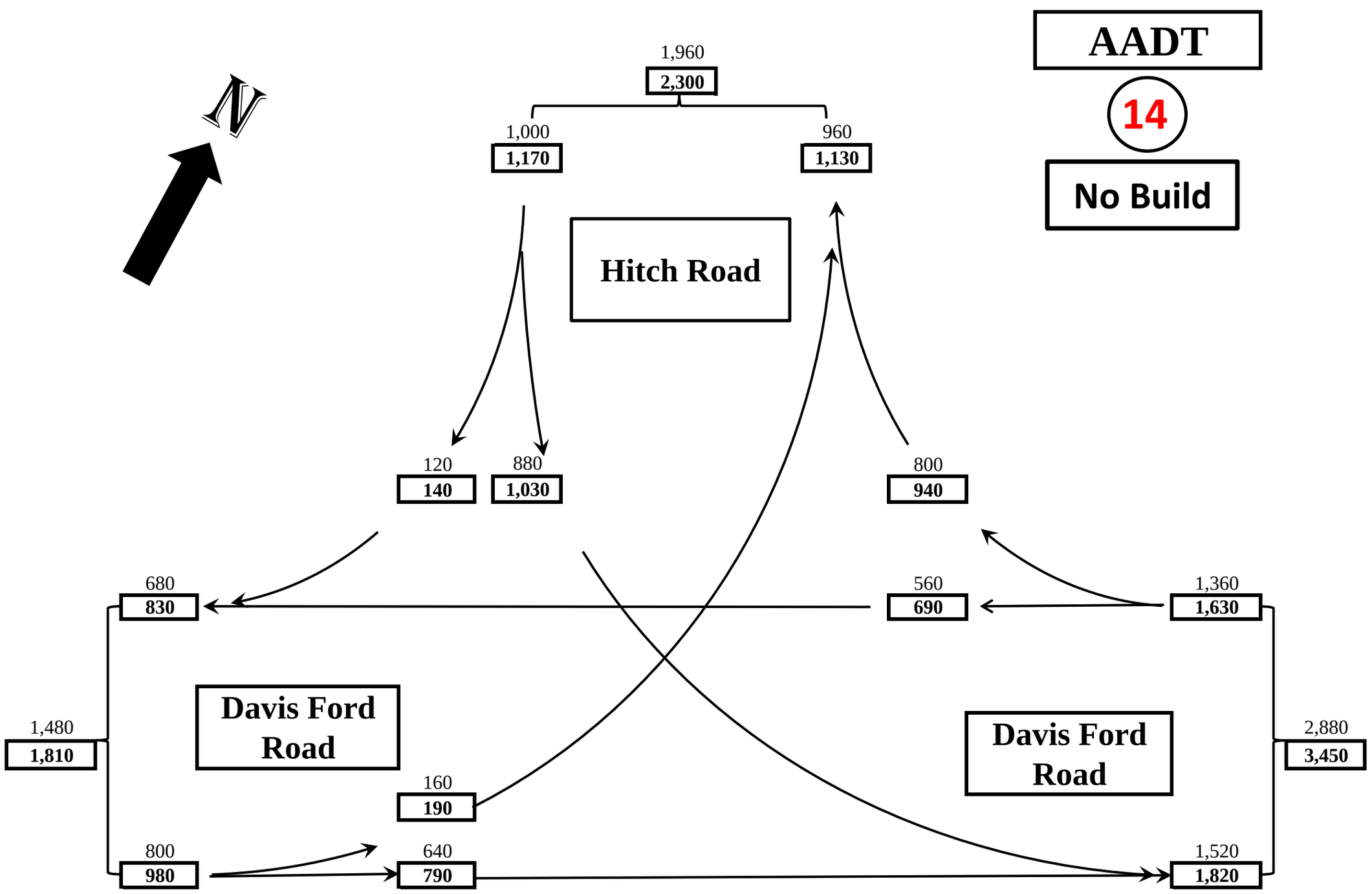
2026 AADT - 000

2046 AADT -000

Date: July 10, 2023

TA


N
220
240
120
130
100
110
Peppermint Hills Road
AADT
13
No Build
80
90
20
20
20
20
20
5,570
6,370
4,500
5,120
4,620
5,260
100
120
S.R. 35
S.R. 35
10,730
12,270
8,940
10,170
60
70
5,160
5,900
4,170
4,740
4,320
4,910
930
1,090
990
1,160
20
20
130
150
Hitch Road
1,050
1,230
1,140
1,330
2,560
2,190
Blount County
Maryville
S.R. 35 @ Peppermint Hills Road & Hitch Road
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 10, 2023
TA



Blount County

Maryville

Davis Ford Road @ Hitch Road

Legend:

2026 AADT - 000

2046 AADT - 000

Date: July 17, 2023

TA

N

AADT

15

No Build

600

730

590

720

680

830

90

110

Davis Ford Road

1,240

1,520

Davis Ford Road

1,480

1,810

640

790

640

790

800

980

0

0

10

10

160

190

Helton Road

Blount County
Maryville
Davis Ford Road @ Helton Road

90

110

170

200

310

260

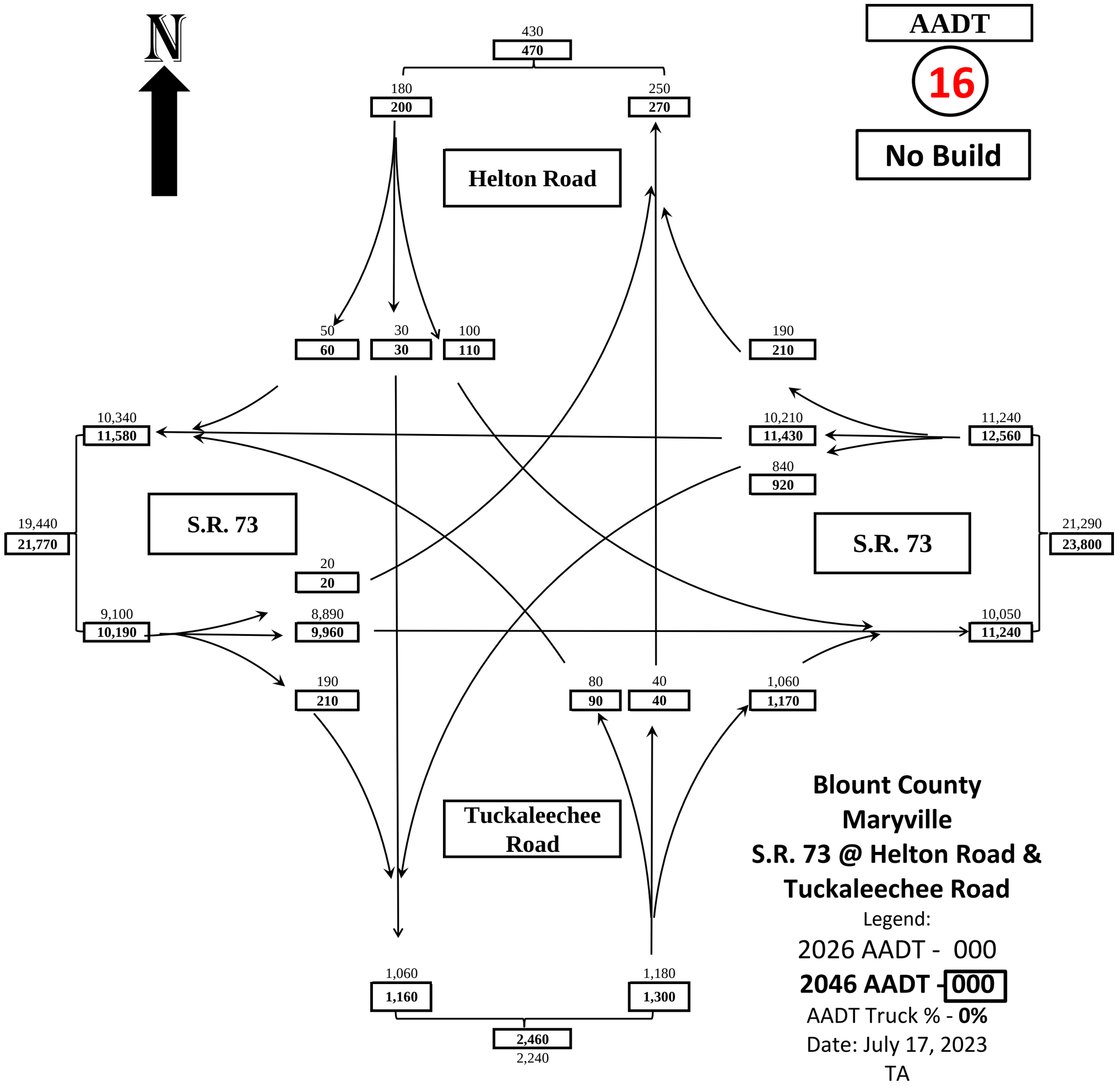
Legend:

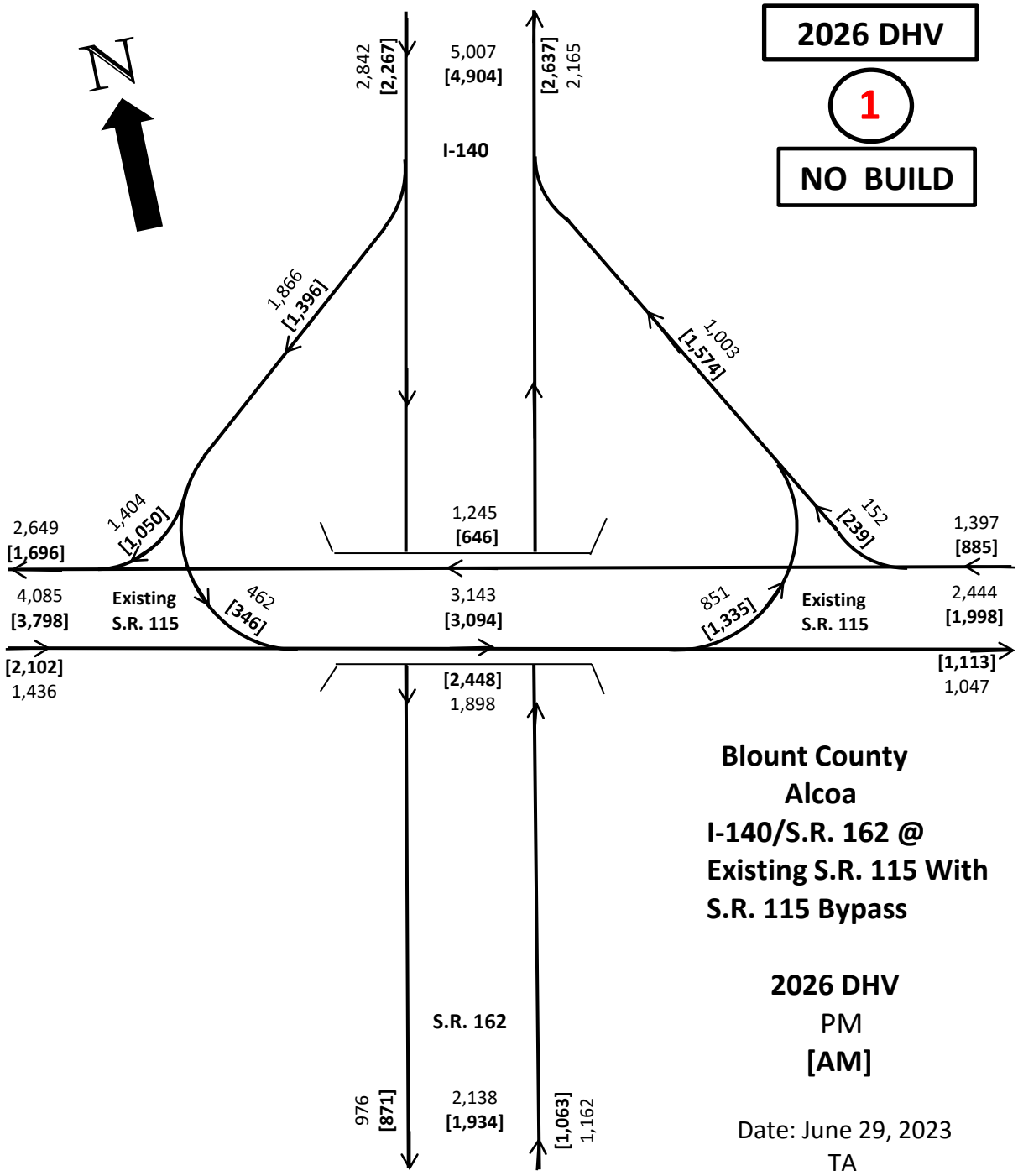
2026 AADT - 000

2046 AADT - 000

Date: July 17, 2023

TA

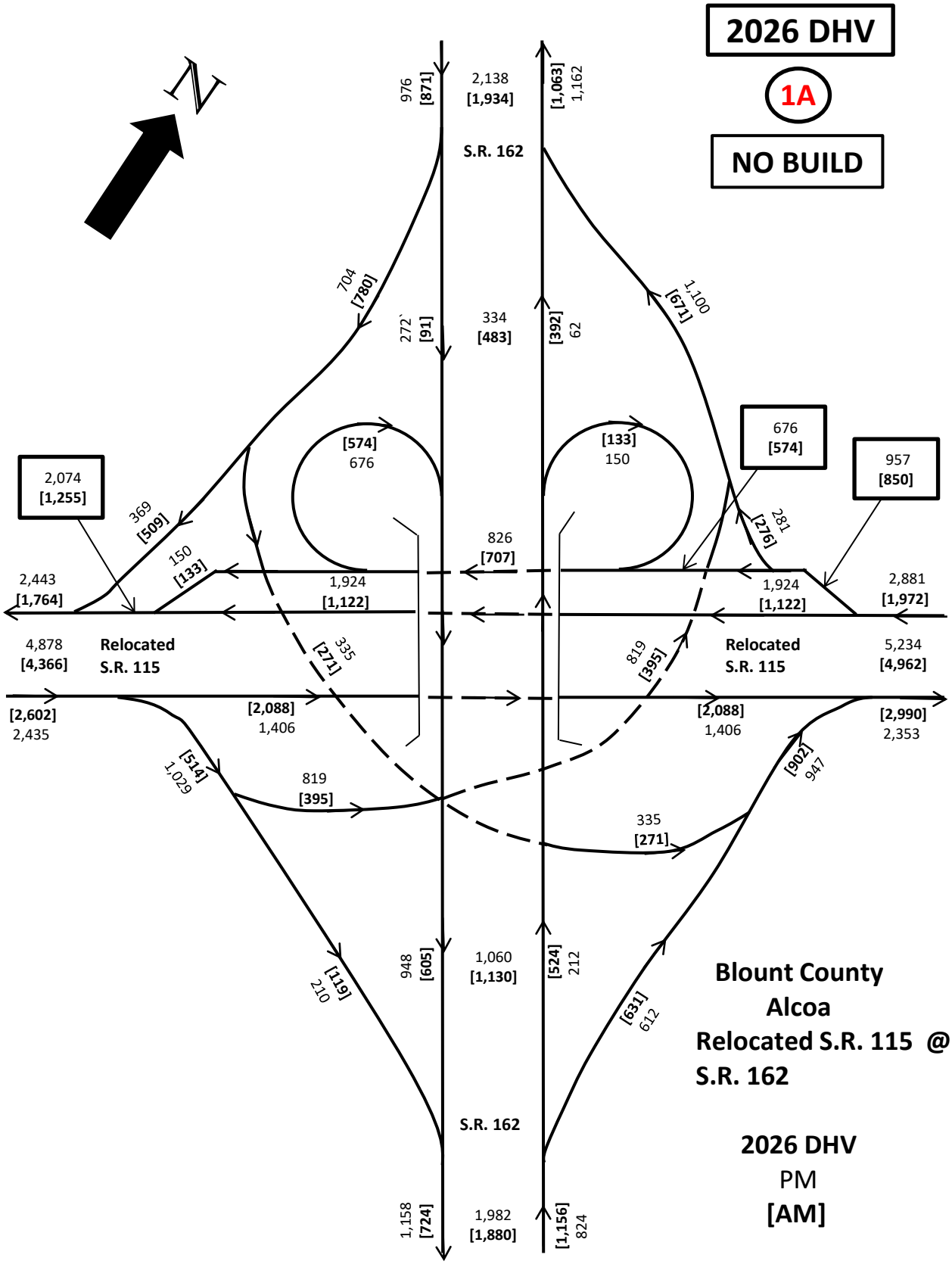

N
AADT
16
No Build
430
470
180
200
250
270
Helton Road
50
60
30
30
100
110
190
210
10,340
11,580
10,210
11,430
11,240
12,560
840
920
19,440
21,770
S.R. 73
S.R. 73
21,290
23,800
20
20
9,100
10,190
8,890
9,960
10,050
11,240
190
210
80
90
40
40
1,060
1,170
Tuckaleechee Road
1,060
1,160
1,180
1,300
2,460
2,240
Blount County
Maryville
S.R. 73 @ Helton Road &
Tuckaleechee Road
Legend:
2026 AADT - 000
2046 AADT - 000
AADT Truck % - 0%
Date: July 17, 2023
TA



Blount County
Alcoa
I-140/S.R. 162 @
Existing S.R. 115 With
S.R. 115 Bypass

2026 DHV
PM
[AM]

Date: June 29, 2023
TA



Blount County
Alcoa
Relocated S.R. 115 @ S.R. 162

2026 DHV
PM
[AM]

Date: June 2, 2023
TA

N

2026 DHV

2

No Build

7,479
6,818

4,142
2,659

3,337
4,159

S.R. 115

2,601
1,499

1,541
1,160

1,106
1,063

1,106
1,063

S.R. 35

2,765
2,376

1,659
1,313

2,231
3,096

118
153

S.R. 115

Blount County
Maryville
S.R. 35 @ S.R. 115

2,601
1,499

2,349
3,249

4,748
4,950

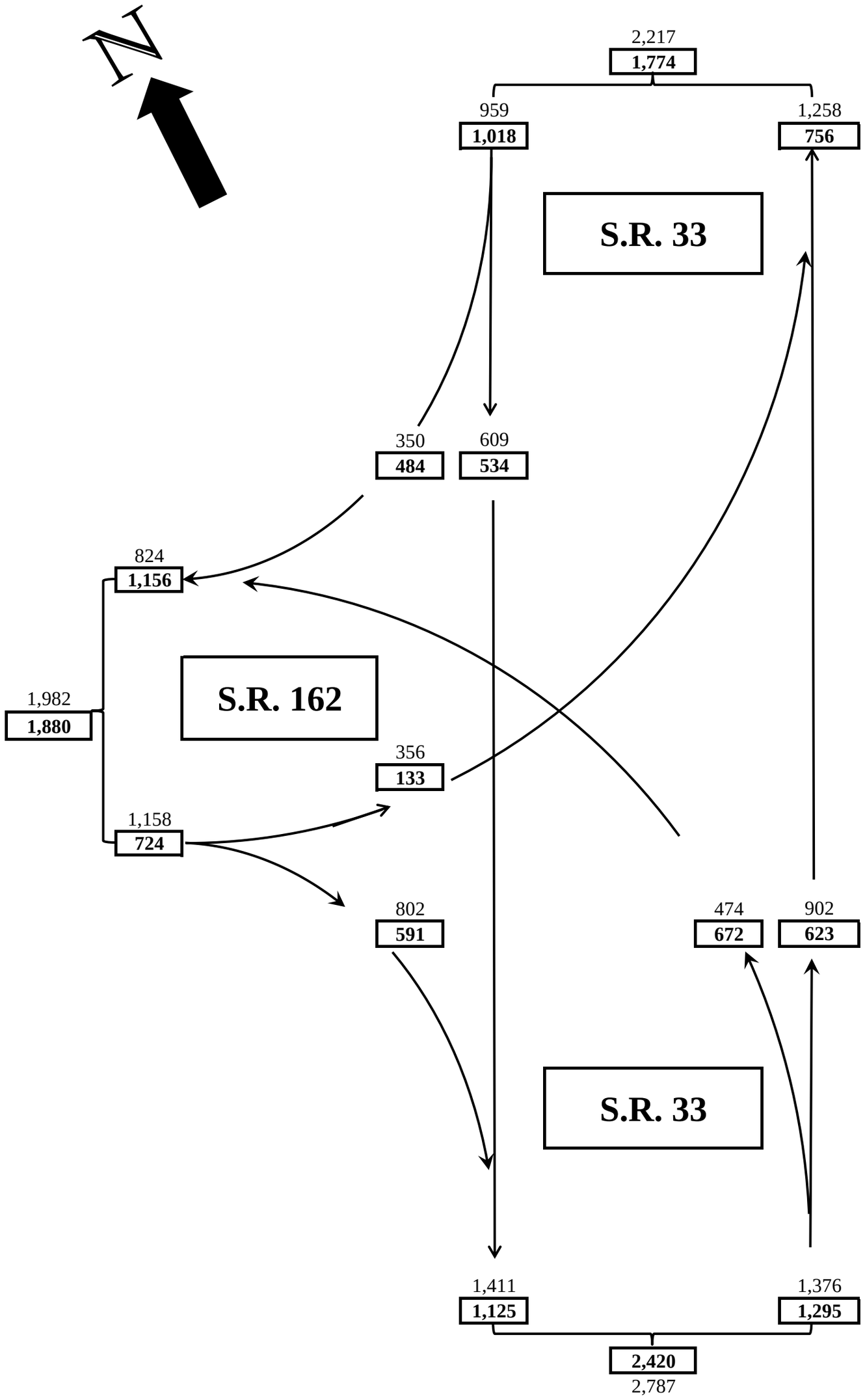
2026 DHV
PM
AM

Date: July 10, 2023
TA

2026 DHV

No Build

3



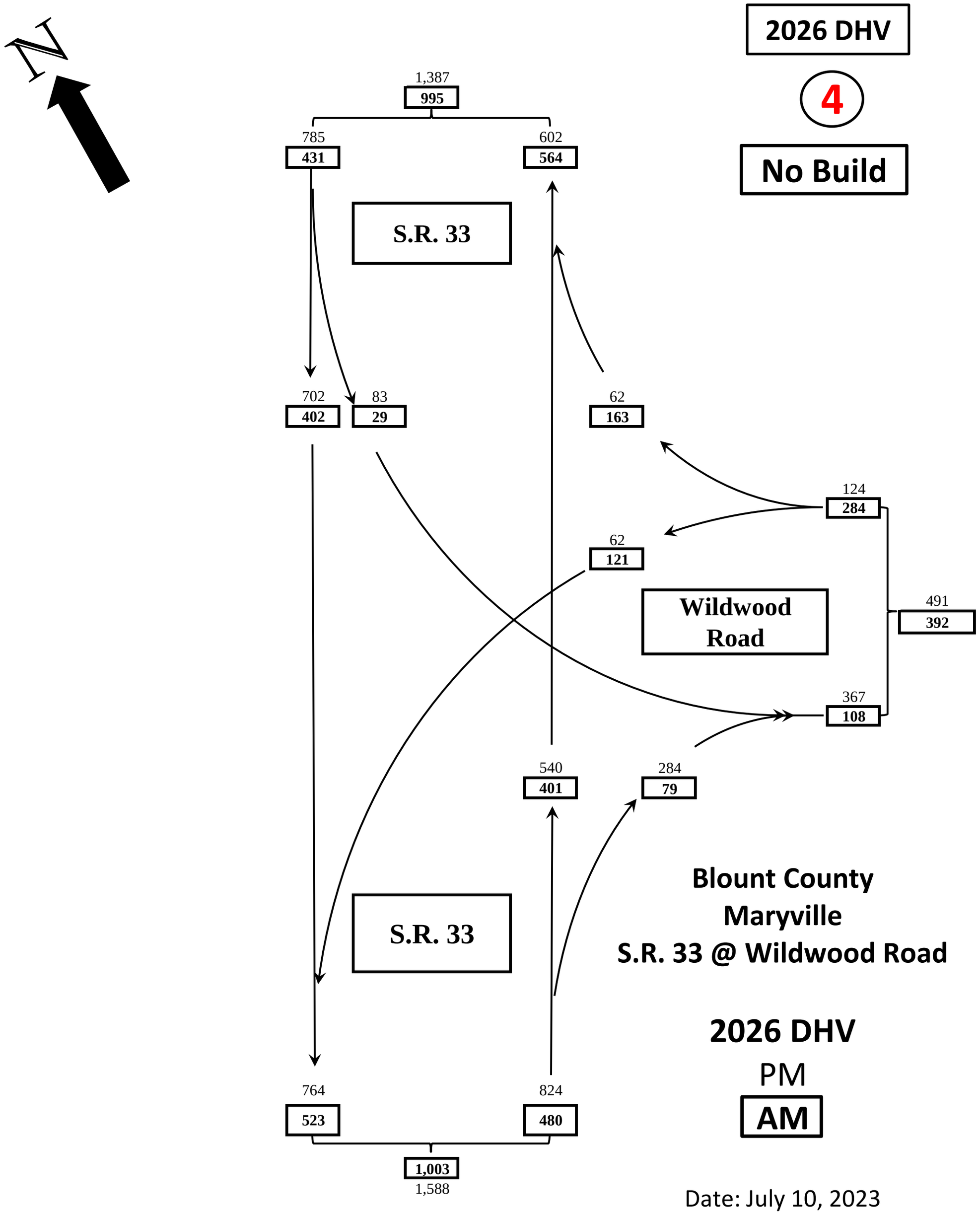
Blount County
Maryville
S.R. 33 @ S.R. 162

2026 DHV

PM

AM

Date: July 10, 2023
TA



2026 DHV

4

No Build

Blount County
Maryville
S.R. 33 @ Wildwood Road

2026 DHV

PM

AM

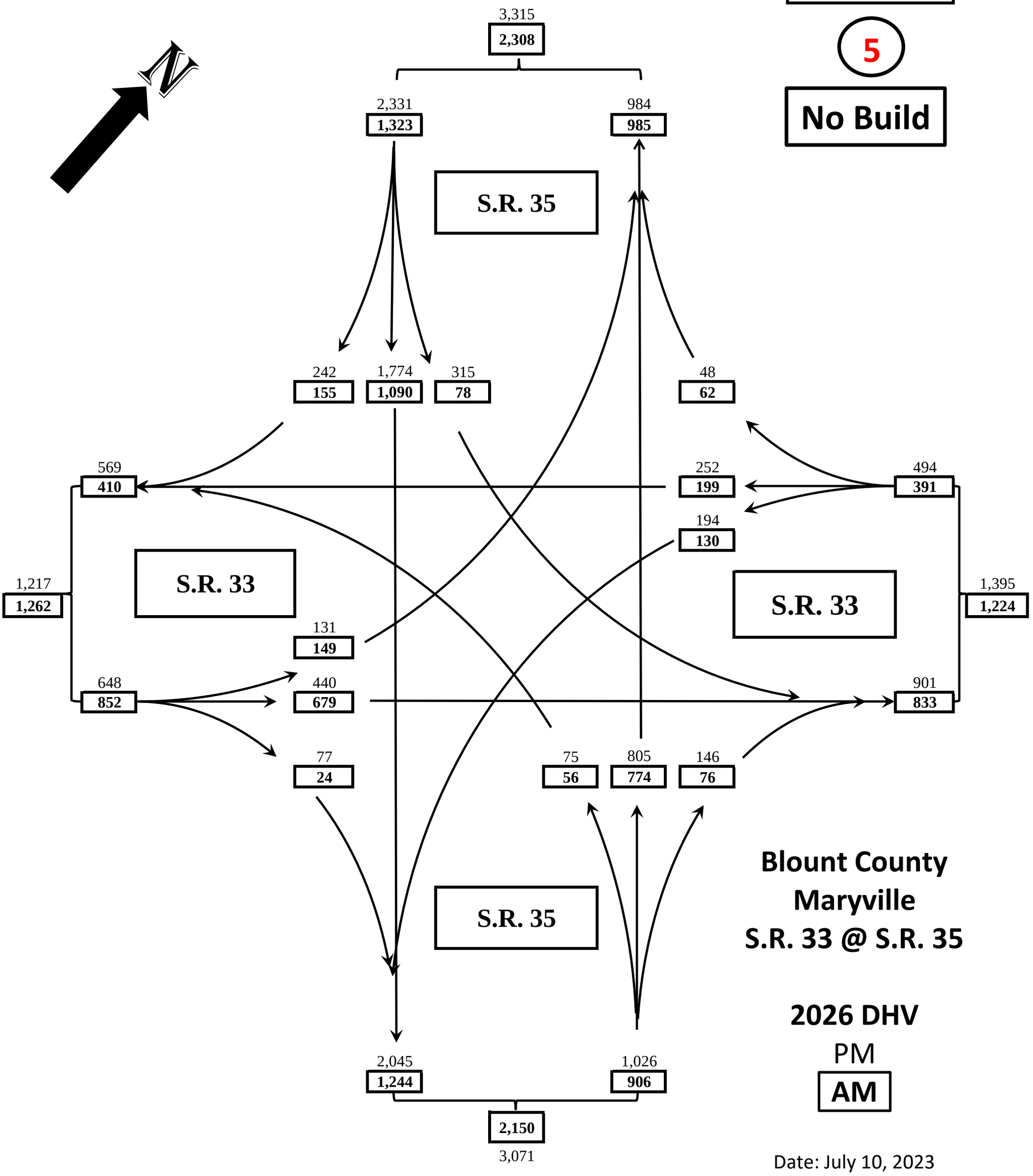
Date: July 10, 2023

TA

2026 DHV

5

No Build



Blount County
Maryville
S.R. 33 @ S.R. 35

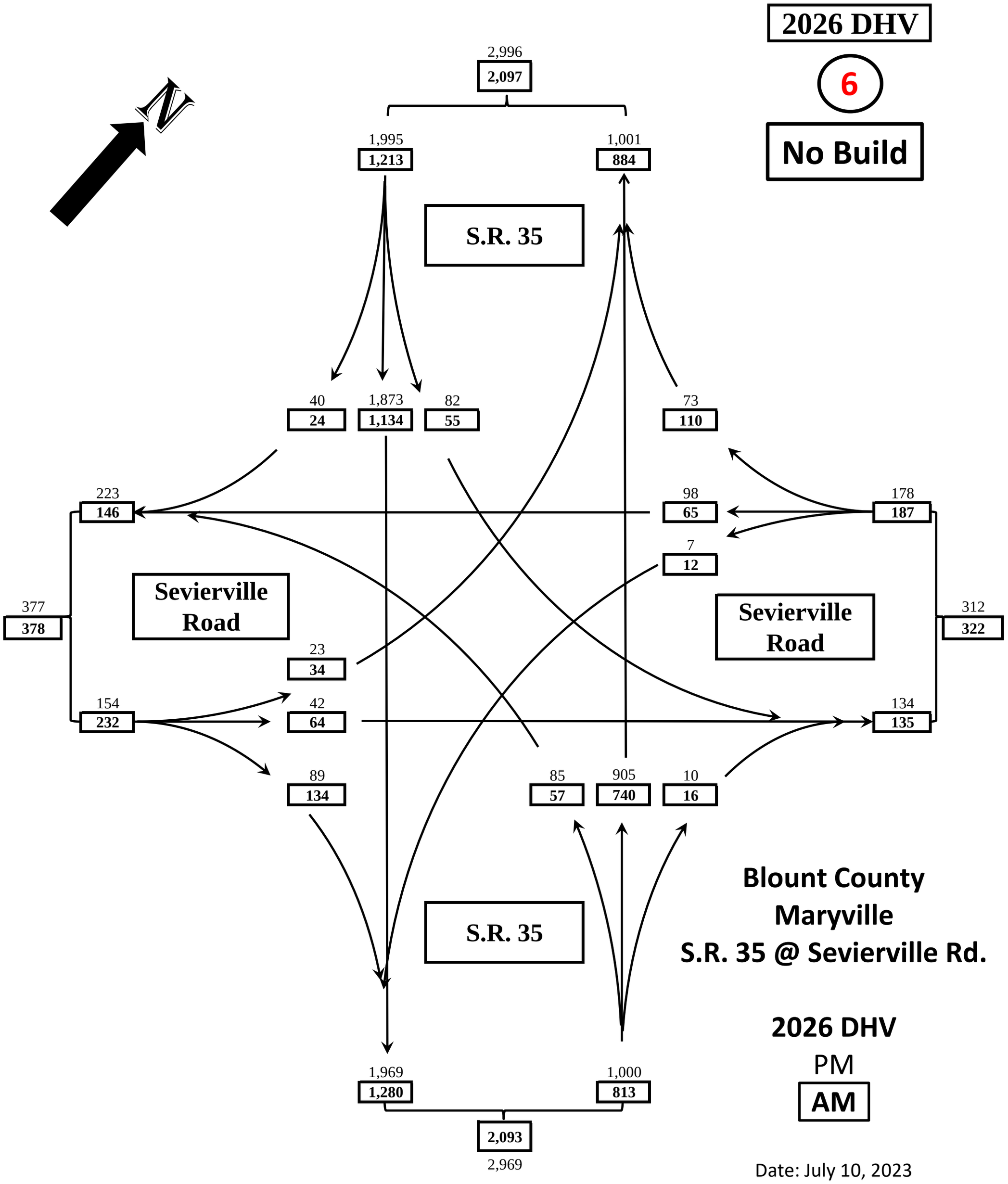
2026 DHV

PM

AM

Date: July 10, 2023

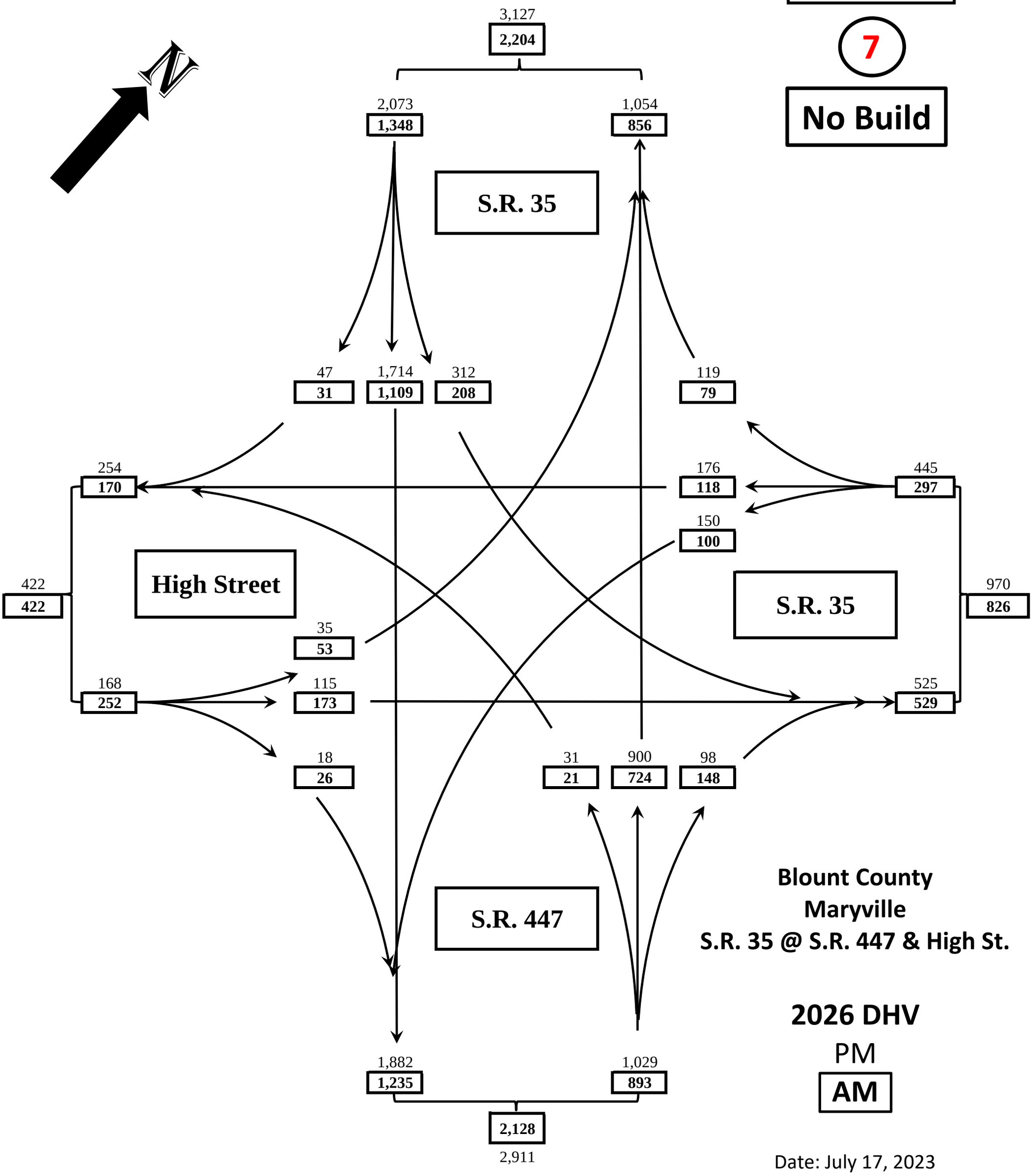
TA


2026 DHV
6
No Build
N
2,996
2,097
1,995
1,213
1,001
884
S.R. 35
40
24
1,873
1,134
82
55
73
110
223
146
98
65
178
187
7
12
Sevierville Road
Sevierville Road
377
378
312
322
23
34
154
232
42
64
134
135
89
134
85
57
905
740
10
16
S.R. 35
Blount County
Maryville
S.R. 35 @ Sevierville Rd.
1,969
1,280
1,000
813
2,093
2,969
2026 DHV
PM
AM
Date: July 10, 2023
TA

2026 DHV

7

No Build



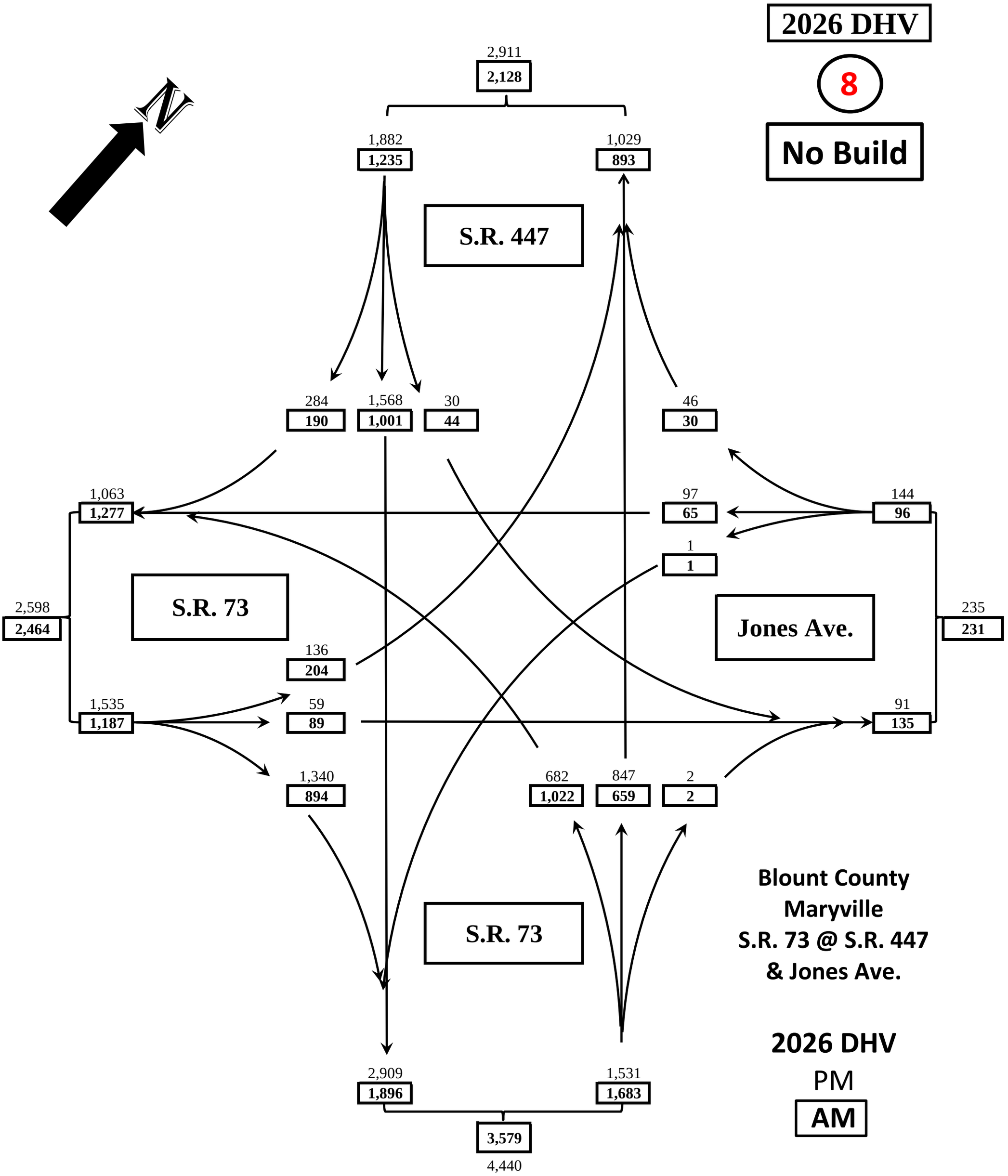
Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.

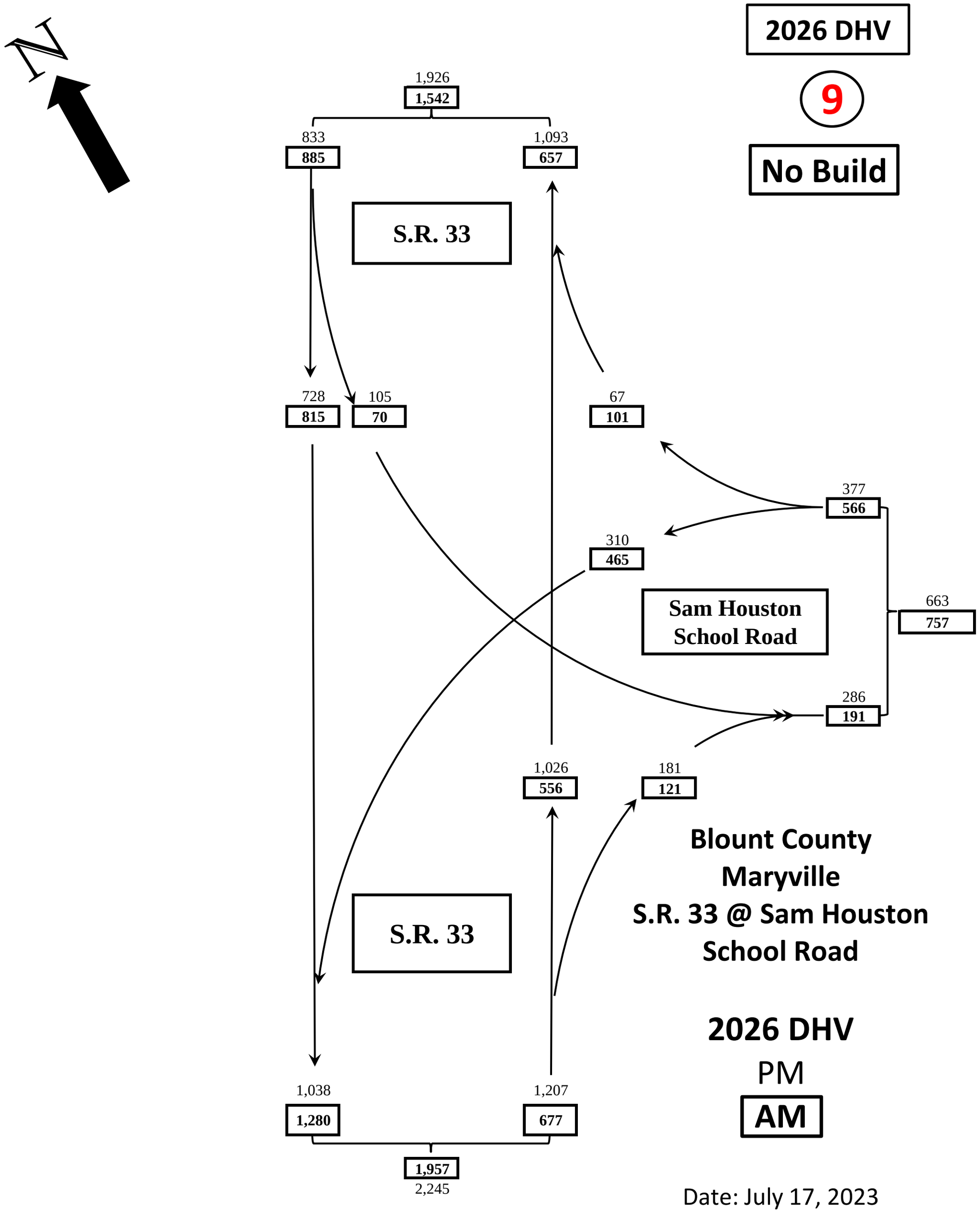
2026 DHV

PM

AM

Date: July 17, 2023
TA


2026 DHV
8
No Build
N
2,911
2,128
1,882
1,235
1,029
893
S.R. 447
284
190
1,568
1,001
30
44
46
30
1,063
1,277
97
65
144
96
1
1
S.R. 73
Jones Ave.
2,598
2,464
235
231
136
204
1,535
1,187
59
89
91
135
1,340
894
682
1,022
847
659
2
2
S.R. 73
Blount County
Maryville
S.R. 73 @ S.R. 447
& Jones Ave.
2026 DHV
PM
AM
2,909
1,896
1,531
1,683
3,579
4,440
Date: July 17, 2023
TA



2026 DHV

9

No Build

Blount County
Maryville
S.R. 33 @ Sam Houston School Road

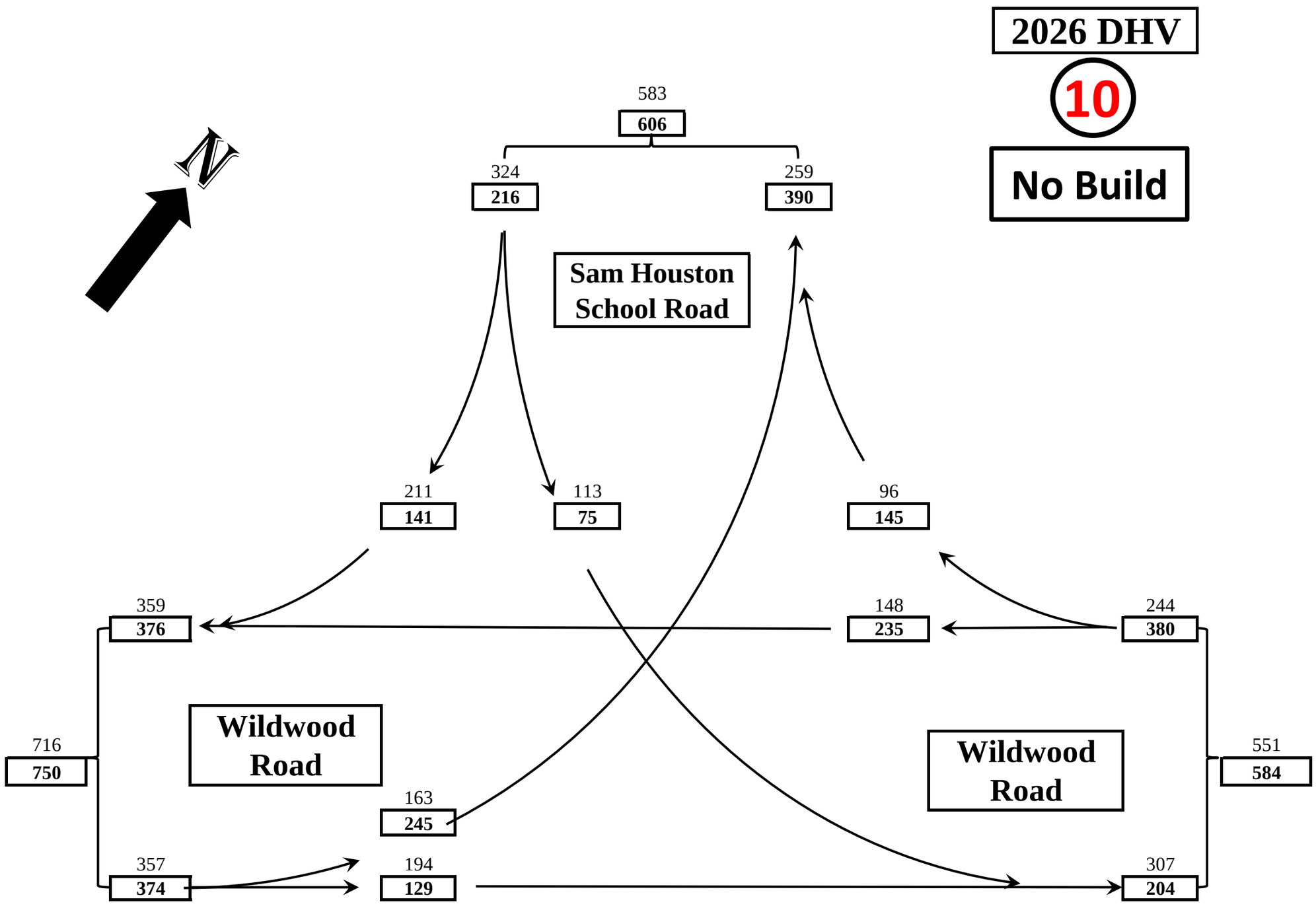
2026 DHV

PM

AM

Date: July 17, 2023

TA



2026 DHV

10

No Build

Blount County
Maryville
Wildwood Road @
Sam Houston School Rd.

2026 DHV

PM

AM

Date: July 17, 2023

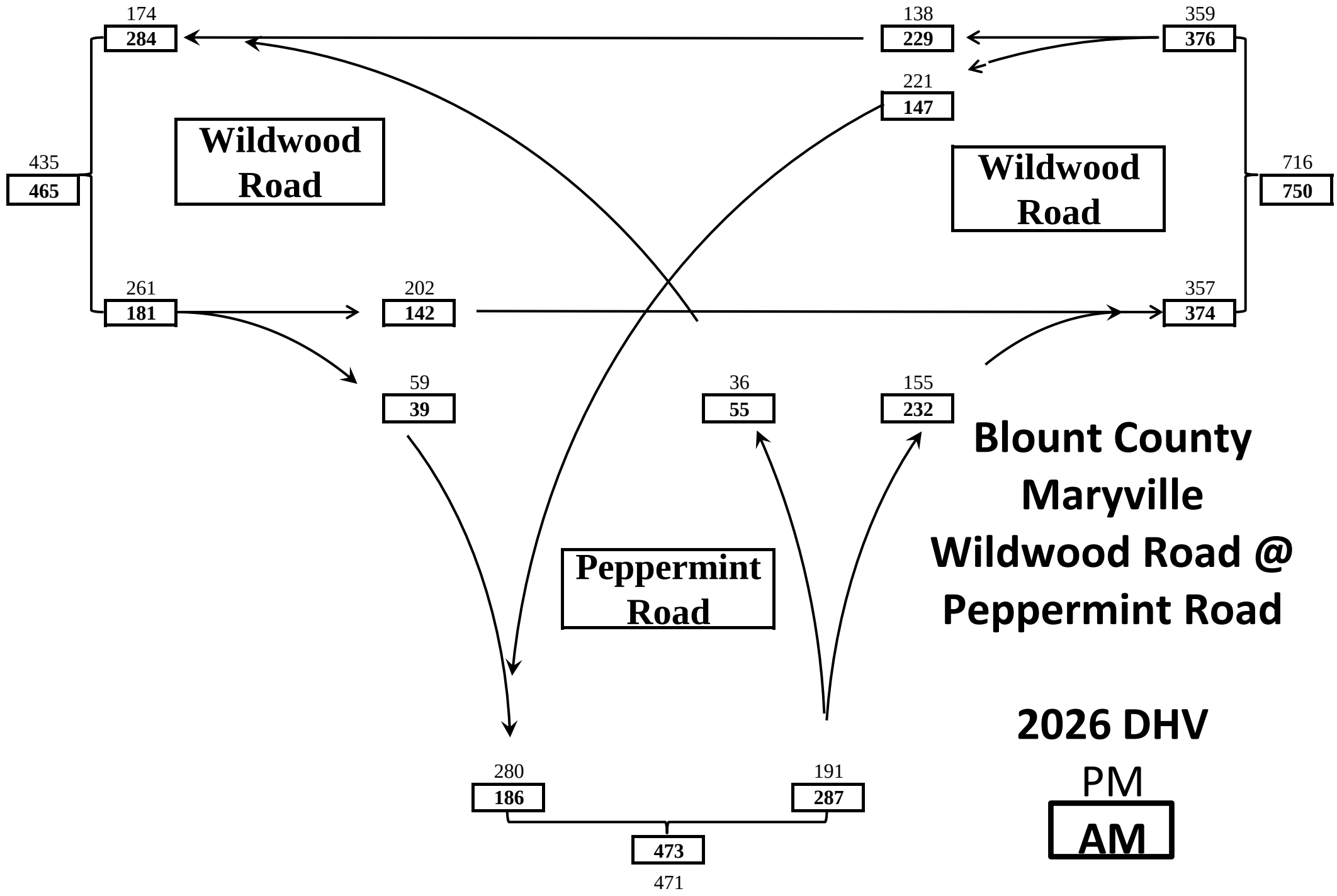
TA

N

2026 DHV

11

No-Build



Blount County
Maryville
Wildwood Road @
Peppermint Road

2026 DHV

PM

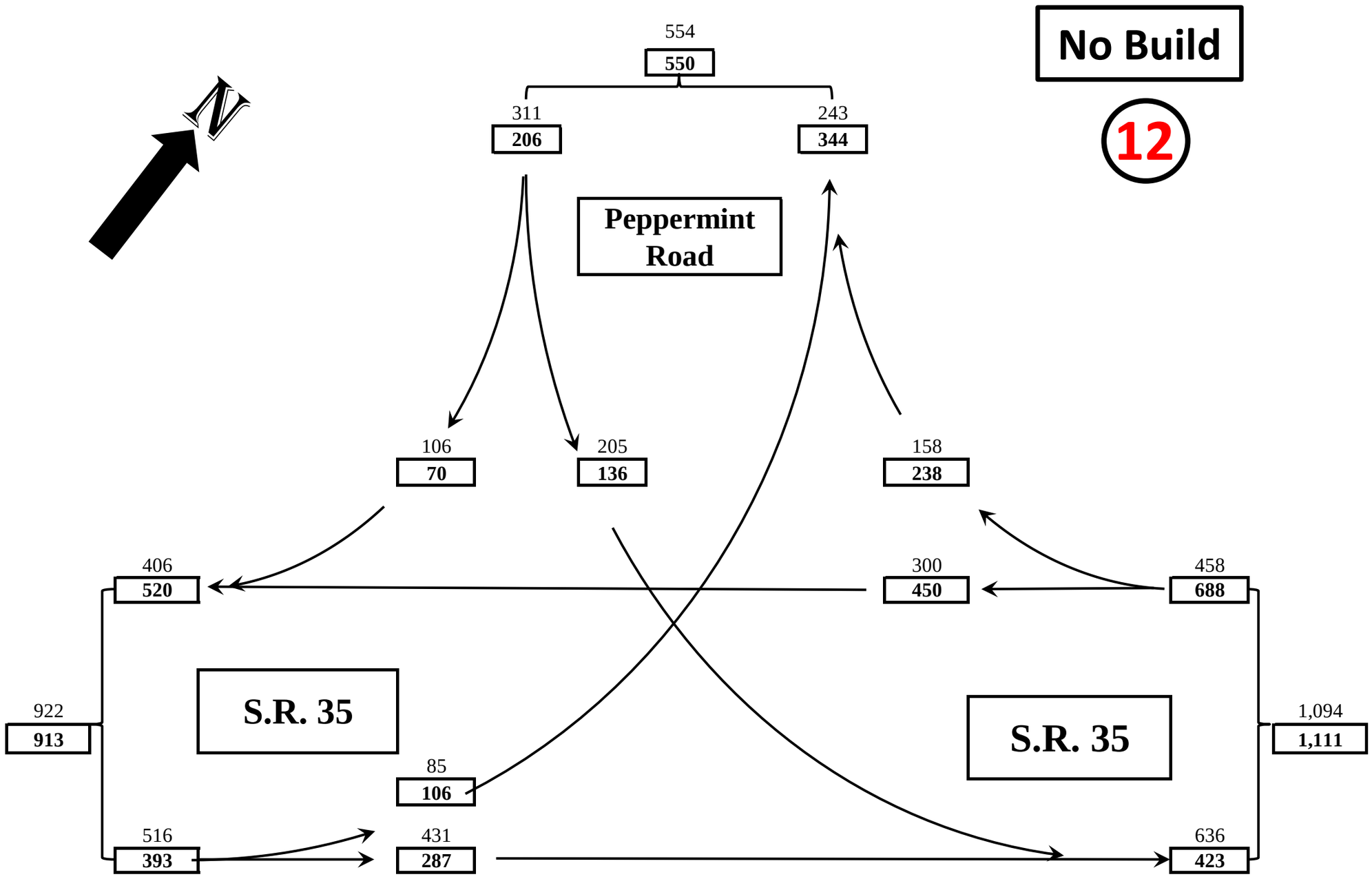
AM

Date: July 17, 2023
TA

2026 DHV

No Build

12



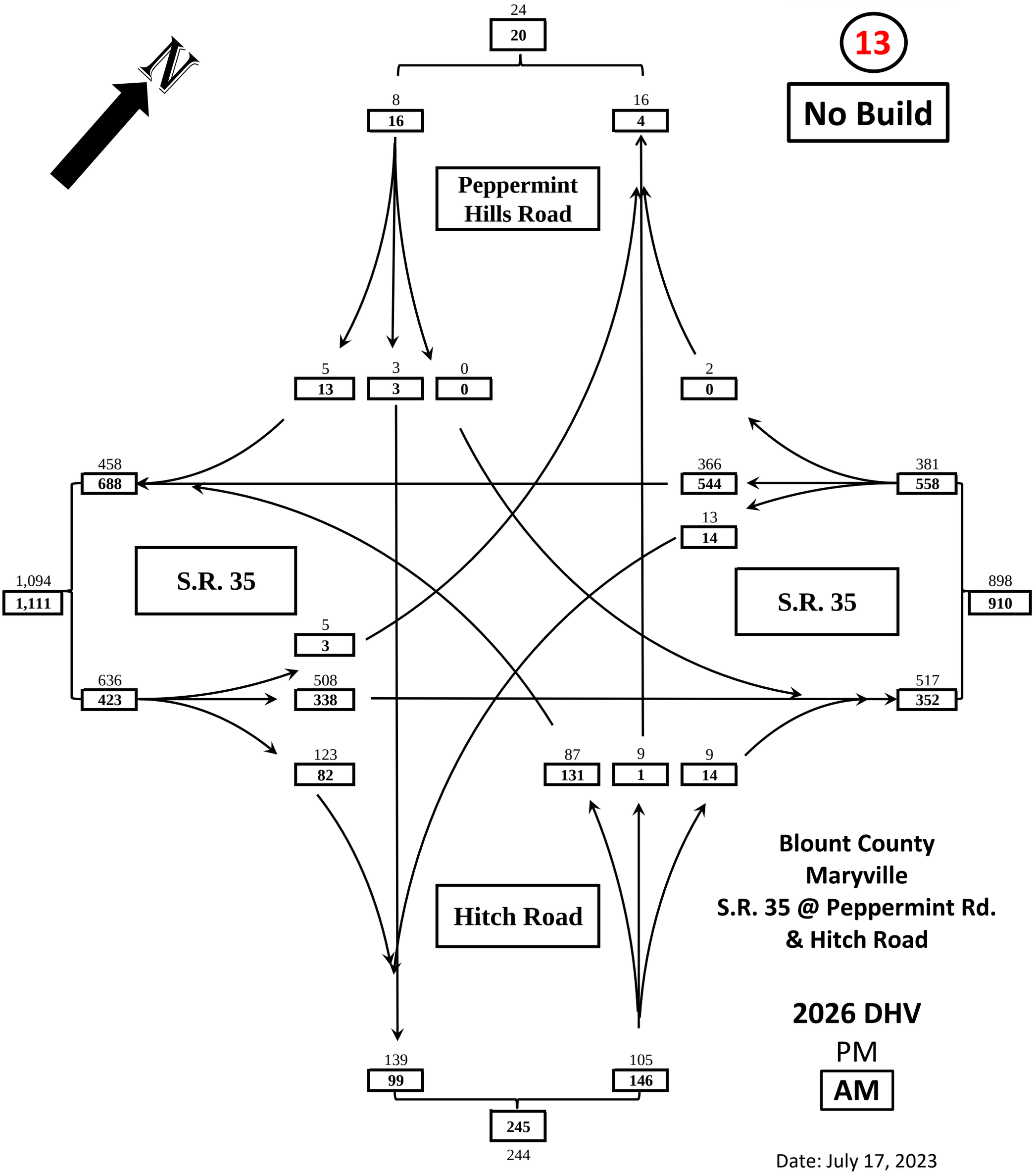
Blount County
Maryville
S.R. 35 @ Peppermint Rd.

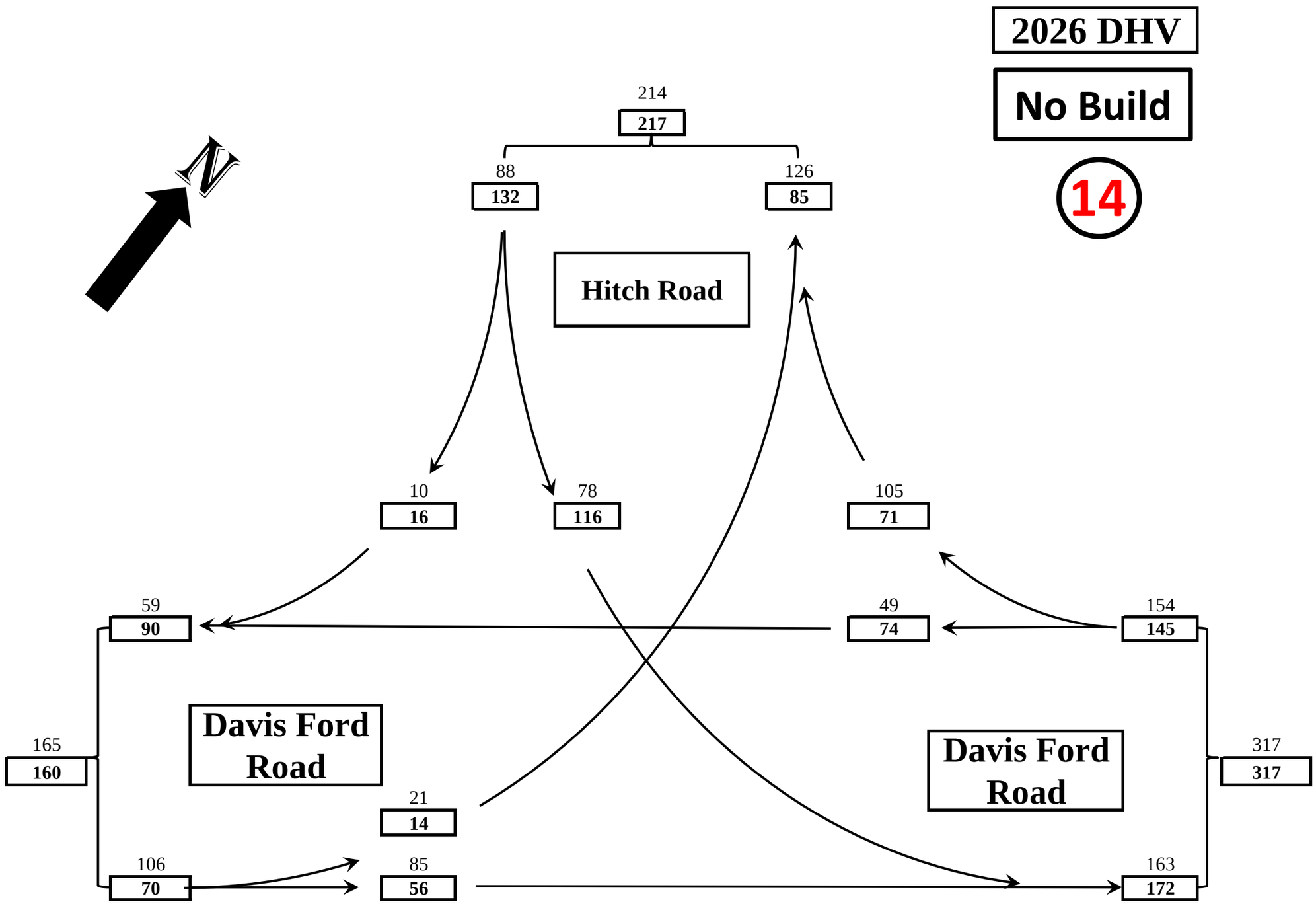
2026 DHV

PM

AM

Date: July 17, 2023
TA


2026 DHV
13
No Build
N
24
20
8
16
16
4
Peppermint
Hills Road
5
13
3
3
0
0
2
0
458
688
366
544
381
558
13
14
1,094
1,111
S.R. 35
S.R. 35
898
910
5
3
636
423
508
338
517
352
123
82
87
131
9
1
9
14
Hitch Road
Blount County
Maryville
S.R. 35 @ Peppermint Rd.
& Hitch Road
139
99
105
146
245
244
2026 DHV
PM
AM
Date: July 17, 2023
TA



2026 DHV

No Build

14

Blount County
Maryville
Davis Ford Rd. @ Hitch Rd.

2026 DHV

PM

AM

Date: July 17, 2023

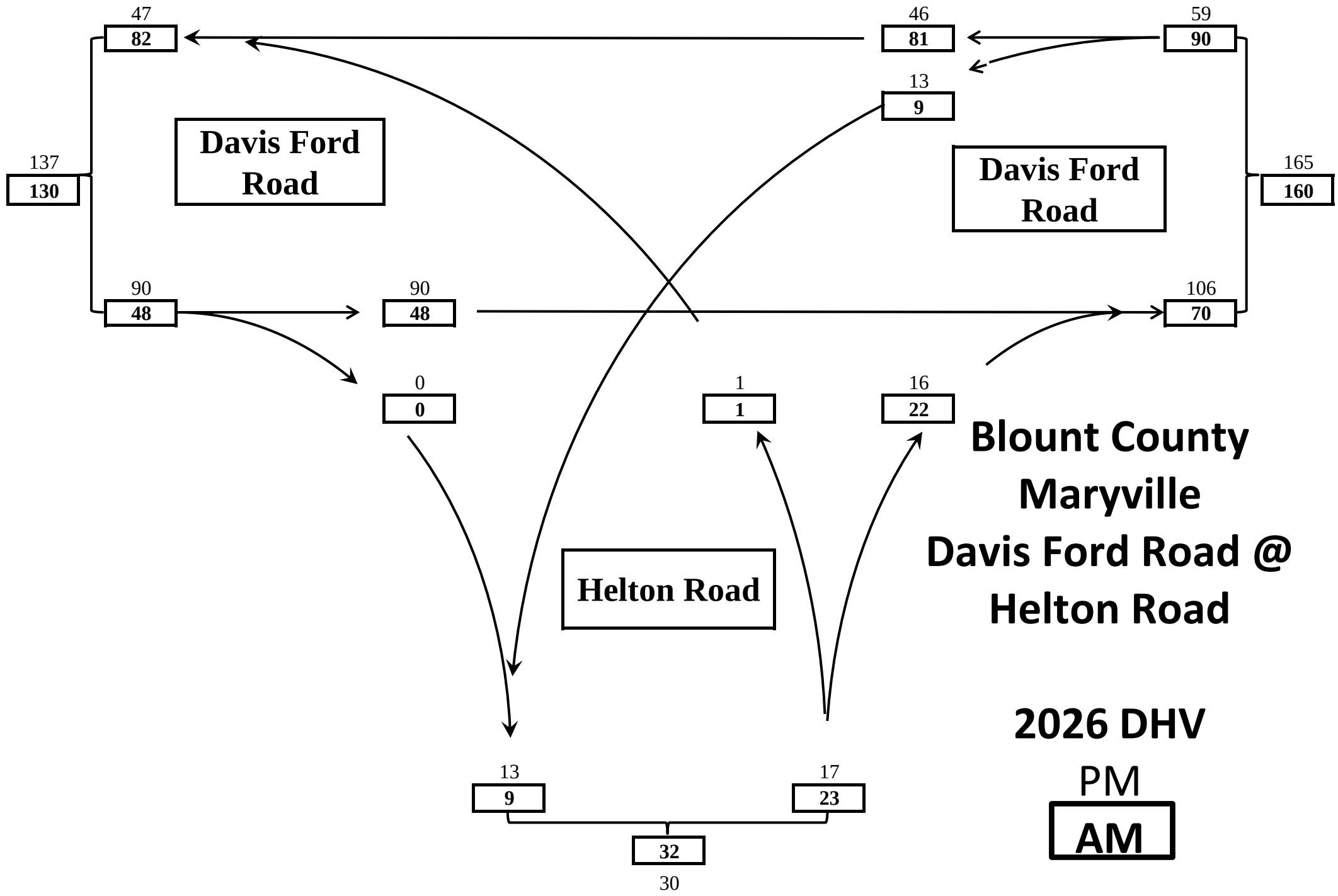
TA

N

2026 DHV

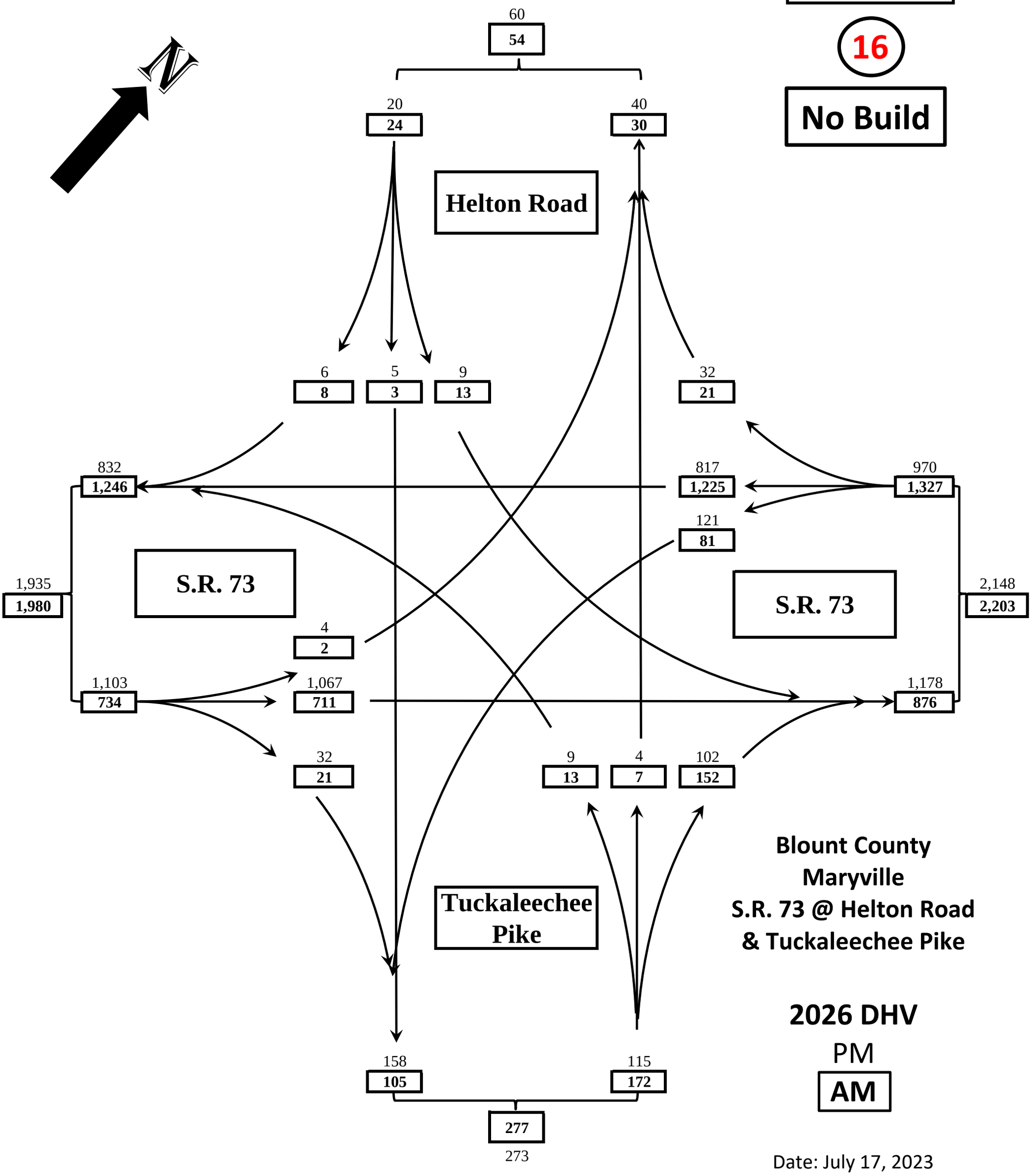
15

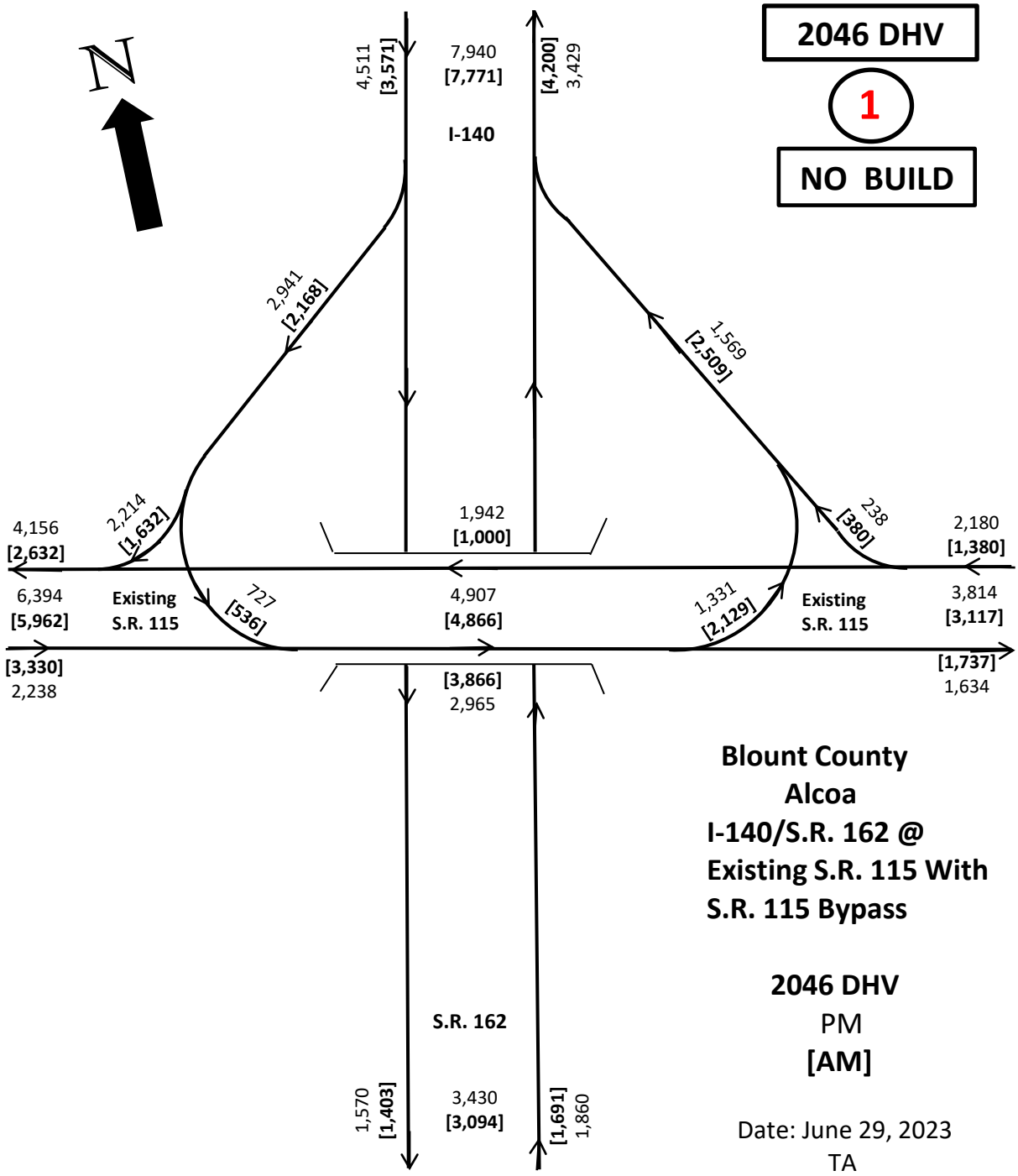
No-Build



Date: July 17, 2023

TA

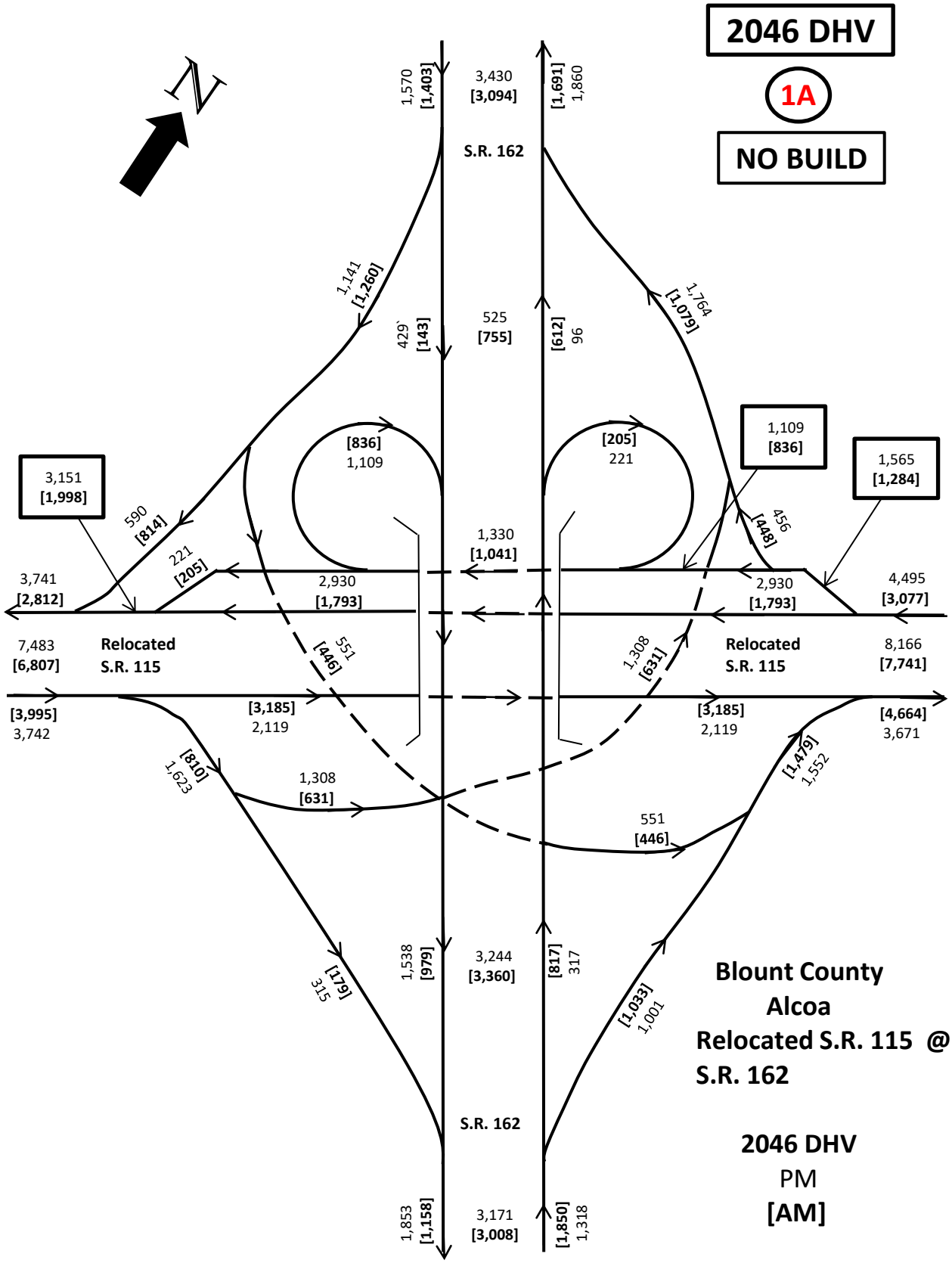

2026 DHV
16
No Build
N
60
54
20
24
40
30
Helton Road
6
8
5
3
9
13
32
21
832
1,246
817
1,225
970
1,327
121
81
S.R. 73
S.R. 73
1,935
1,980
2,148
2,203
4
2
1,103
734
1,067
711
1,178
876
32
21
9
13
4
7
102
152
Tuckaleechee Pike
Blount County
Maryville
S.R. 73 @ Helton Road
& Tuckaleechee Pike
158
105
115
172
277
273
2026 DHV
PM
AM
Date: July 17, 2023
TA



Blount County
Alcoa
I-140/S.R. 162 @
Existing S.R. 115 With
S.R. 115 Bypass

2046 DHV
PM
[AM]

Date: June 29, 2023
TA



Blount County
Alcoa
Relocated S.R. 115 @ S.R. 162

2046 DHV
PM
[AM]

Date: June 2, 2023
TA

N

2046 DHV

2

No Build

8,211
7,765

4,417
3,028

3,794
4,737

S.R. 115

2,568
1,636

1,849
1,392

1,328
1,276

1,328
1,276

S.R. 35

3,321
2,855

1,993
1,579

2,466
3,461

144
187

S.R. 115

Blount County
Maryville
S.R. 35 @ S.R. 115

2,568
1,636

2,610
3,648

5,284
5,178

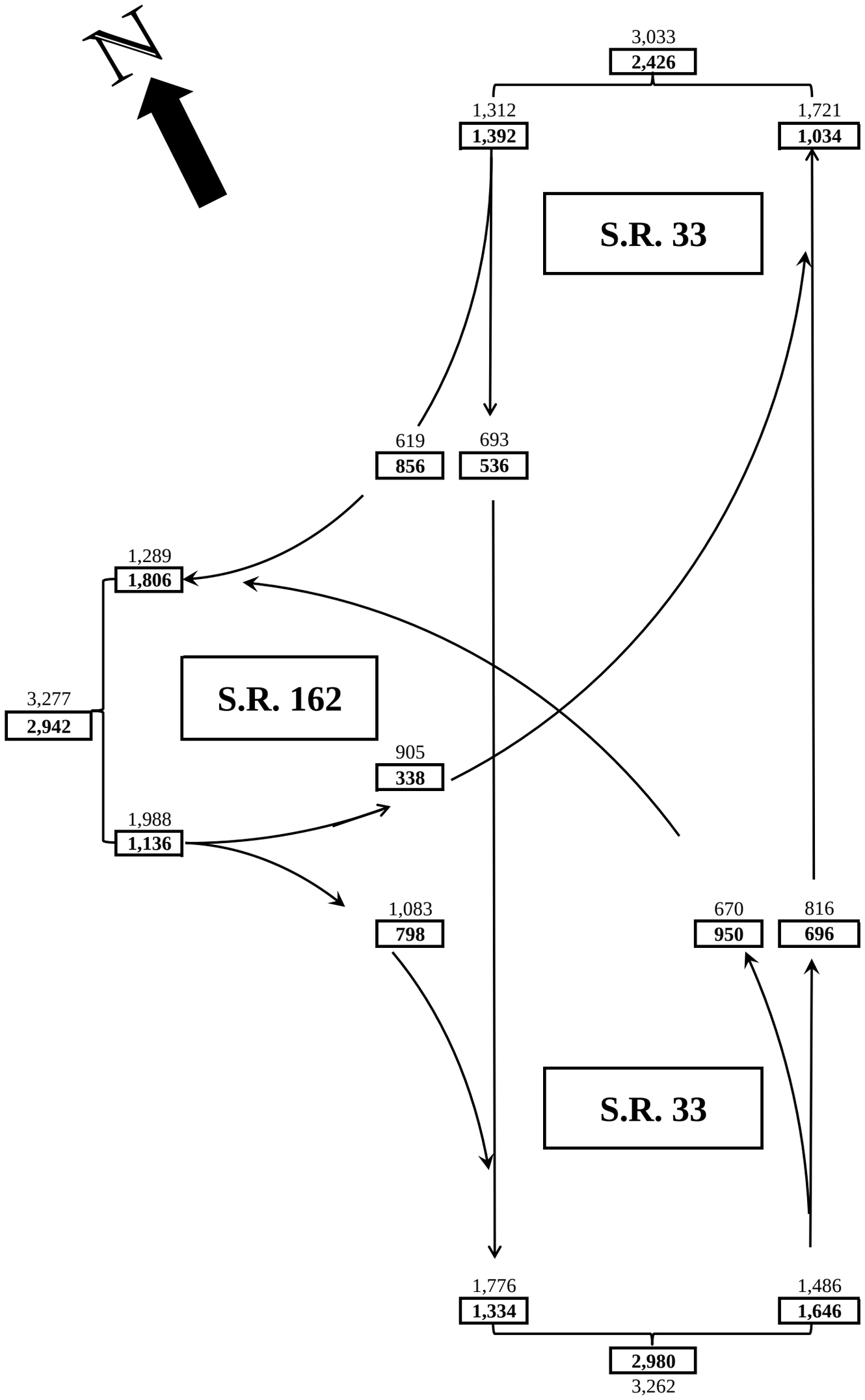
2046 DHV
PM
AM

Date: July 10, 2023
TA

2046 DHV

No Build

3



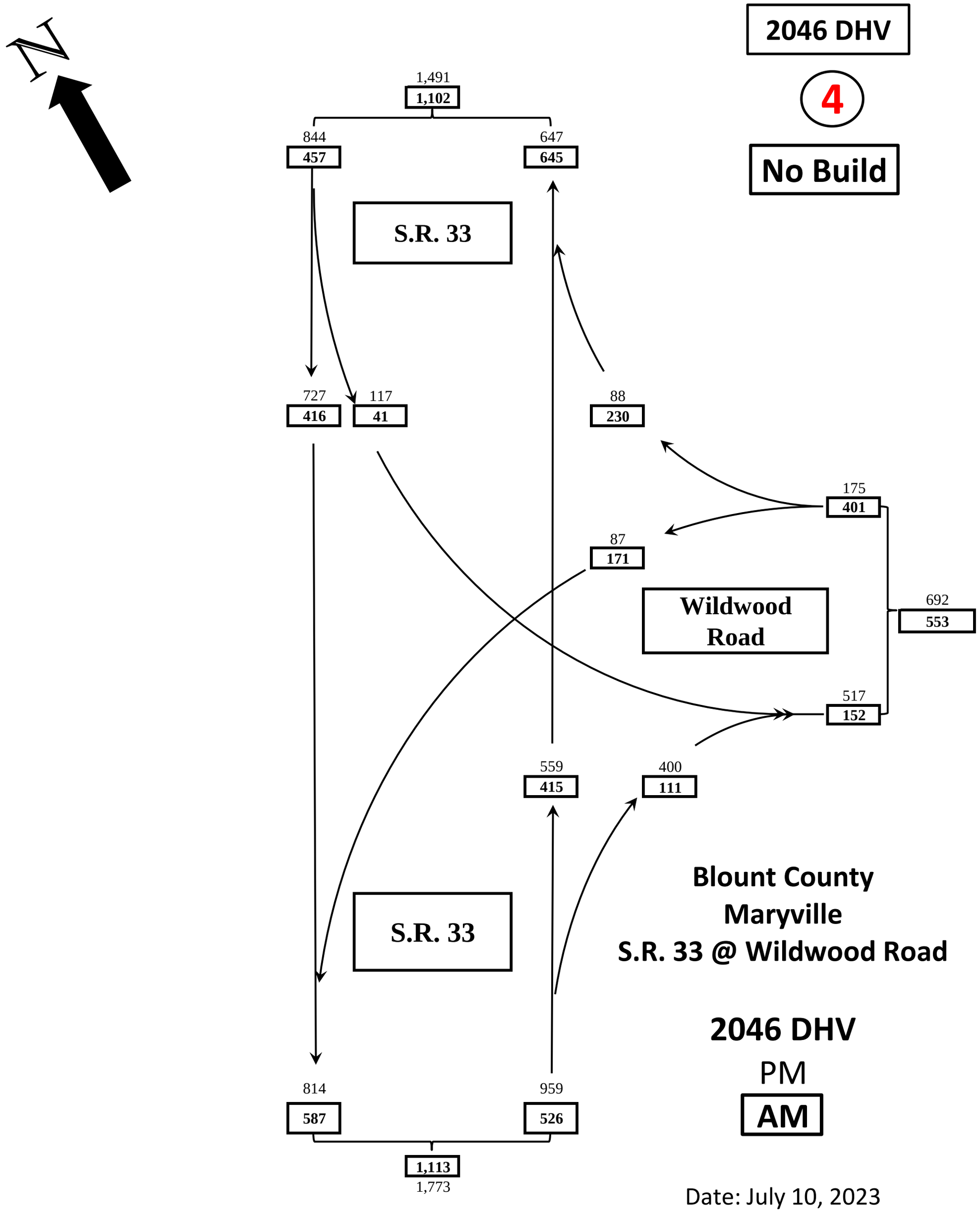
Blount County
Maryville
S.R. 33 @ S.R. 162

2046 DHV

PM

AM

Date: July 10, 2023
TA



2046 DHV

4

No Build

Blount County
Maryville
S.R. 33 @ Wildwood Road

2046 DHV

PM

AM

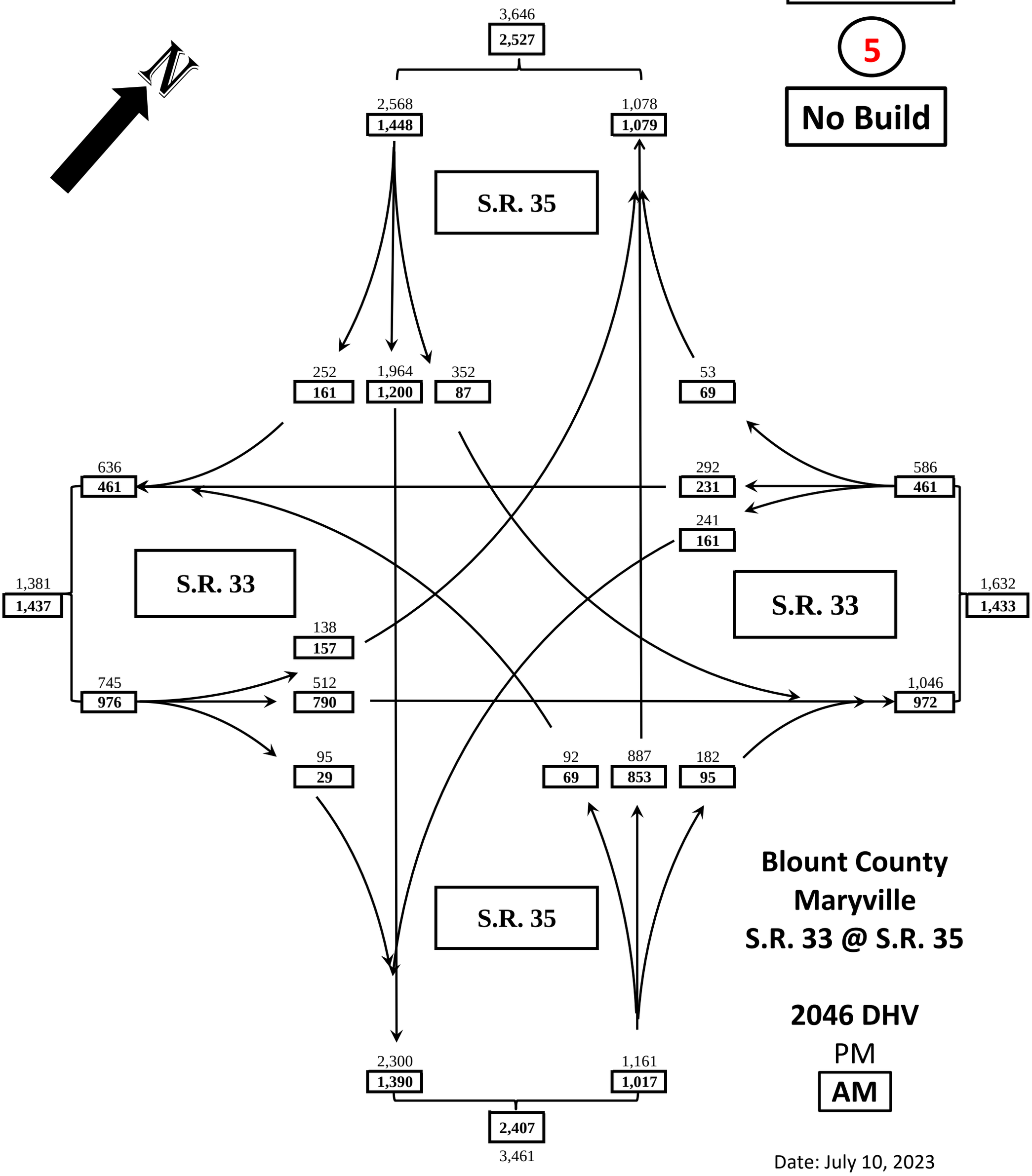
Date: July 10, 2023

TA

2046 DHV

5

No Build



Blount County
Maryville
S.R. 33 @ S.R. 35

2046 DHV

PM

AM

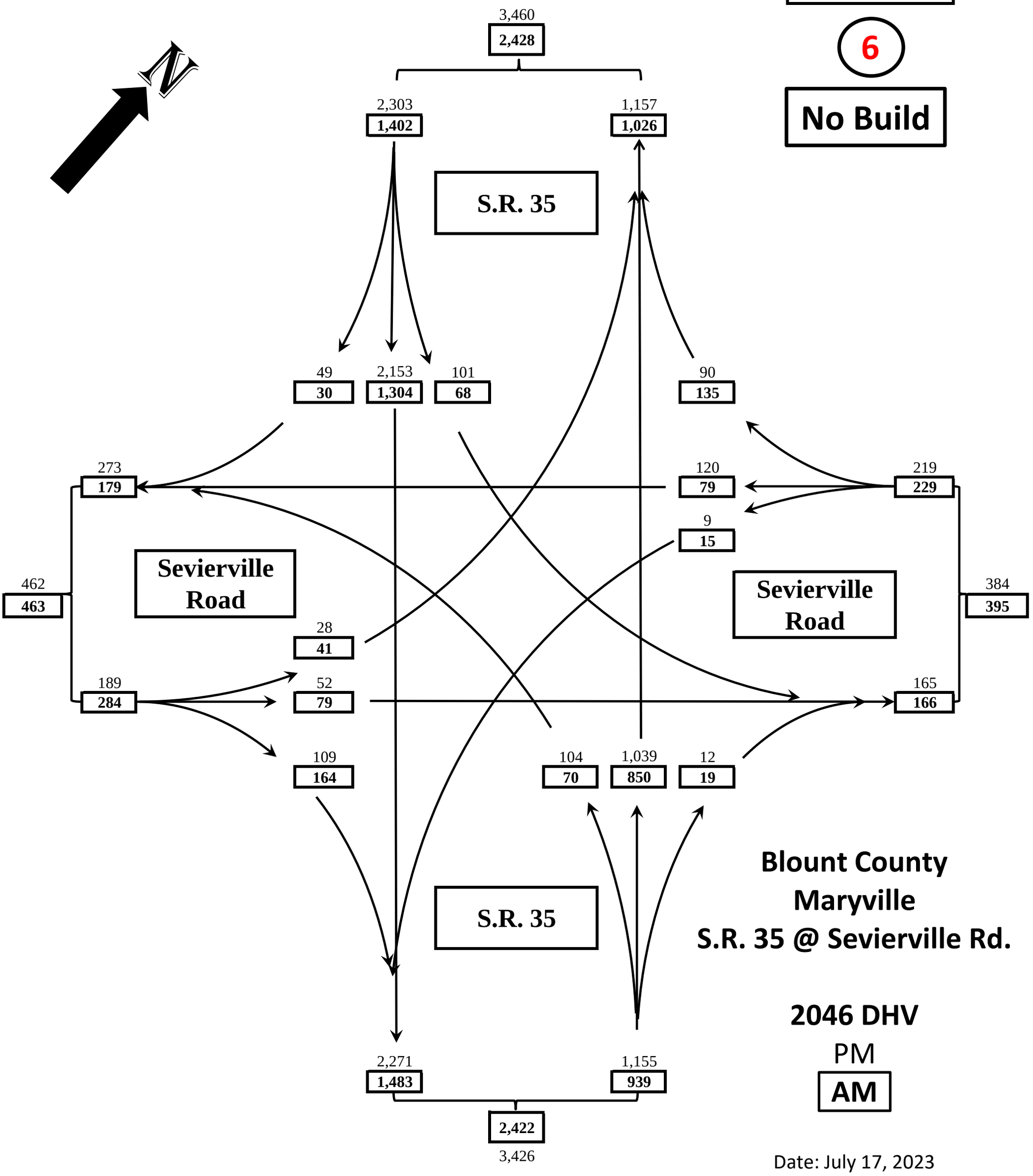
Date: July 10, 2023

TA

2046 DHV

6

No Build



Blount County
Maryville
S.R. 35 @ Sevierville Rd.

2046 DHV

PM

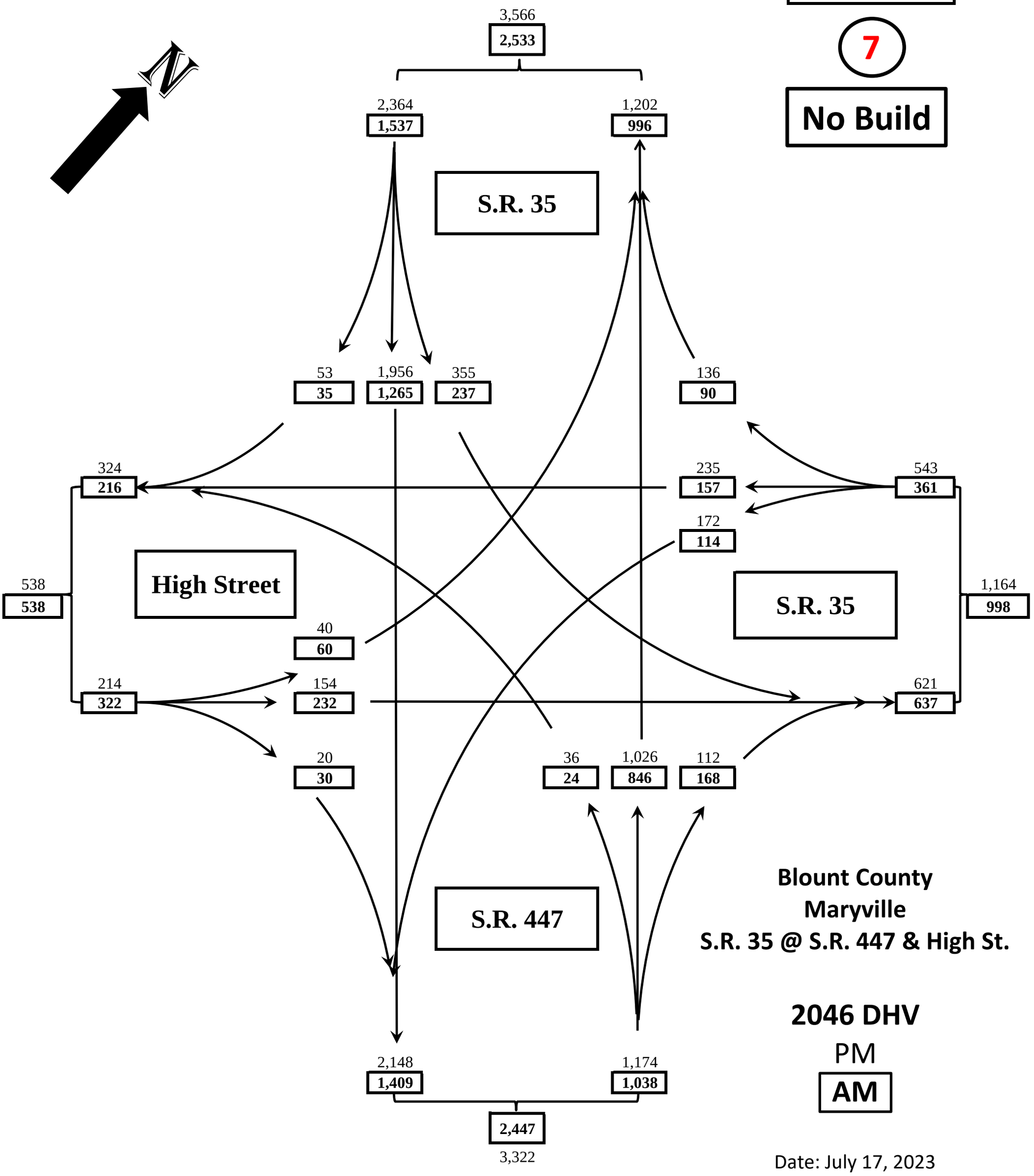
AM

Date: July 17, 2023
TA

2046 DHV

7

No Build



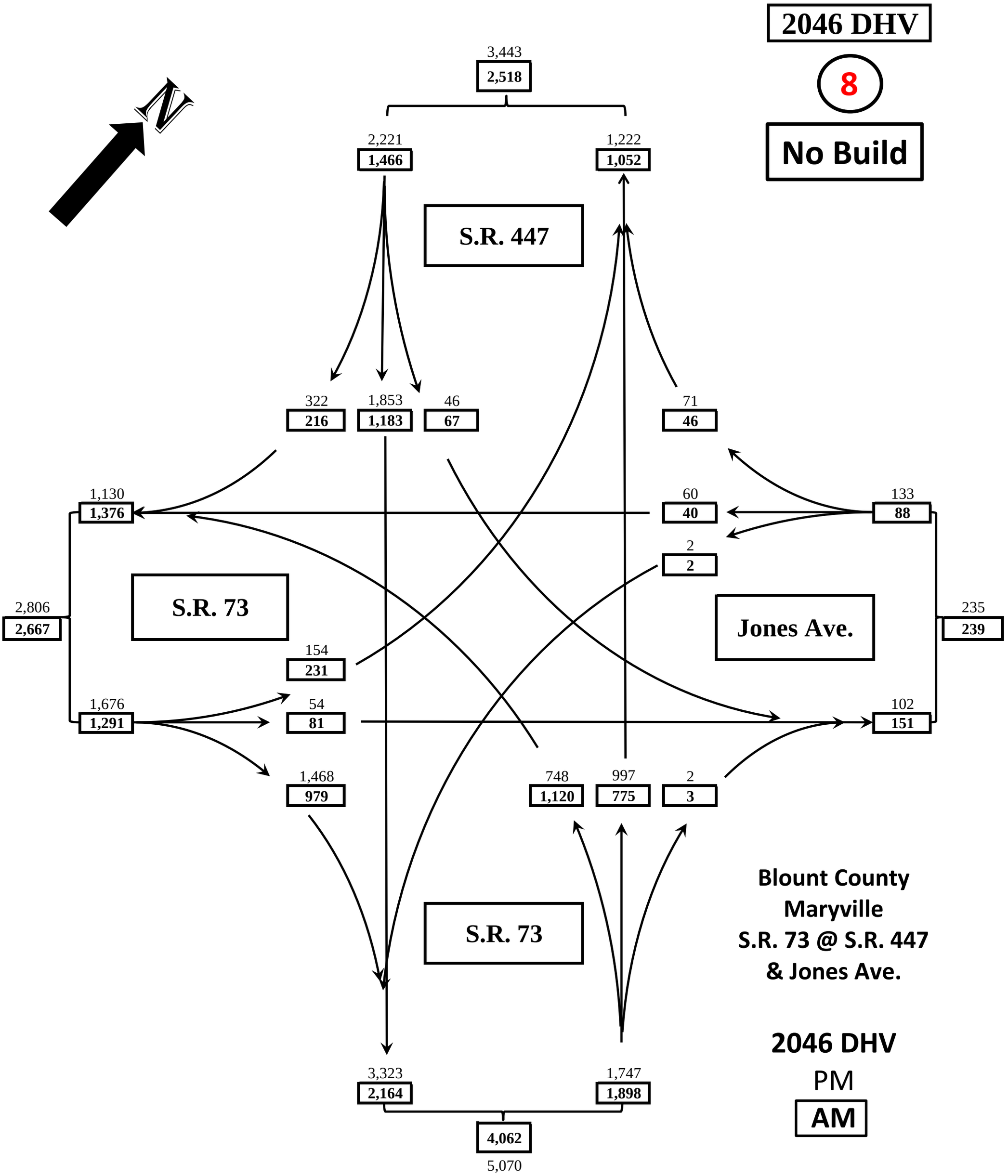
Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.

2046 DHV

PM

AM

Date: July 17, 2023
TA



2046 DHV

8

No Build

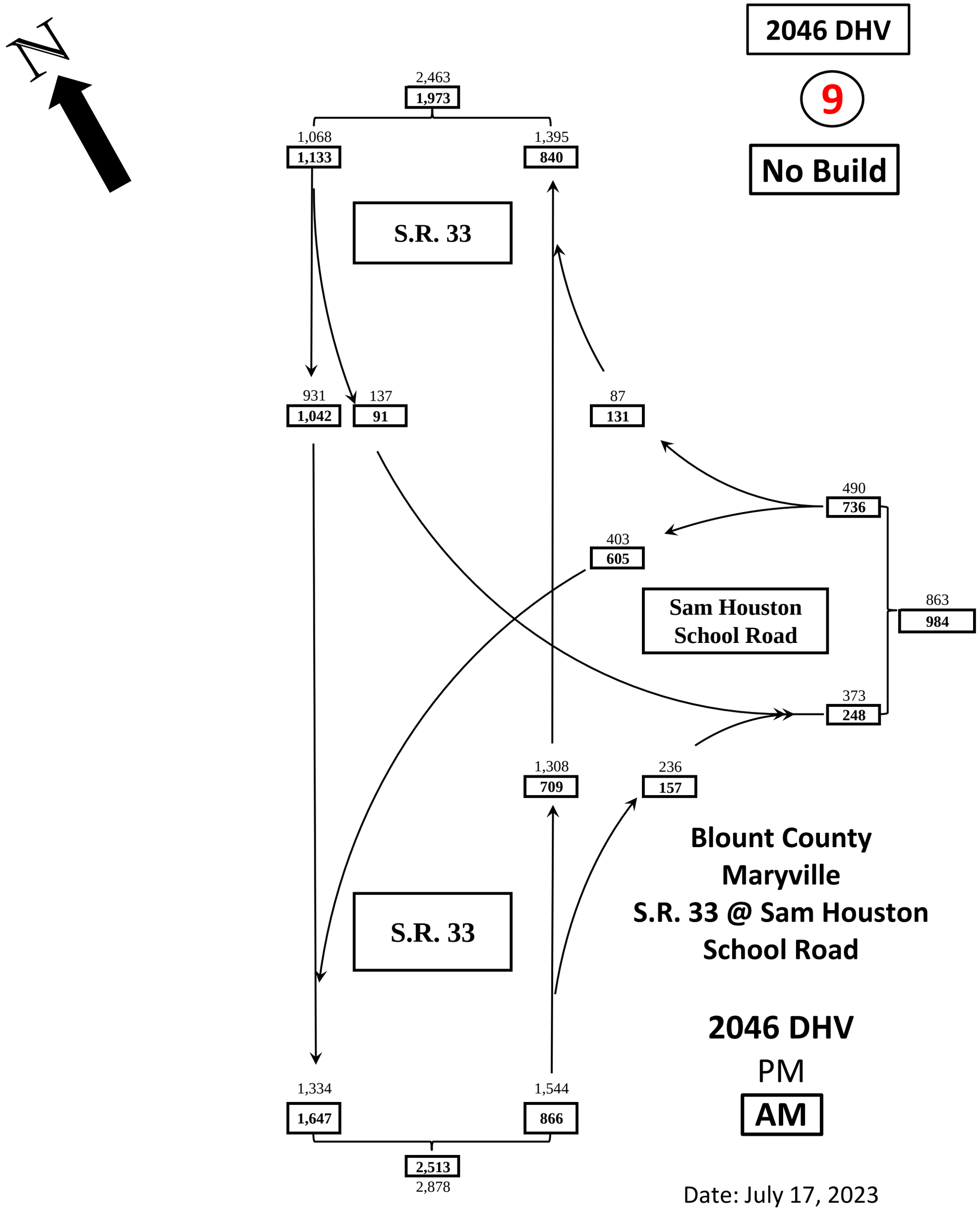
Blount County
Maryville
S.R. 73 @ S.R. 447
& Jones Ave.

2046 DHV

PM

AM

Date: July 17, 2023
TA



2046 DHV

9

No Build

Blount County
Maryville
S.R. 33 @ Sam Houston
School Road

2046 DHV

PM

AM

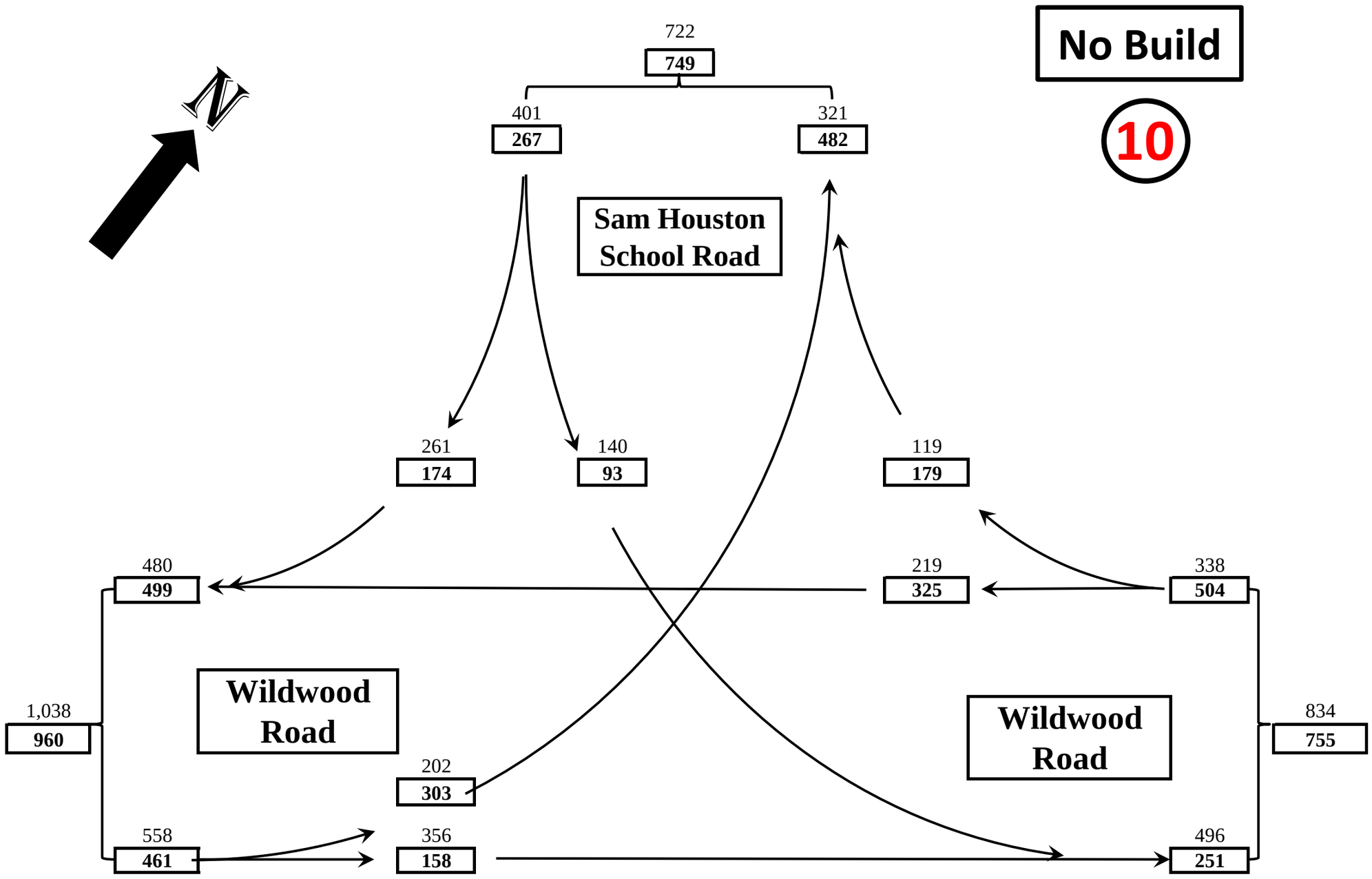
Date: July 17, 2023

TA

2046 DHV

No Build

10



Blount County
Maryville
Wildwood Road @
Sam Houston School Rd.

2046 DHV

PM

AM

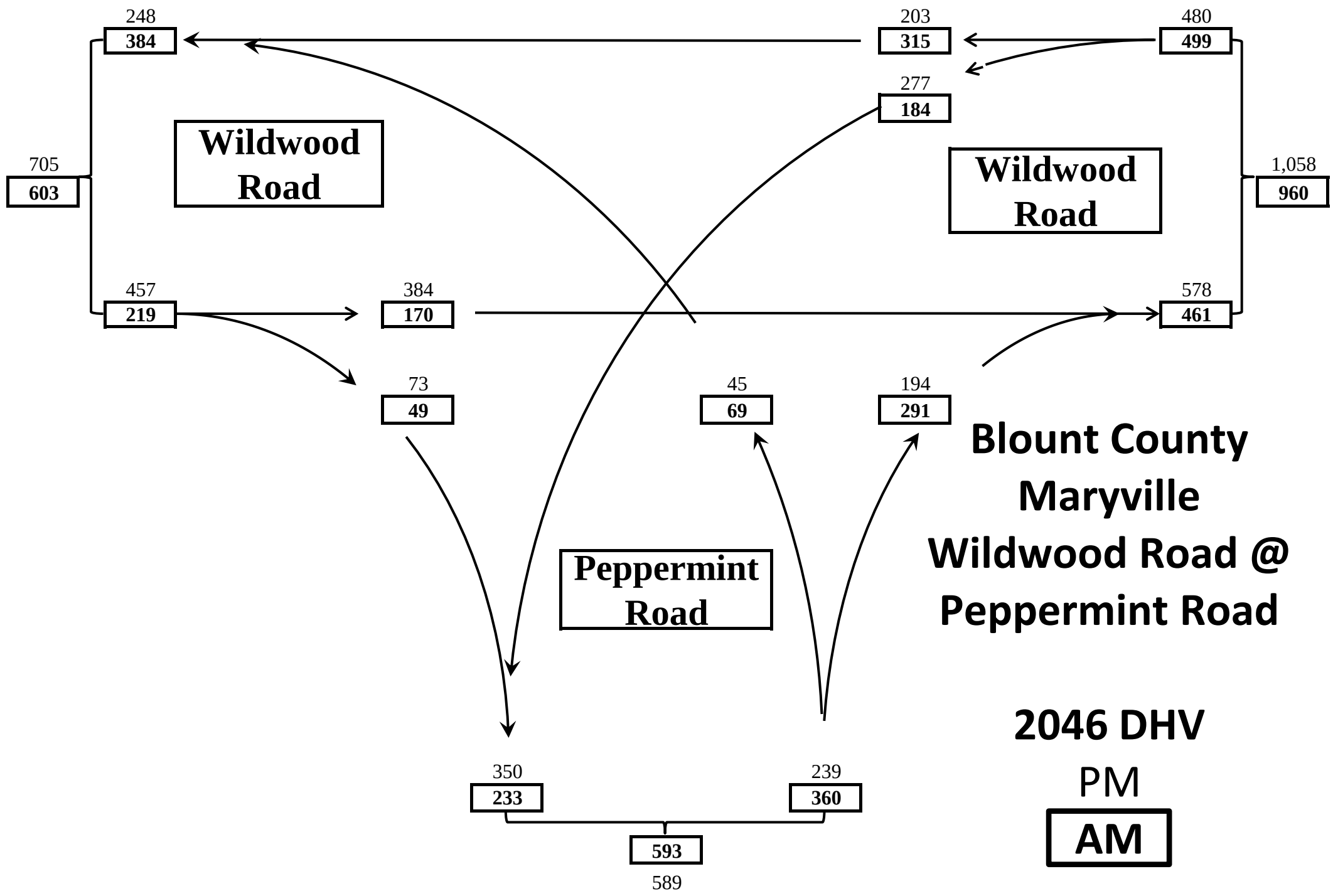
Date: July 17, 2023
TA

N

2046 DHV

11

No-Build



Blount County
Maryville
Wildwood Road @
Peppermint Road

2046 DHV

PM

AM

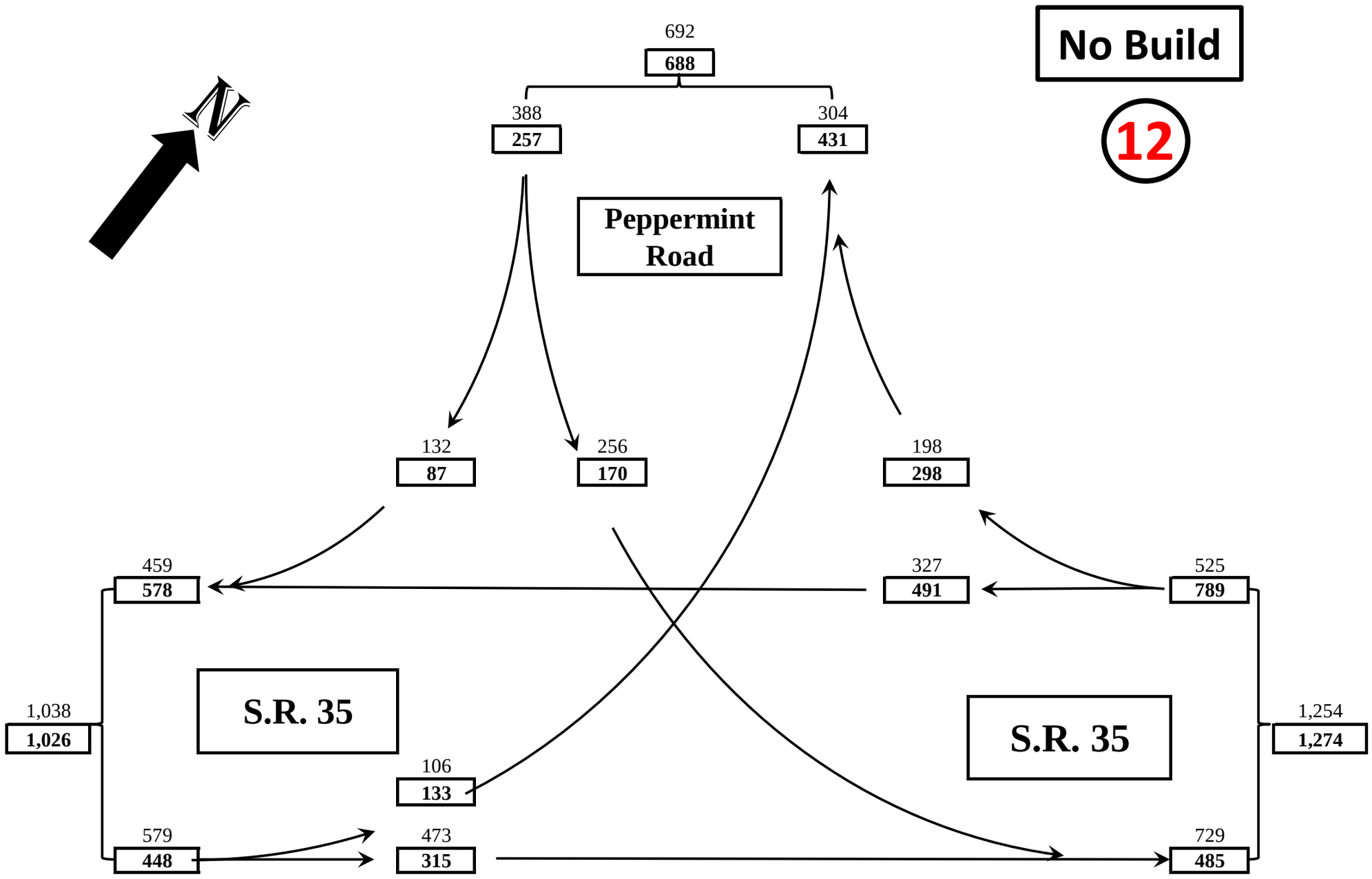
Date: July 17, 2023

TA

2046 DHV

No Build

12



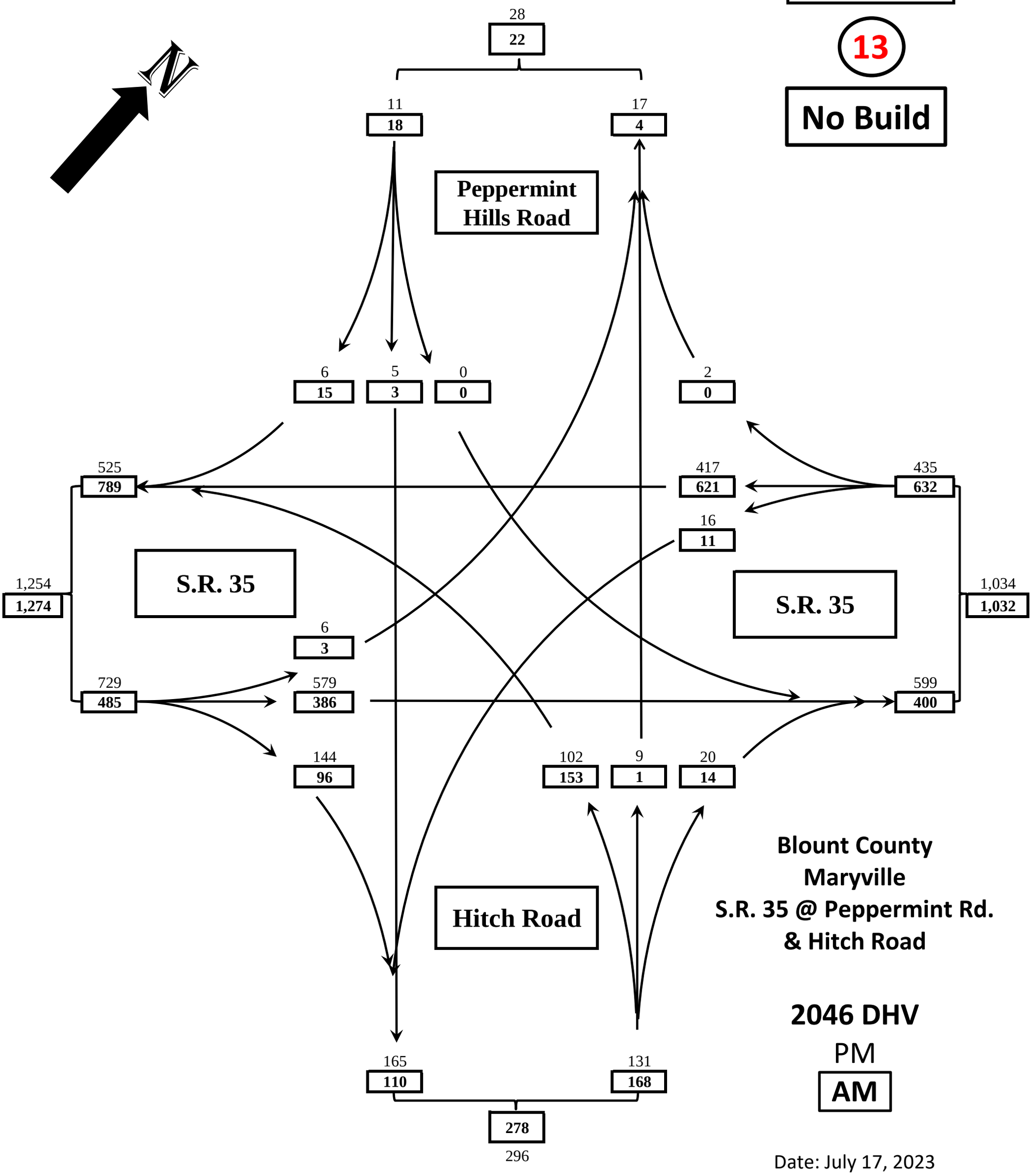
Blount County
Maryville
S.R. 35 @ Peppermint Rd.

2046 DHV

PM

AM

Date: July 17, 2023
TA



2046 DHV

13

No Build

Blount County
Maryville
S.R. 35 @ Peppermint Rd.
& Hitch Road

2046 DHV

PM

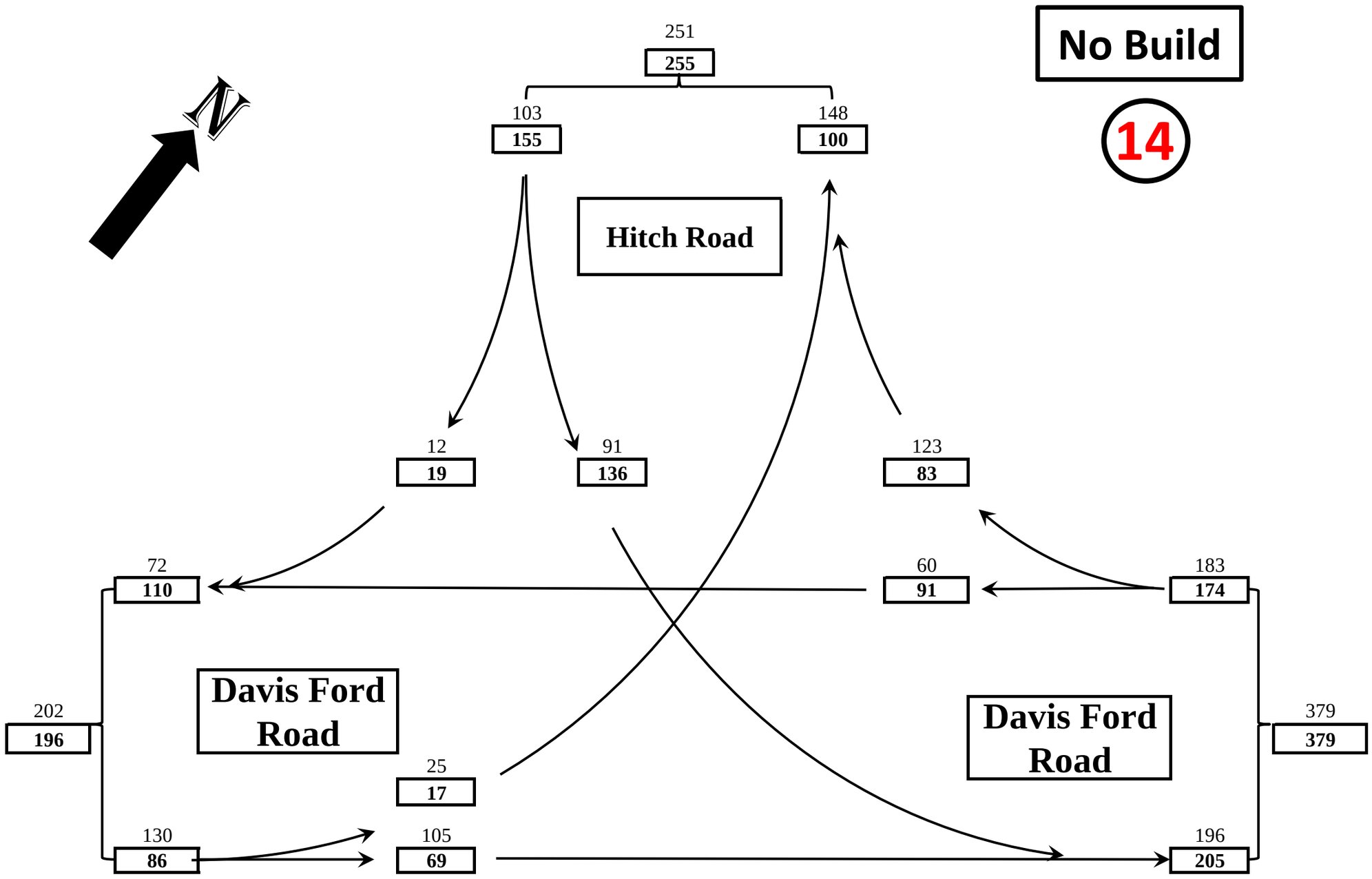
AM

Date: July 17, 2023
TA

2046 DHV

No Build

14



Blount County
Maryville
Davis Ford Rd. @ Hitch Rd.

2046 DHV
PM

AM

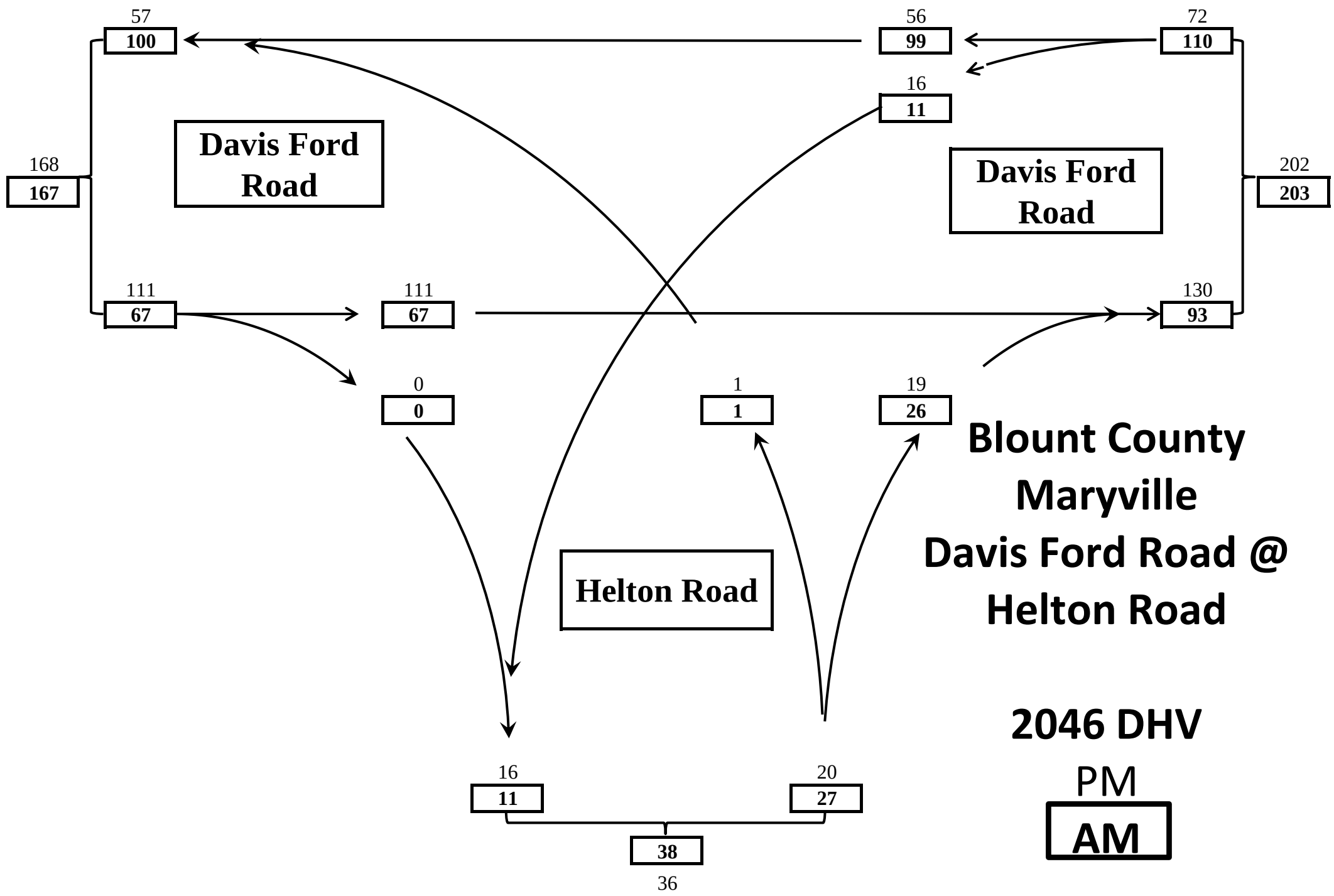
Date: May 30, 2023
TA

N

2046 DHV

15

No-Build



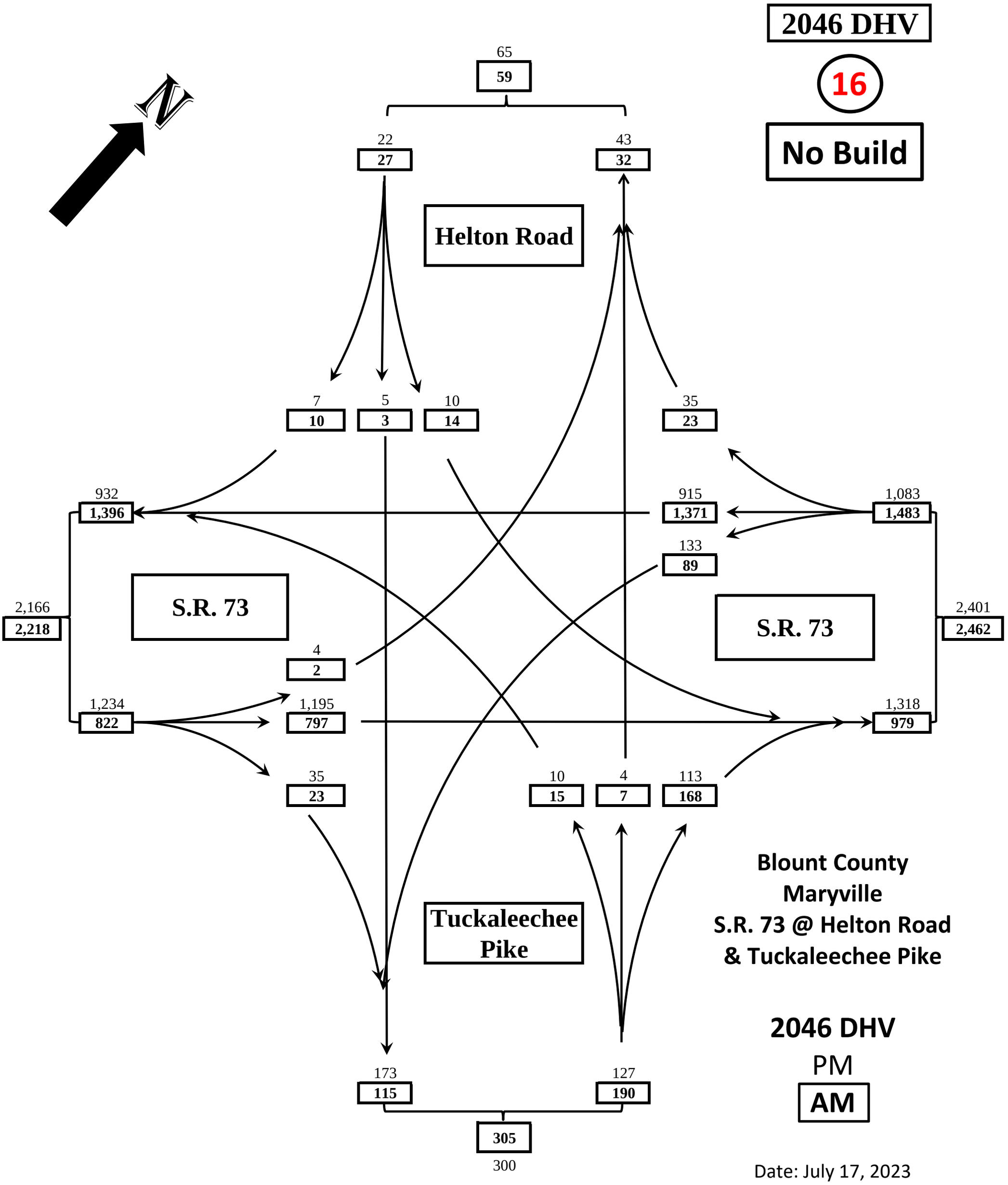
Blount County
Maryville
Davis Ford Road @
Helton Road

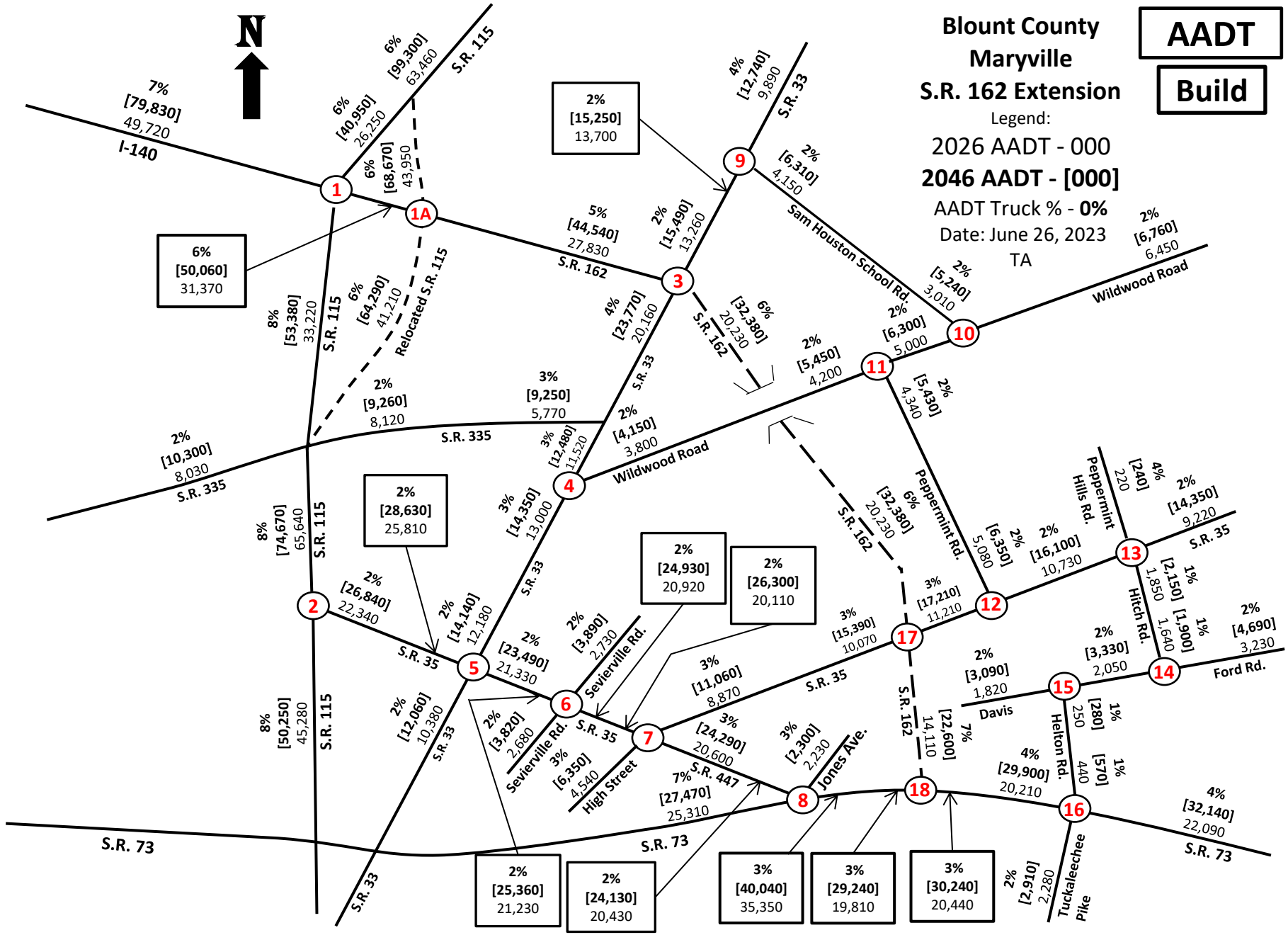
2046 DHV

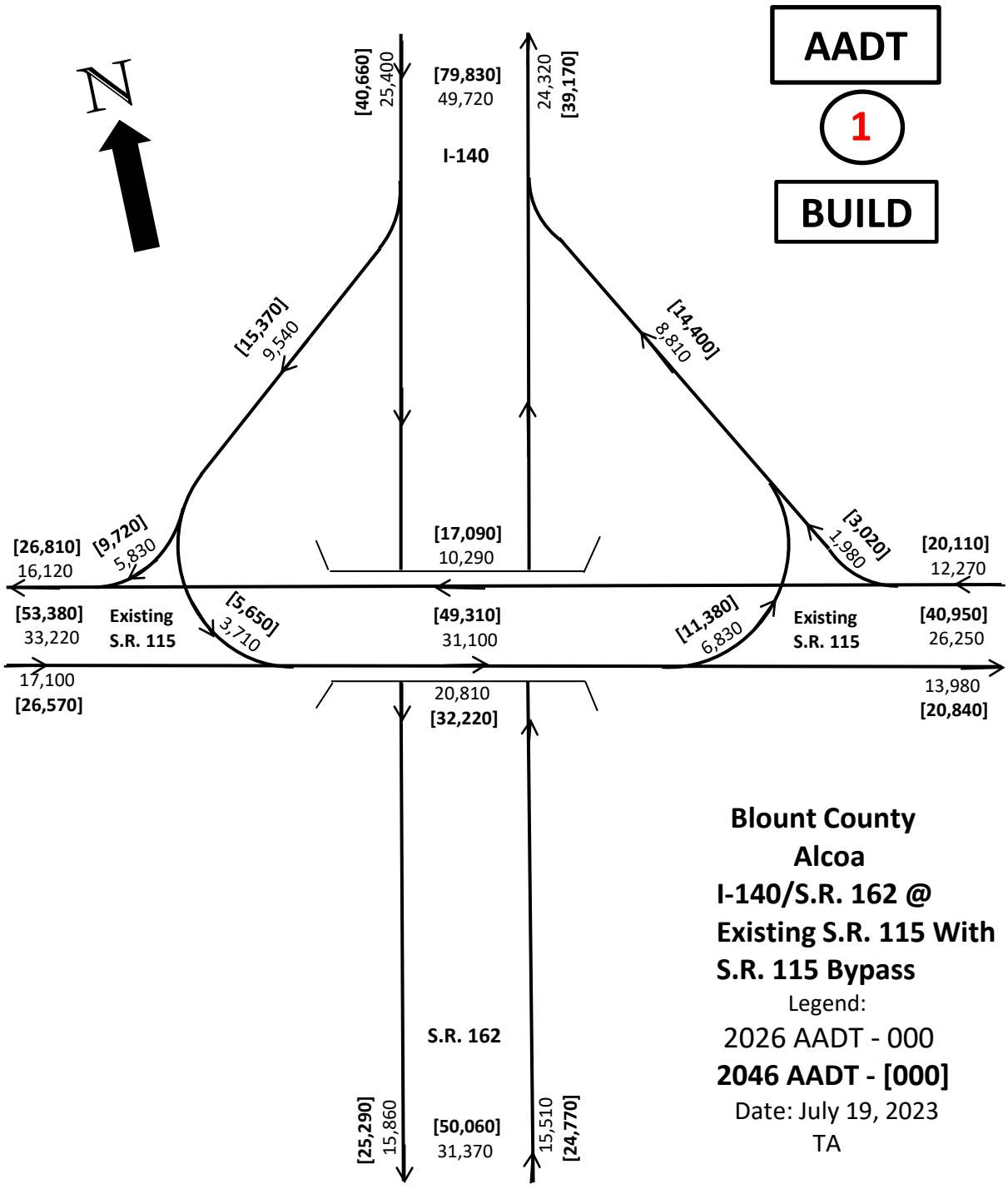
PM

AM

Date: July 17, 2023
TA


2046 DHV
16
No Build
N
65
59
22
27
43
32
Helton Road
7
10
5
3
10
14
35
23
932
1,396
915
1,371
1,083
1,483
133
89
2,166
2,218
S.R. 73
S.R. 73
2,401
2,462
4
2
1,234
822
1,195
797
1,318
979
35
23
10
15
4
7
113
168
Tuckaleechee Pike
Blount County
Maryville
S.R. 73 @ Helton Road
& Tuckaleechee Pike
173
115
127
190
305
300
2046 DHV
PM
AM
Date: July 17, 2023
TA


N
Blount County
Maryville
S.R. 162 Extension
Legend:
2026 AADT - 000
2046 AADT - [000]
AADT Truck % - 0%
Date: June 26, 2023
TA
AADT
Build
I-140
S.R. 115
S.R. 162
S.R. 33
Sam Houston School Rd.
Wildwood Road
Relocated S.R. 115
S.R. 335
Peppermint Hills Rd.
Peppermint Rd.
S.R. 35
Hitch Rd.
Ford Rd.
Sevierville Rd.
Jones Ave.
High Street
Davis
Helton Rd.
S.R. 447
Tuckaleechee Pike
S.R. 73
1
1A
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18



Blount County
Alcoa
I-140/S.R. 162 @
Existing S.R. 115 With
S.R. 115 Bypass

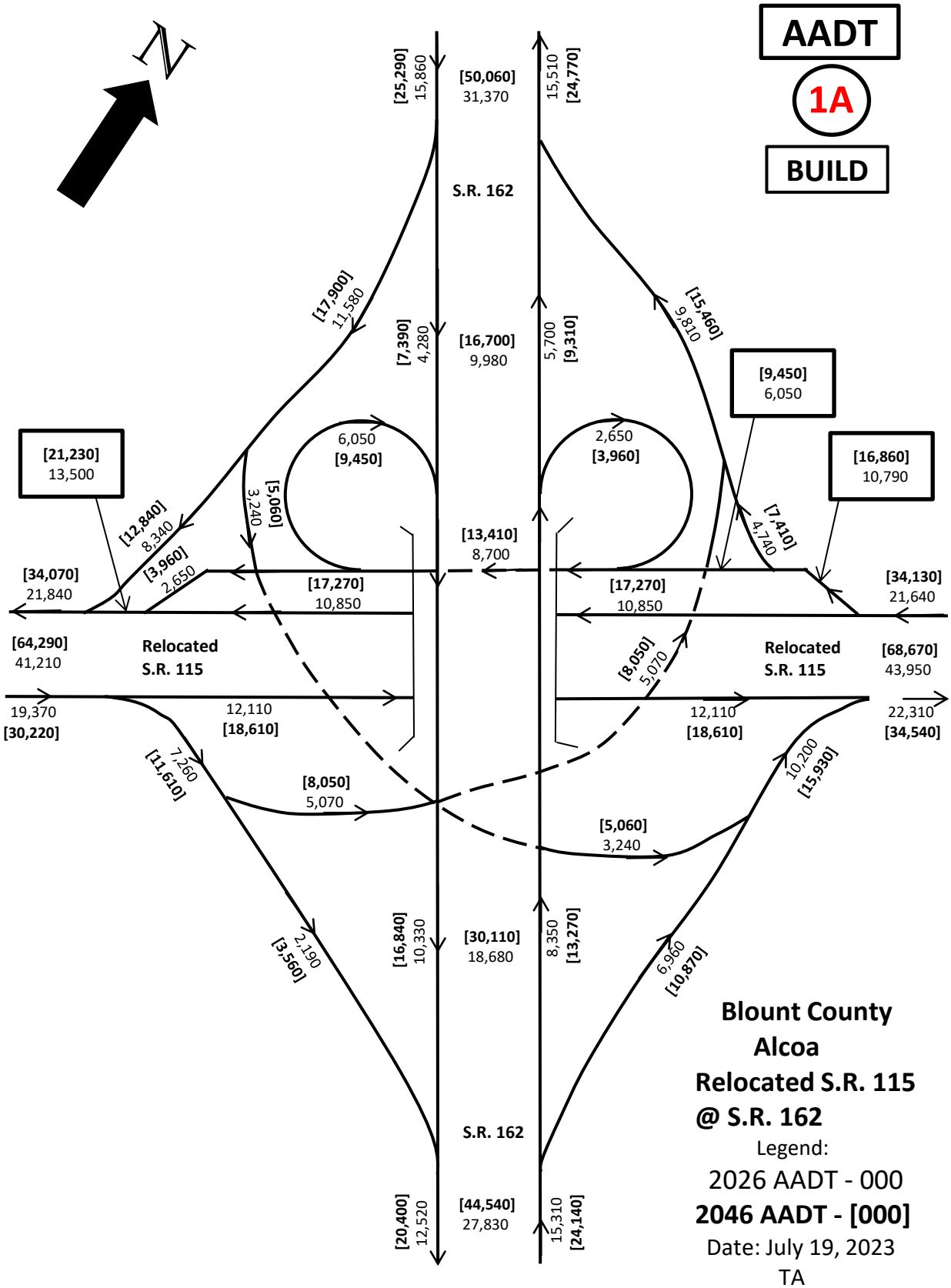
Legend:

2026 AADT - 000

2046 AADT - [000]

Date: July 19, 2023

TA



Blount County
Alcoa
Relocated S.R. 115
@ S.R. 162

Legend:

2026 AADT - 000

2046 AADT - [000]

Date: July 19, 2023

TA

N

AADT

2

Build

65,640
74,670

31,990
37,270

33,650
37,400

S.R. 115

21,260
24,390

10,730
12,880

10,620
12,750

10,620
12,750

S.R. 35

22,340
26,840

11,720
14,090

23,030
24,650

990
1,210

S.R. 115

21,260
24,390

24,020
25,860

50,250
45,280

Blount County
Maryville
S.R. 35 @ S.R. 115

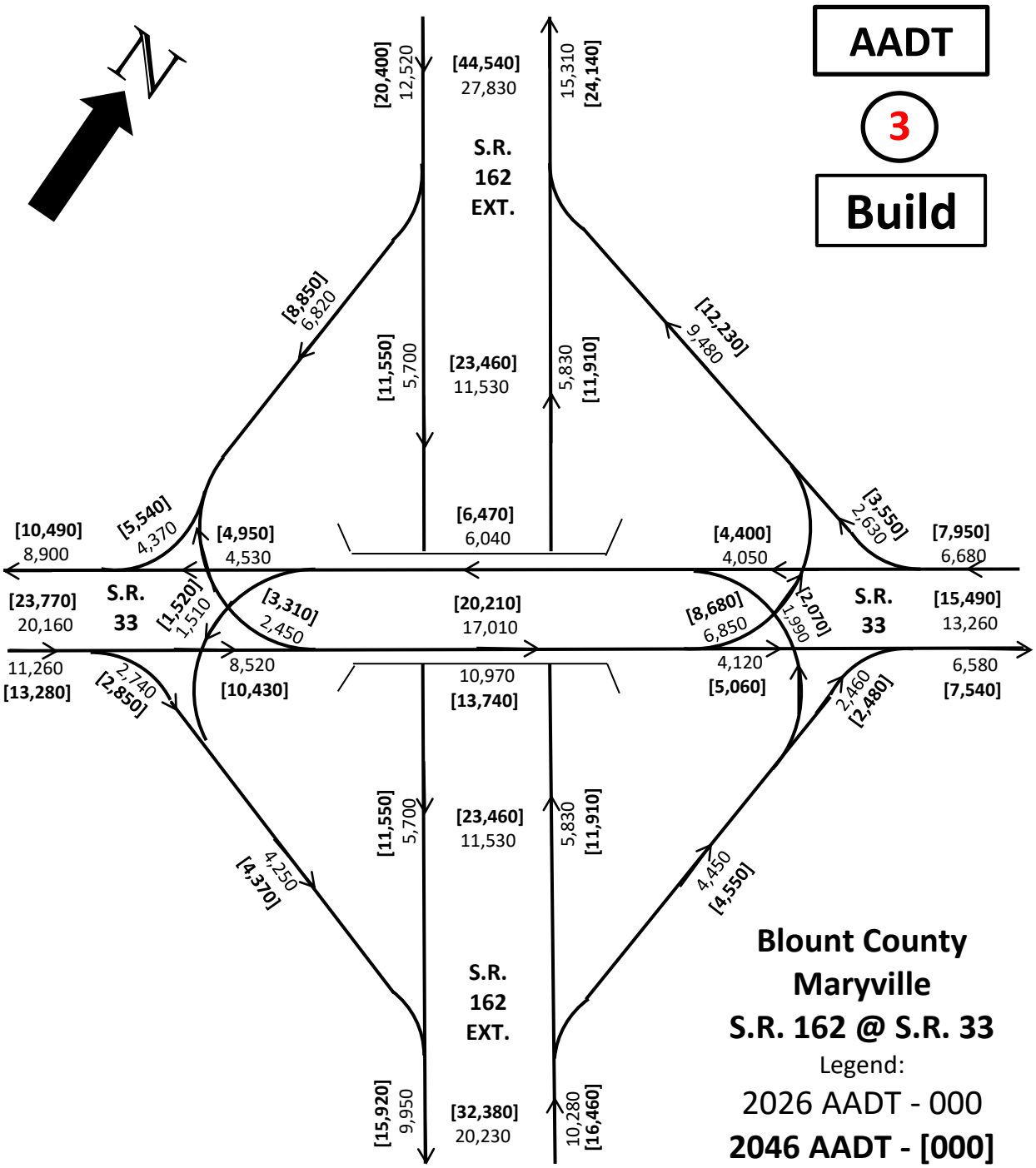
Legend:

2026 AADT - 000

2046 AADT - 000

Date: July 19, 2023

TA



AADT

3

Build

Blount County

Maryville

S.R. 162 @ S.R. 33

Legend:

2026 AADT - 000

2046 AADT - [000]

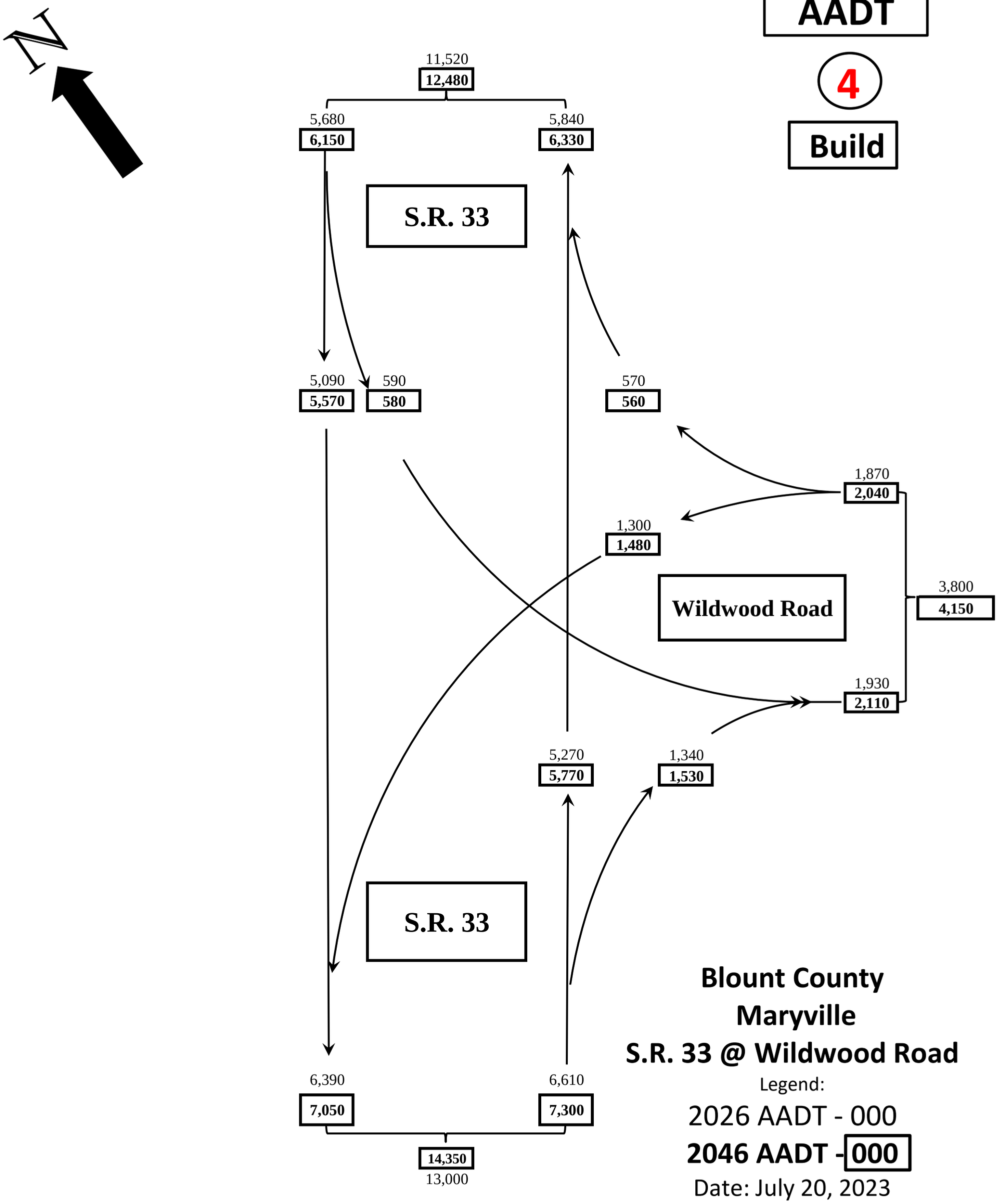
Date: July 20, 2023

TA

AADT

4

Build



Blount County

Maryville

S.R. 33 @ Wildwood Road

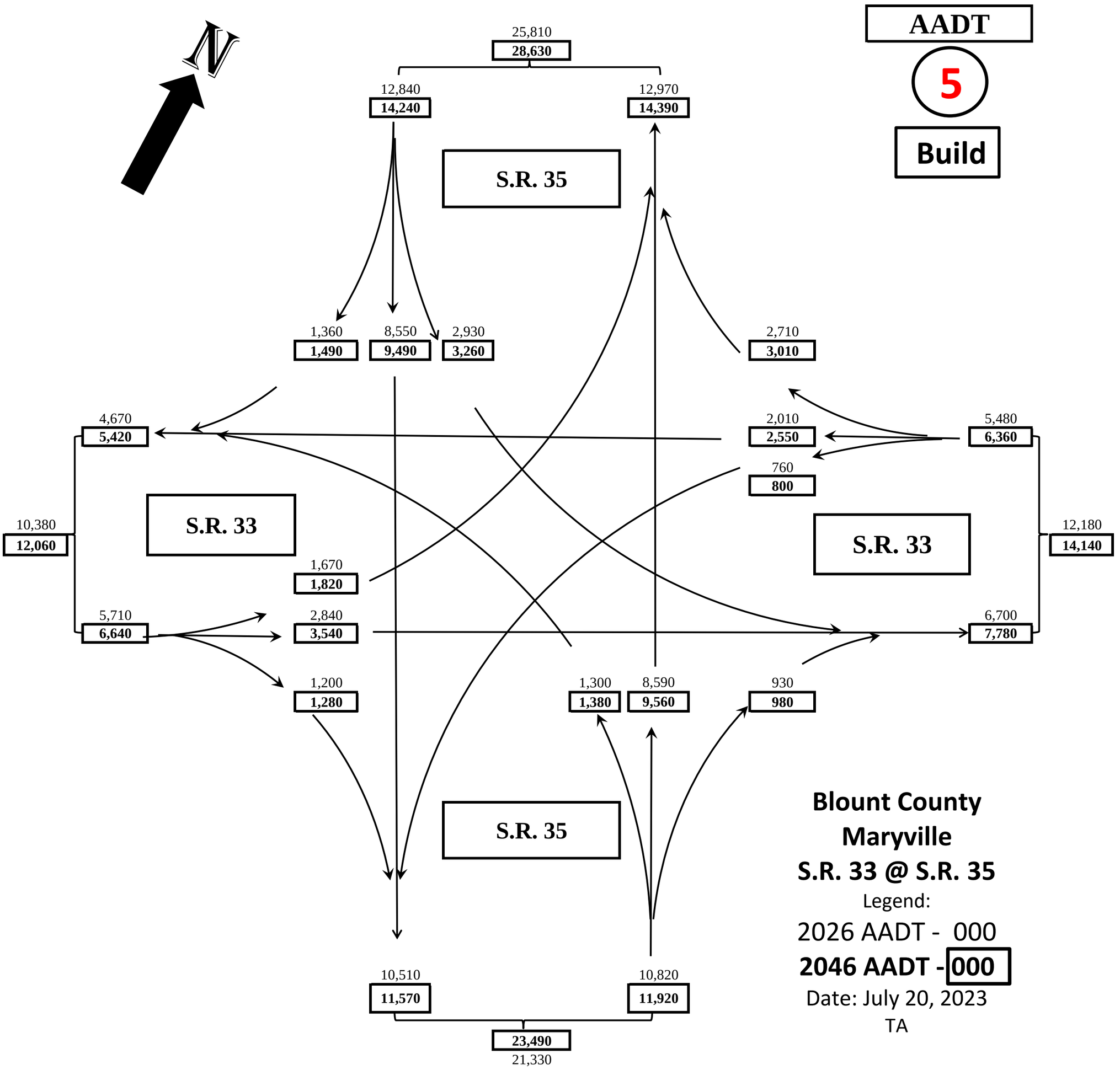
Legend:

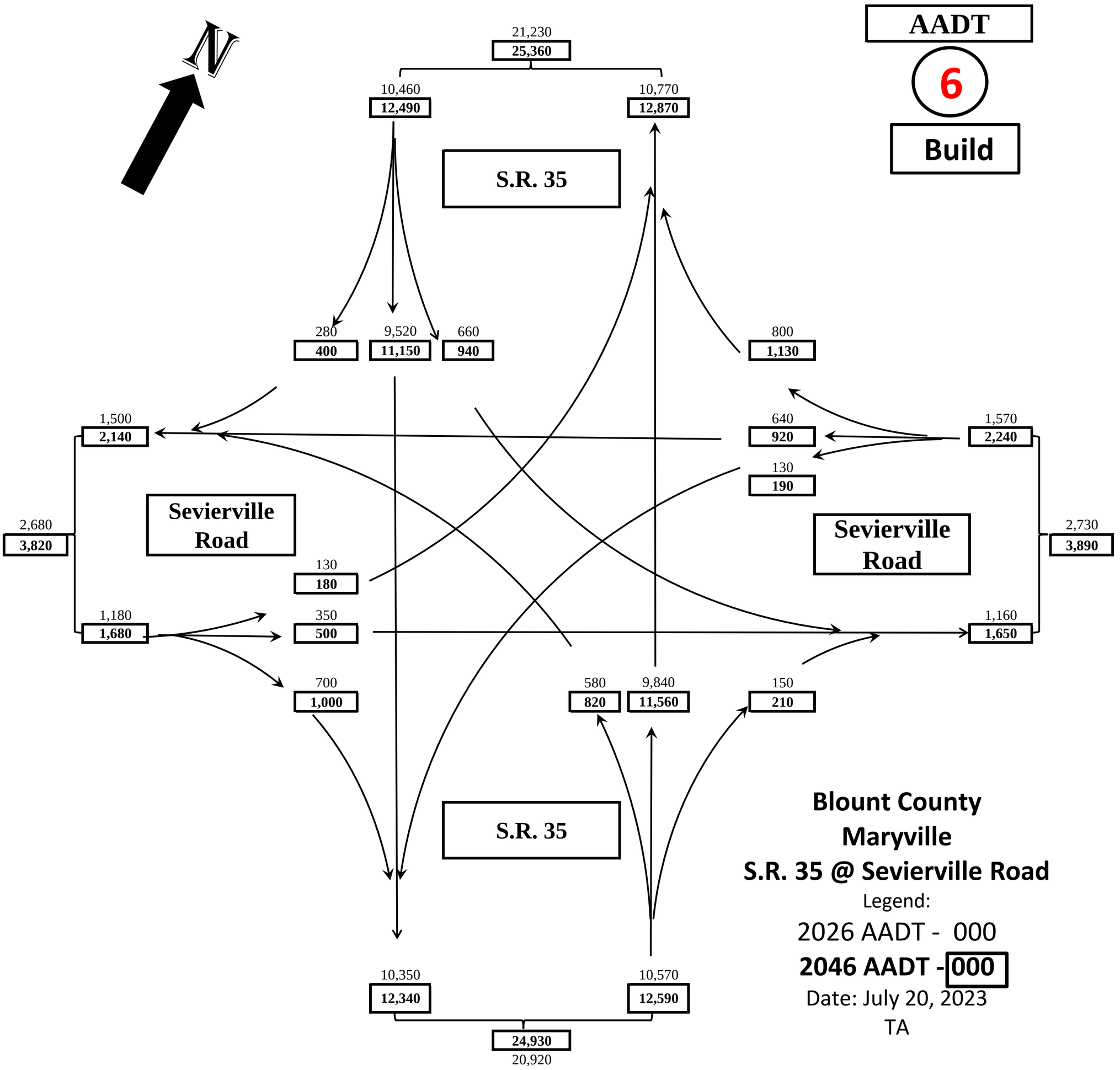
2026 AADT - 000

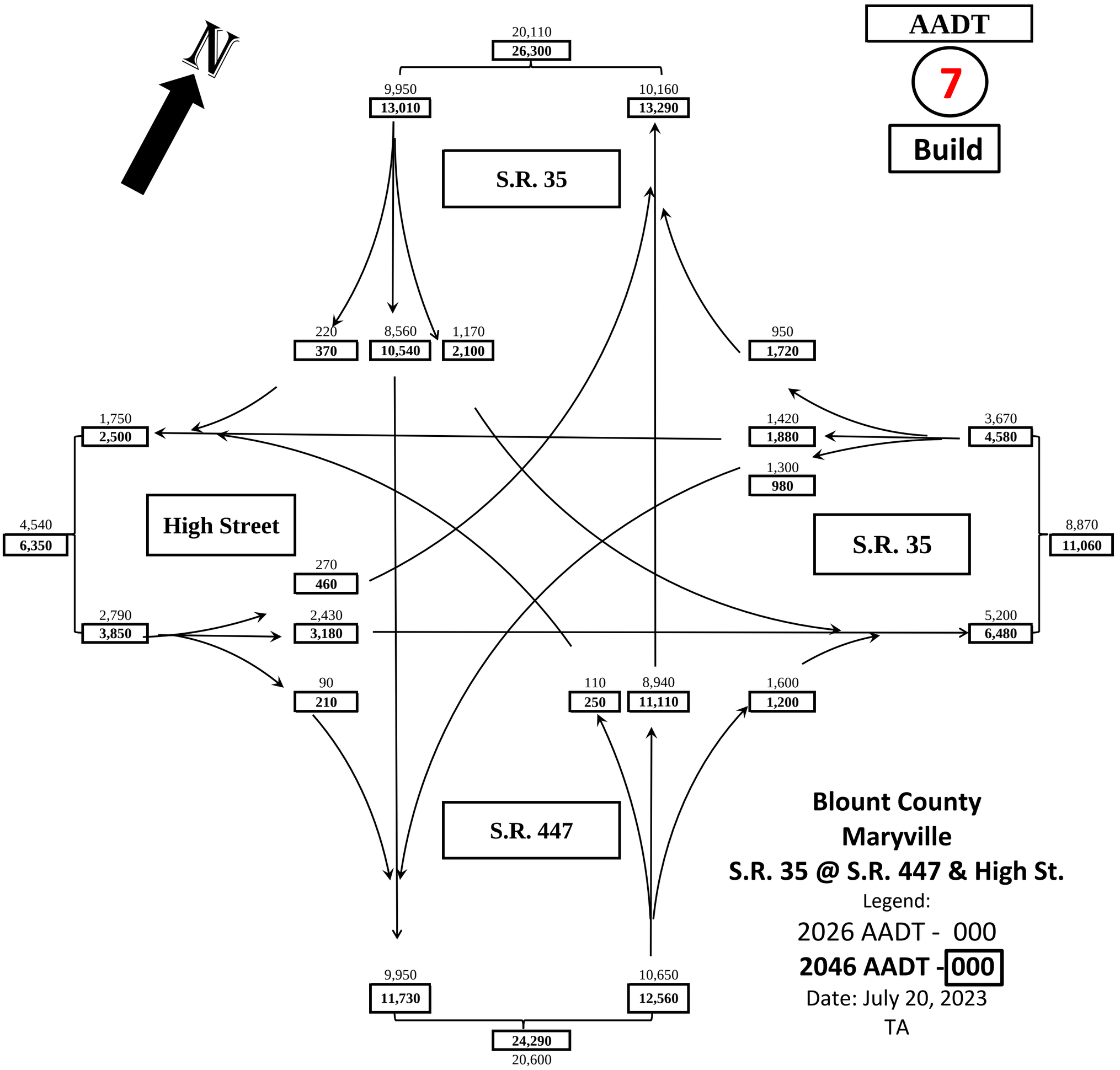
2046 AADT - 000

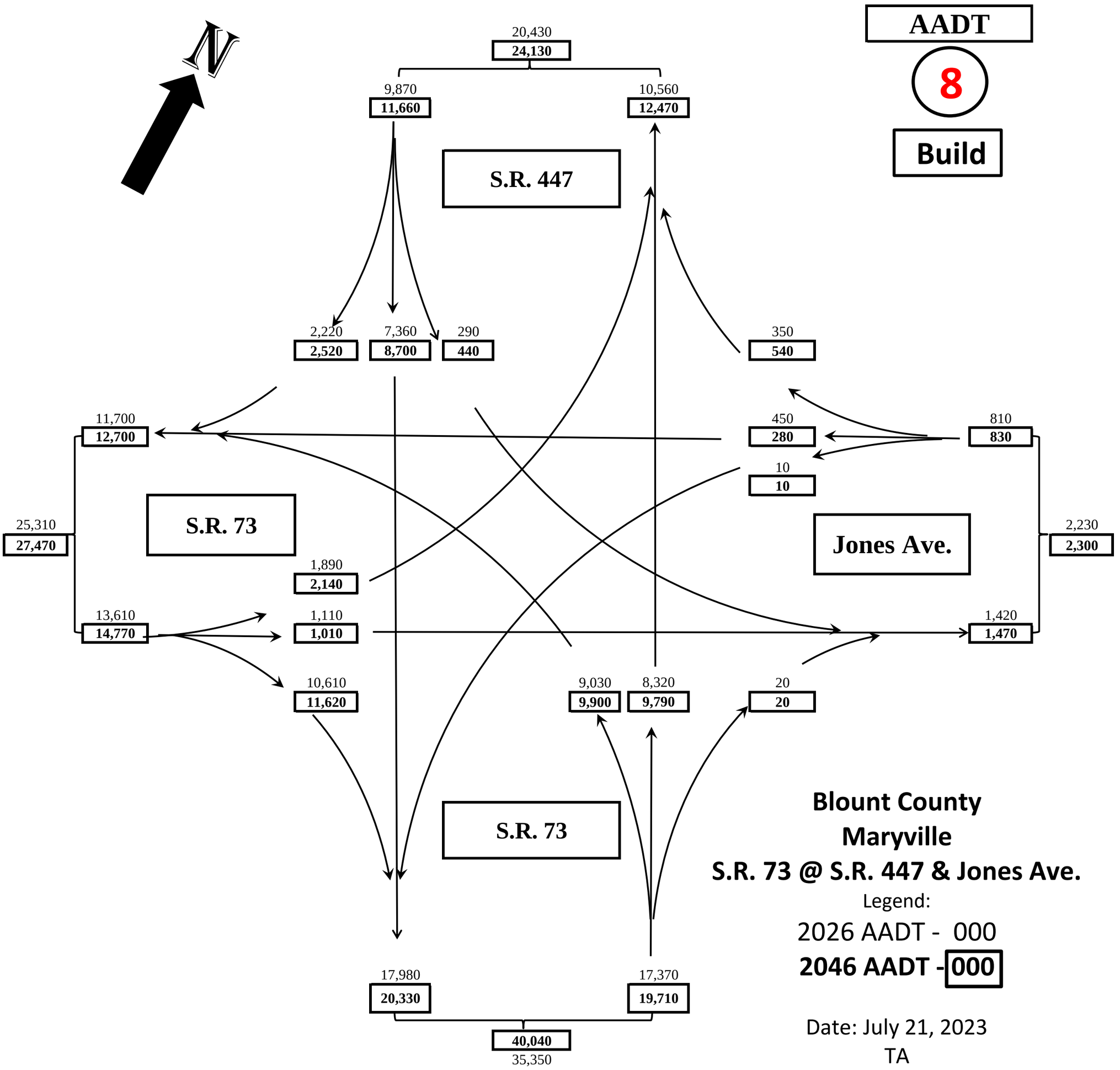
Date: July 20, 2023

TA


AADT
5
Build
N
25,810
28,630
12,840
14,240
12,970
14,390
S.R. 35
1,360
1,490
8,550
9,490
2,930
3,260
2,710
3,010
4,670
5,420
2,010
2,550
5,480
6,360
760
800
S.R. 33
S.R. 33
10,380
12,060
12,180
14,140
1,670
1,820
5,710
6,640
2,840
3,540
6,700
7,780
1,200
1,280
1,300
1,380
8,590
9,560
930
980
S.R. 35
10,510
11,570
10,820
11,920
23,490
21,330
Blount County
Maryville
S.R. 33 @ S.R. 35
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 20, 2023
TA


N
AADT
6
Build
21,230
25,360
10,460
12,490
10,770
12,870
S.R. 35
280
400
9,520
11,150
660
940
800
1,130
1,500
2,140
640
920
1,570
2,240
130
190
Sevierville Road
Sevierville Road
2,680
3,820
2,730
3,890
130
180
1,180
1,680
350
500
1,160
1,650
700
1,000
580
820
9,840
11,560
150
210
S.R. 35
10,350
12,340
10,570
12,590
24,930
20,920
Blount County
Maryville
S.R. 35 @ Sevierville Road
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 20, 2023
TA


AADT
7
Build
N
20,110
26,300
9,950
13,010
10,160
13,290
S.R. 35
220
370
8,560
10,540
1,170
2,100
950
1,720
1,750
2,500
1,420
1,880
3,670
4,580
1,300
980
High Street
4,540
6,350
S.R. 35
8,870
11,060
270
460
2,790
3,850
2,430
3,180
5,200
6,480
90
210
110
250
8,940
11,110
1,600
1,200
S.R. 447
9,950
11,730
10,650
12,560
24,290
20,600
Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 20, 2023
TA



Blount County
Maryville
S.R. 73 @ S.R. 447 & Jones Ave.

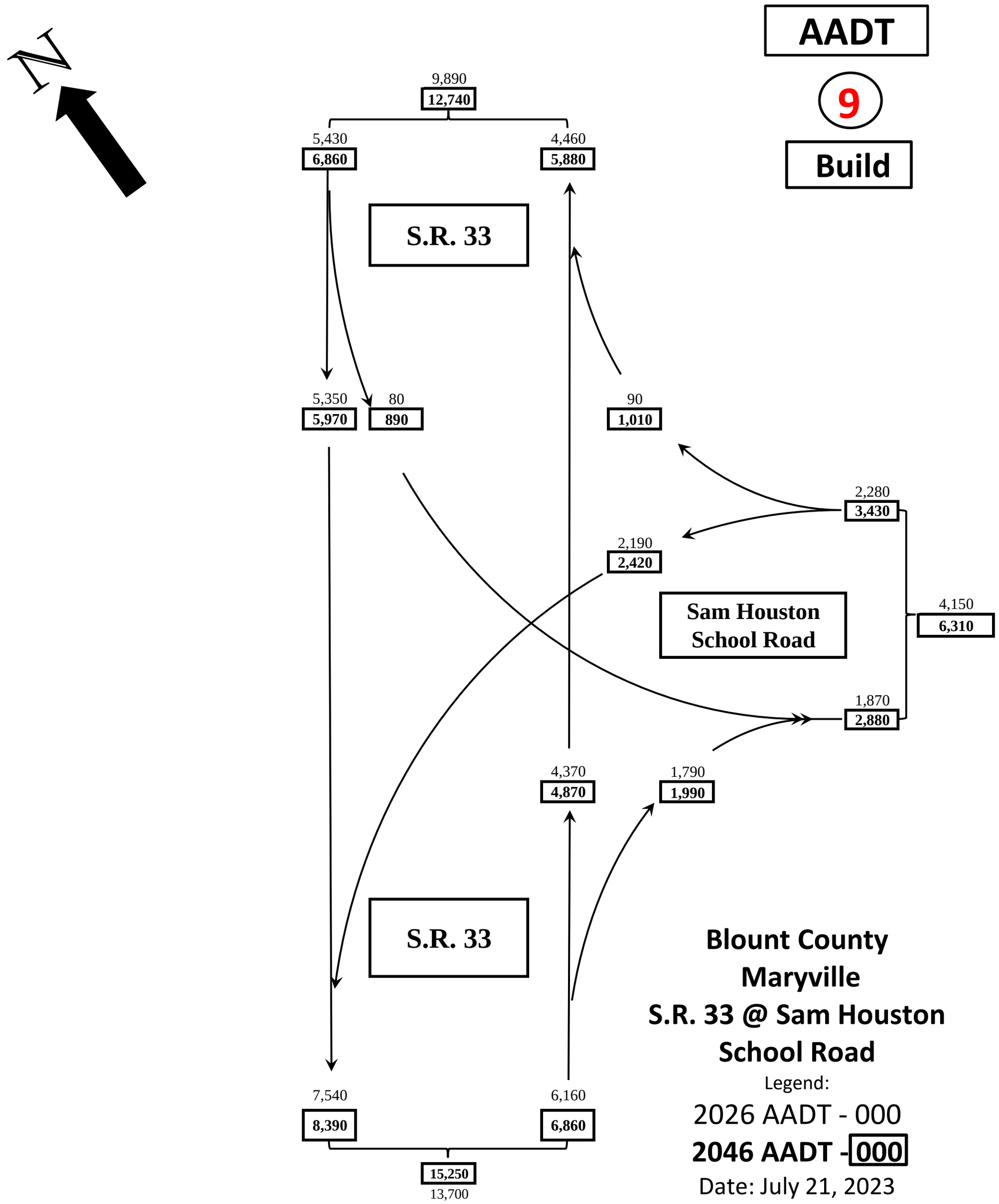
Legend:

2026 AADT - 000

2046 AADT - 000

Date: July 21, 2023

TA



AADT

9

Build

Blount County
Maryville
S.R. 33 @ Sam Houston School Road

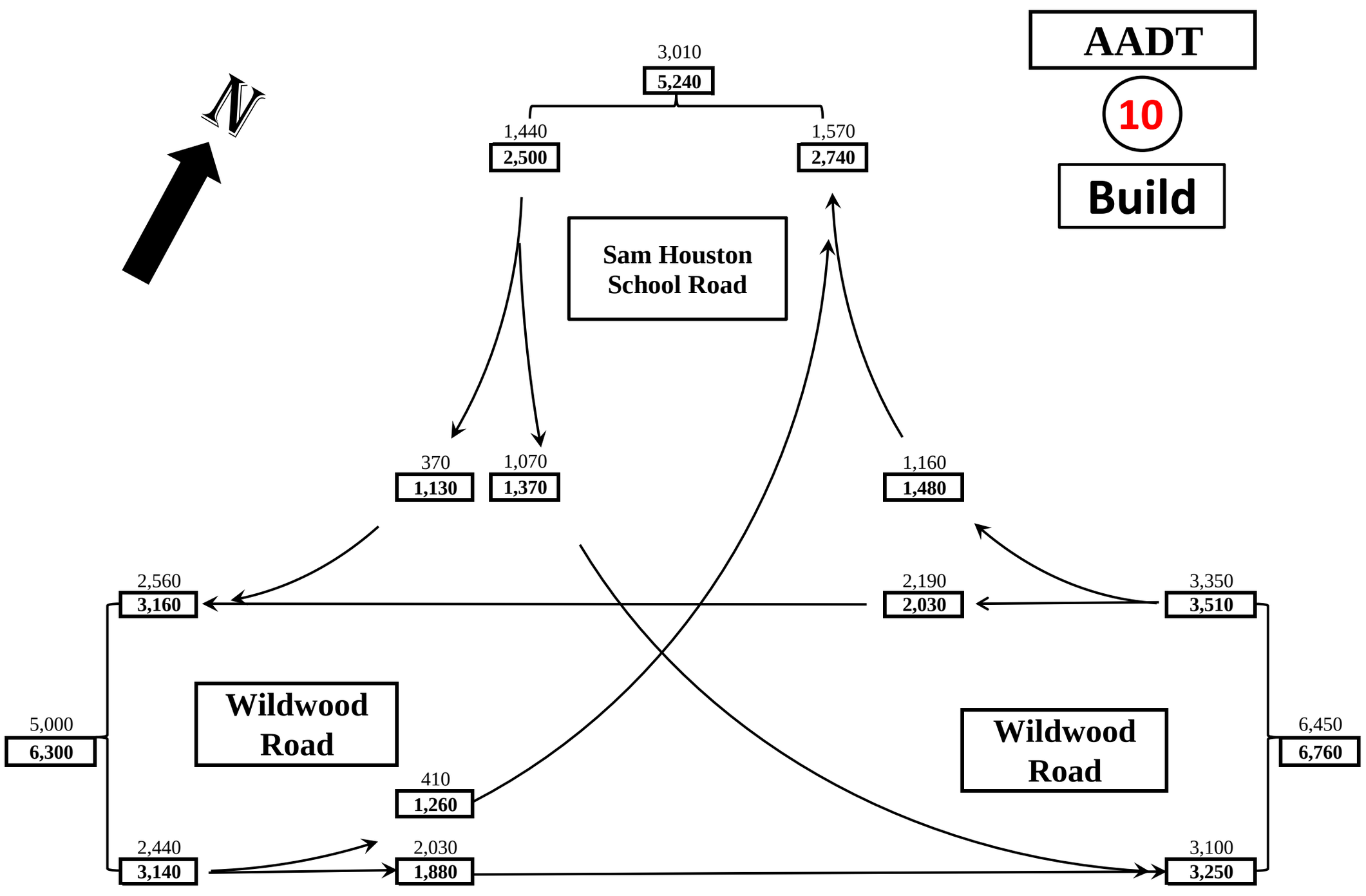
Legend:

2026 AADT - 000

2046 AADT - 000

Date: July 21, 2023

TA



AADT

10

Build

Blount County
Maryville
Wildwood Road @ Sam Houston School Road

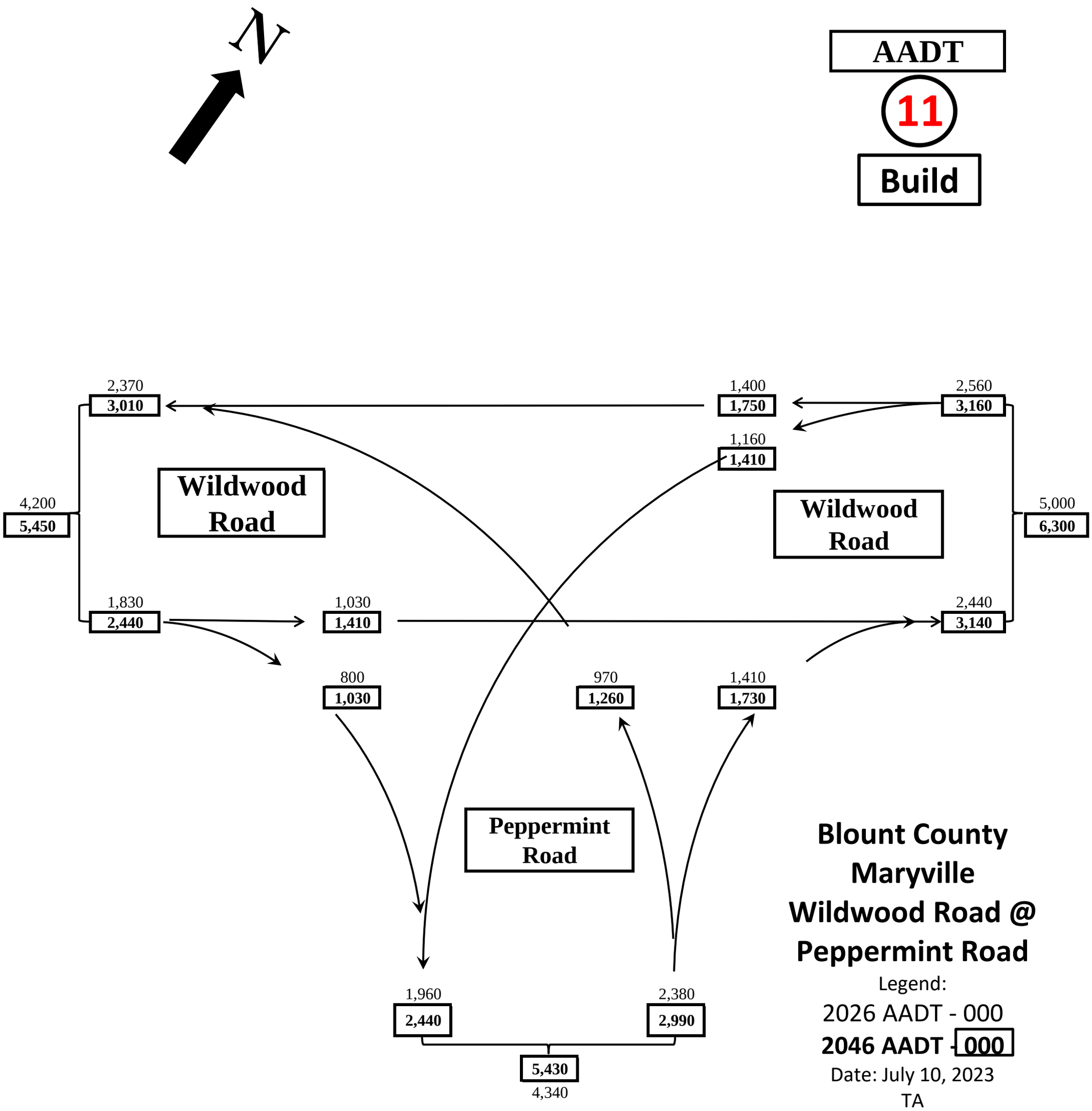
Legend:

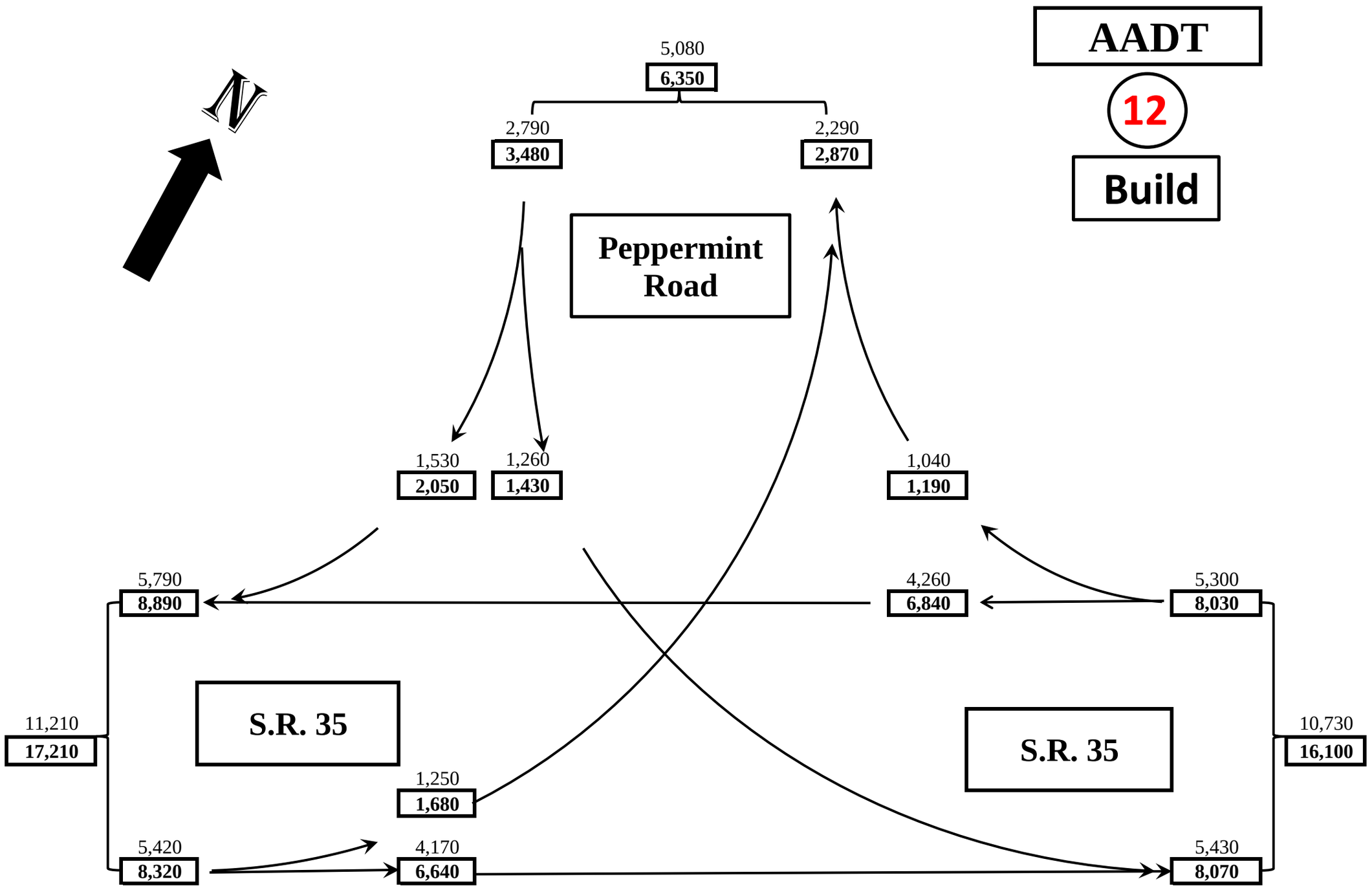
2026 AADT - 000

2046 AADT - 000

Date: July 21, 2023

TA


N
AADT
11
Build
2,370
3,010
1,400
1,750
2,560
3,160
1,160
1,410
Wildwood Road
Wildwood Road
4,200
5,450
5,000
6,300
1,830
2,440
1,030
1,410
2,440
3,140
800
1,030
970
1,260
1,410
1,730
Peppermint Road
Blount County
Maryville
Wildwood Road @
Peppermint Road
1,960
2,440
2,380
2,990
5,430
4,340
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 10, 2023
TA



Blount County

Maryville

S.R. 35 @ Peppermint Road

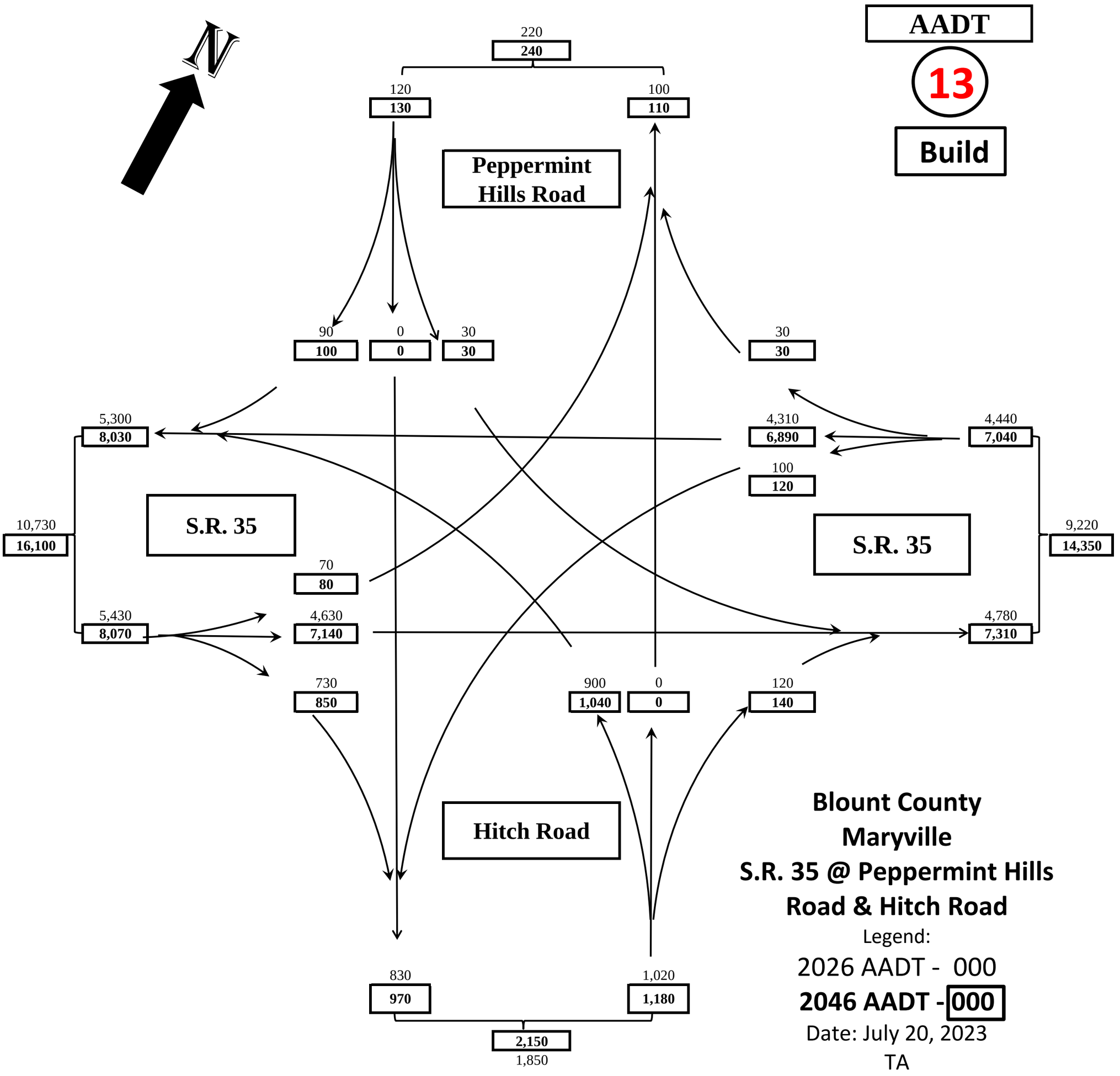
Legend:

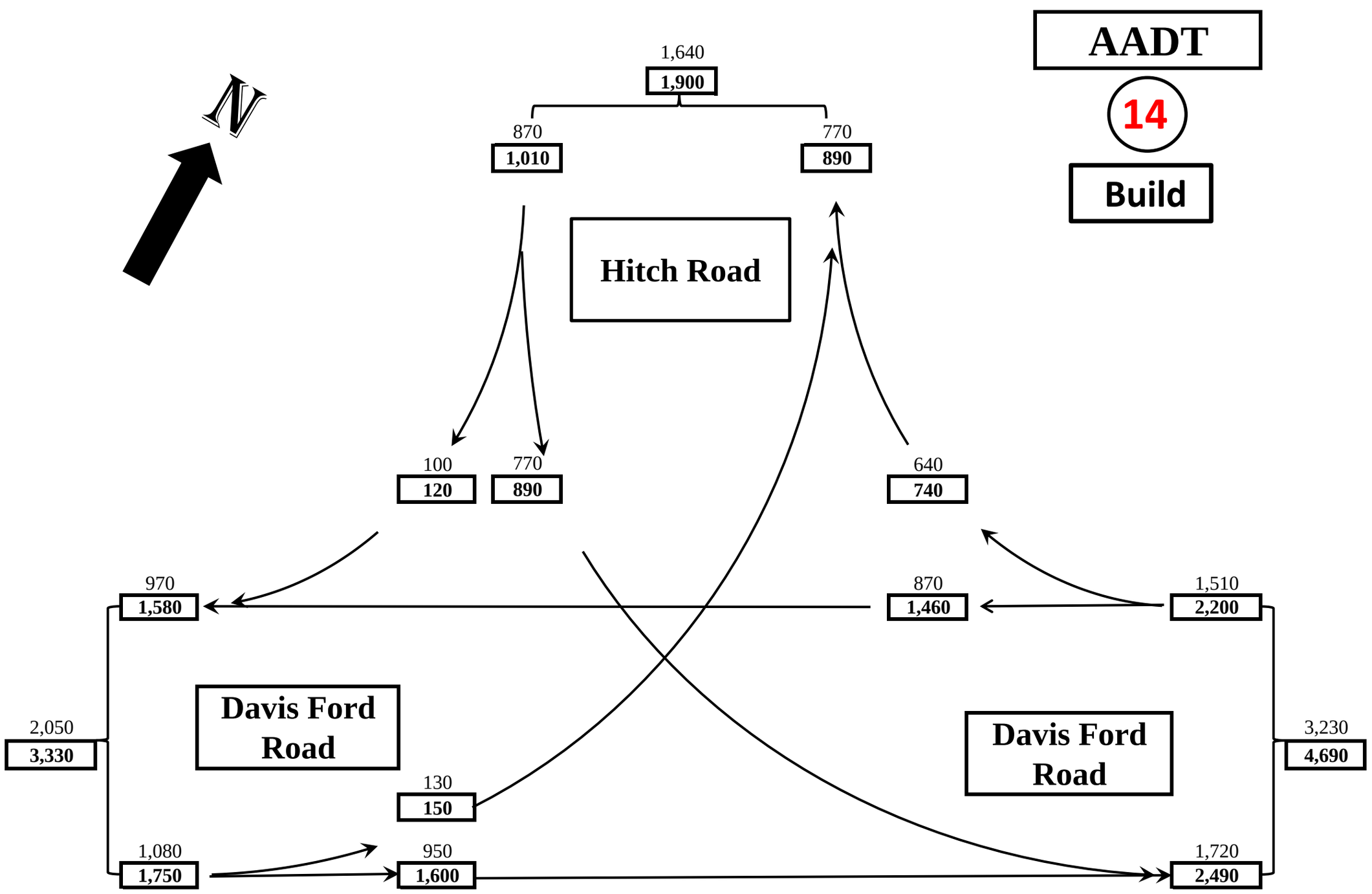
2026 AADT - 000

2046 AADT - 000

Date: July 20, 2023

TA


AADT
13
Build
N
220
240
120
130
100
110
Peppermint Hills Road
90
100
0
0
30
30
30
5,300
8,030
4,310
6,890
4,440
7,040
100
120
S.R. 35
S.R. 35
10,730
16,100
9,220
14,350
70
80
5,430
8,070
4,630
7,140
4,780
7,310
730
850
900
1,040
0
0
120
140
Hitch Road
830
970
1,020
1,180
2,150
1,850
Blount County
Maryville
S.R. 35 @ Peppermint Hills Road & Hitch Road
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 20, 2023
TA



Blount County

Maryville

Davis Ford Road @ Hitch Road

Legend:

2026 AADT - 000

2046 AADT - 000

Date: July 20, 2023

TA

N

AADT

15

Build

880

1,490

1,480

1,580

90

100

Davis Ford Road

Davis Ford Road

1,820

3,090

2,050

3,330

940

1,600

930

1,590

1,080

1,750

10

10

0

10

150

160

Helton Road

100

110

150

170

280

250

Blount County
Maryville
Davis Ford Road @ Helton Road

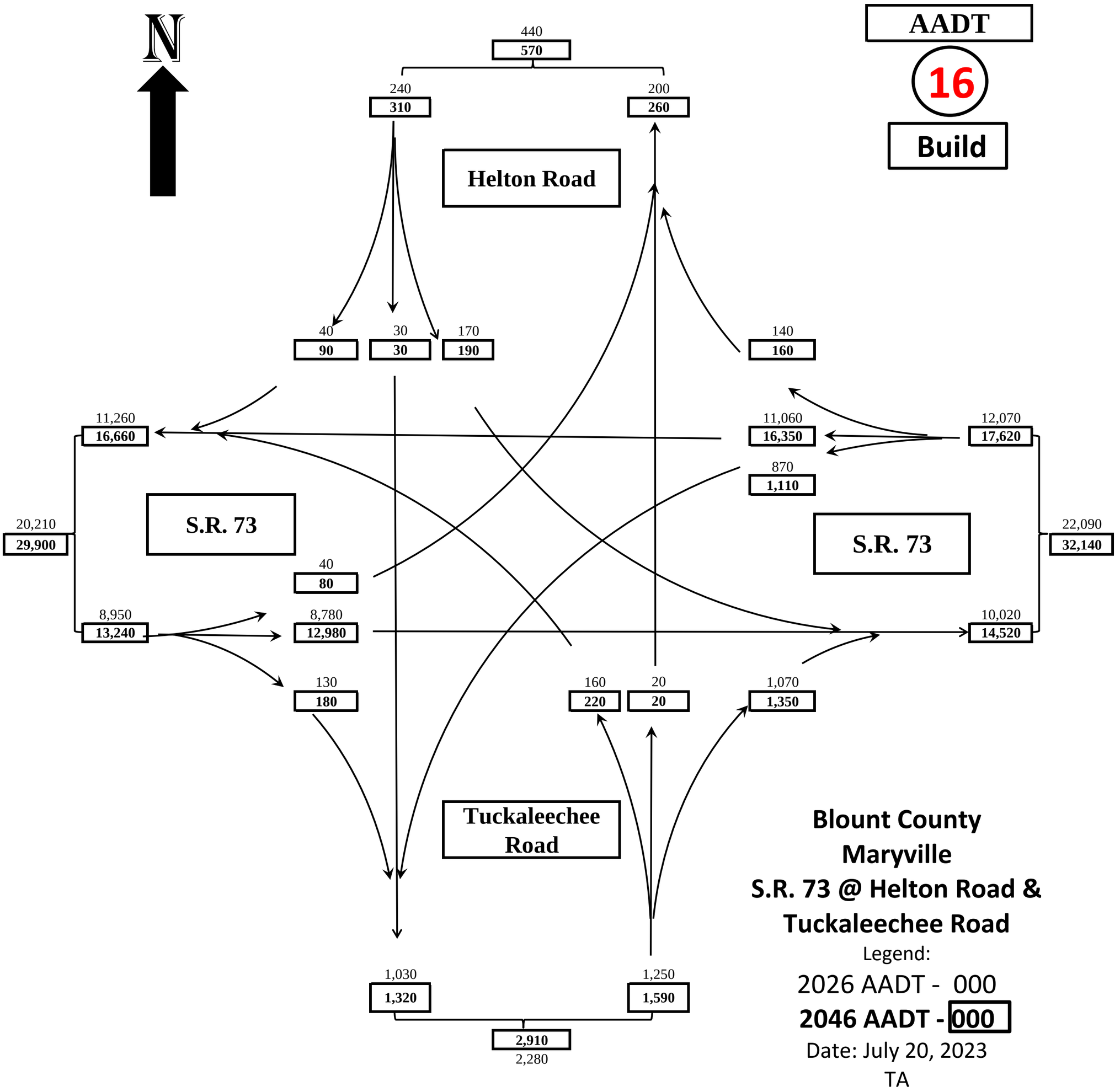
Legend:

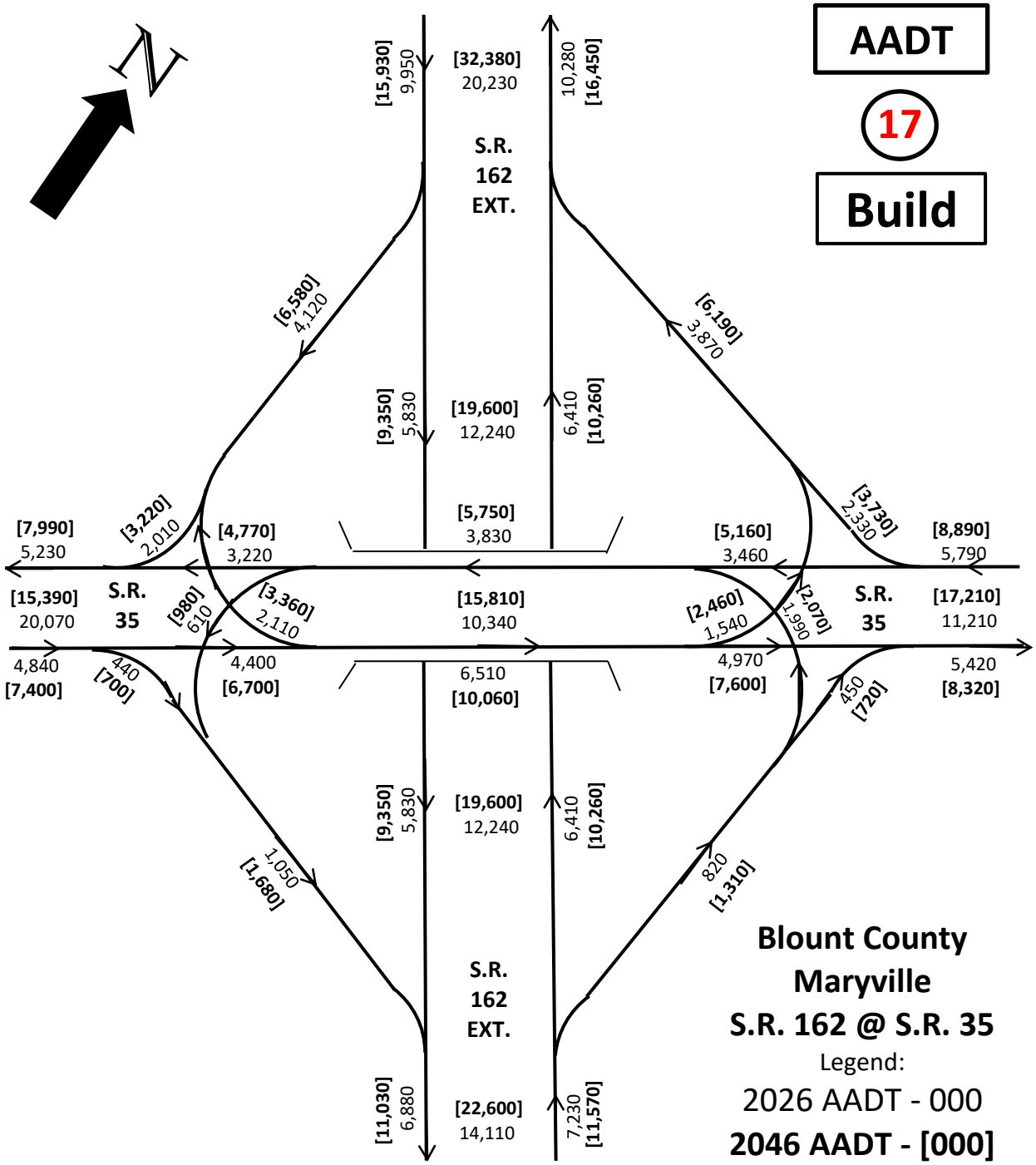
2026 AADT - 000

2046 AADT - 000

Date: July 20, 2023

TA


N
AADT
16
Build
440
570
240
310
200
260
Helton Road
40
90
30
30
170
190
140
160
11,260
16,660
11,060
16,350
12,070
17,620
870
1,110
20,210
29,900
S.R. 73
S.R. 73
22,090
32,140
40
80
8,950
13,240
8,780
12,980
10,020
14,520
130
180
160
220
20
20
1,070
1,350
Tuckaleechee Road
1,030
1,320
1,250
1,590
2,910
2,280
Blount County
Maryville
S.R. 73 @ Helton Road &
Tuckaleechee Road
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 20, 2023
TA



AADT

17

Build

Blount County
Maryville
S.R. 162 @ S.R. 35

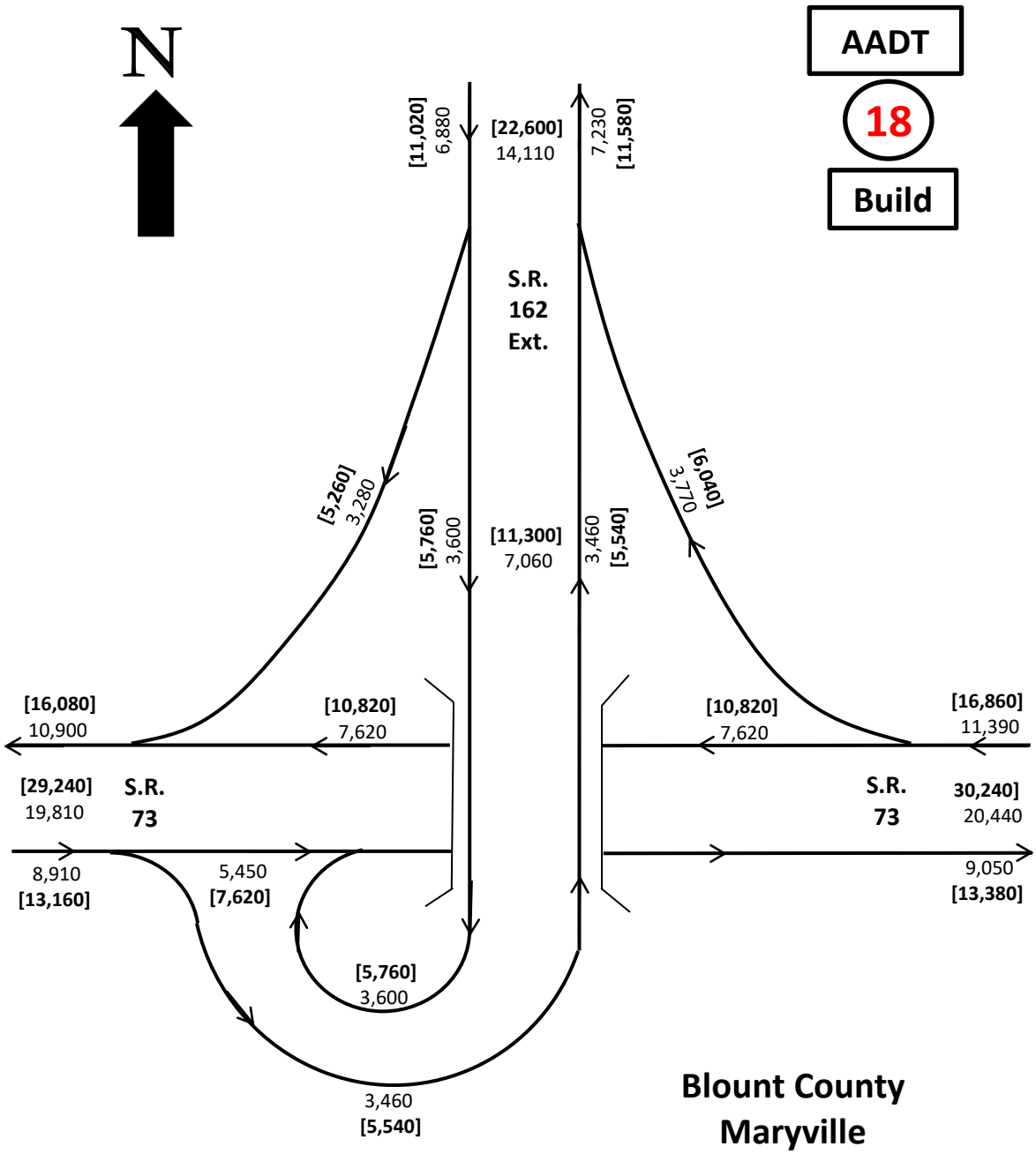
Legend:

2026 AADT - 000

2046 AADT - [000]

Date: June 1, 2023

TA



Blount County
Maryville
S.R. 162 @ S.R. 73

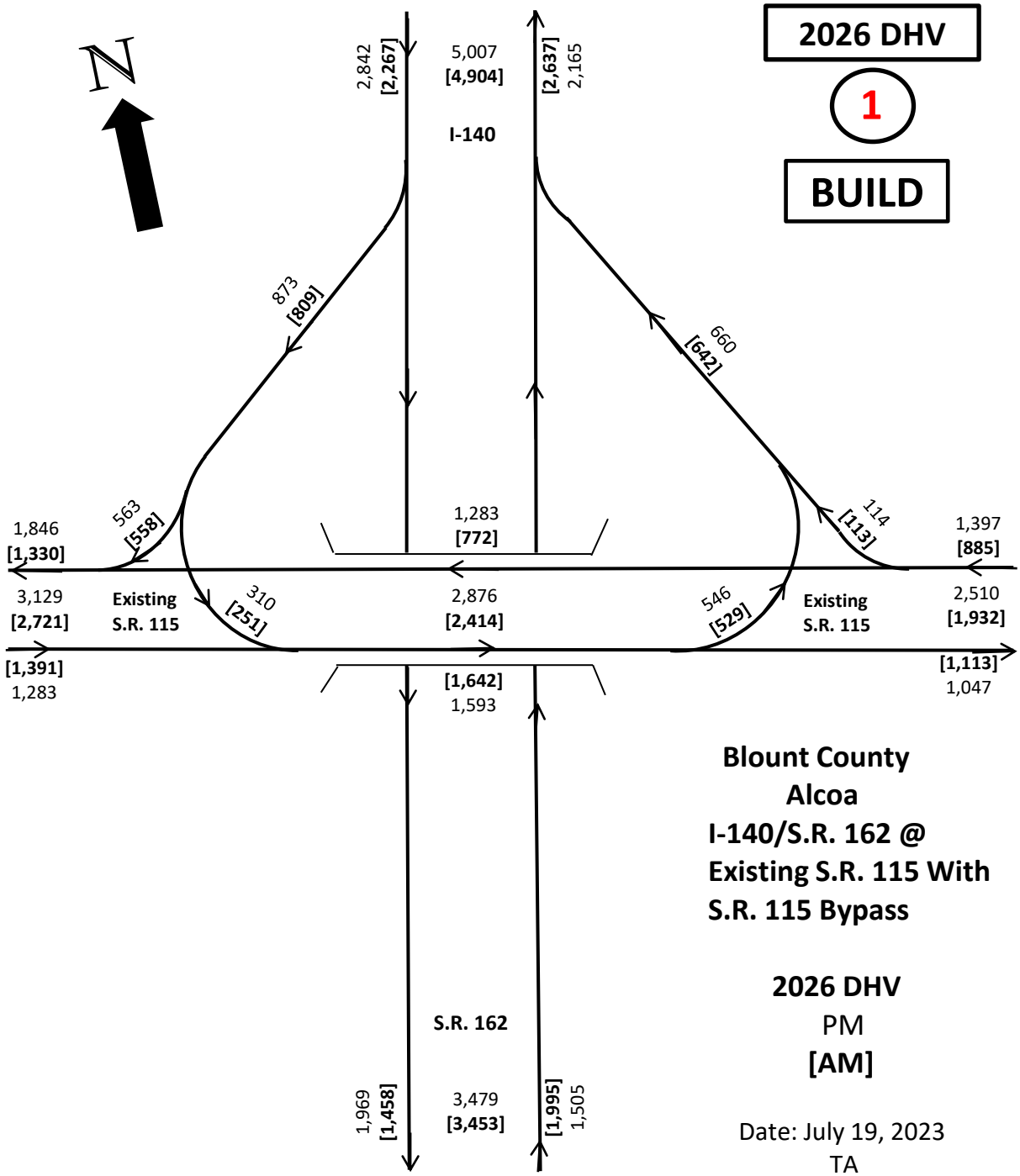
Legend:

2026 AADT - 000

2046 AADT - [000]

Date: June 1, 2023

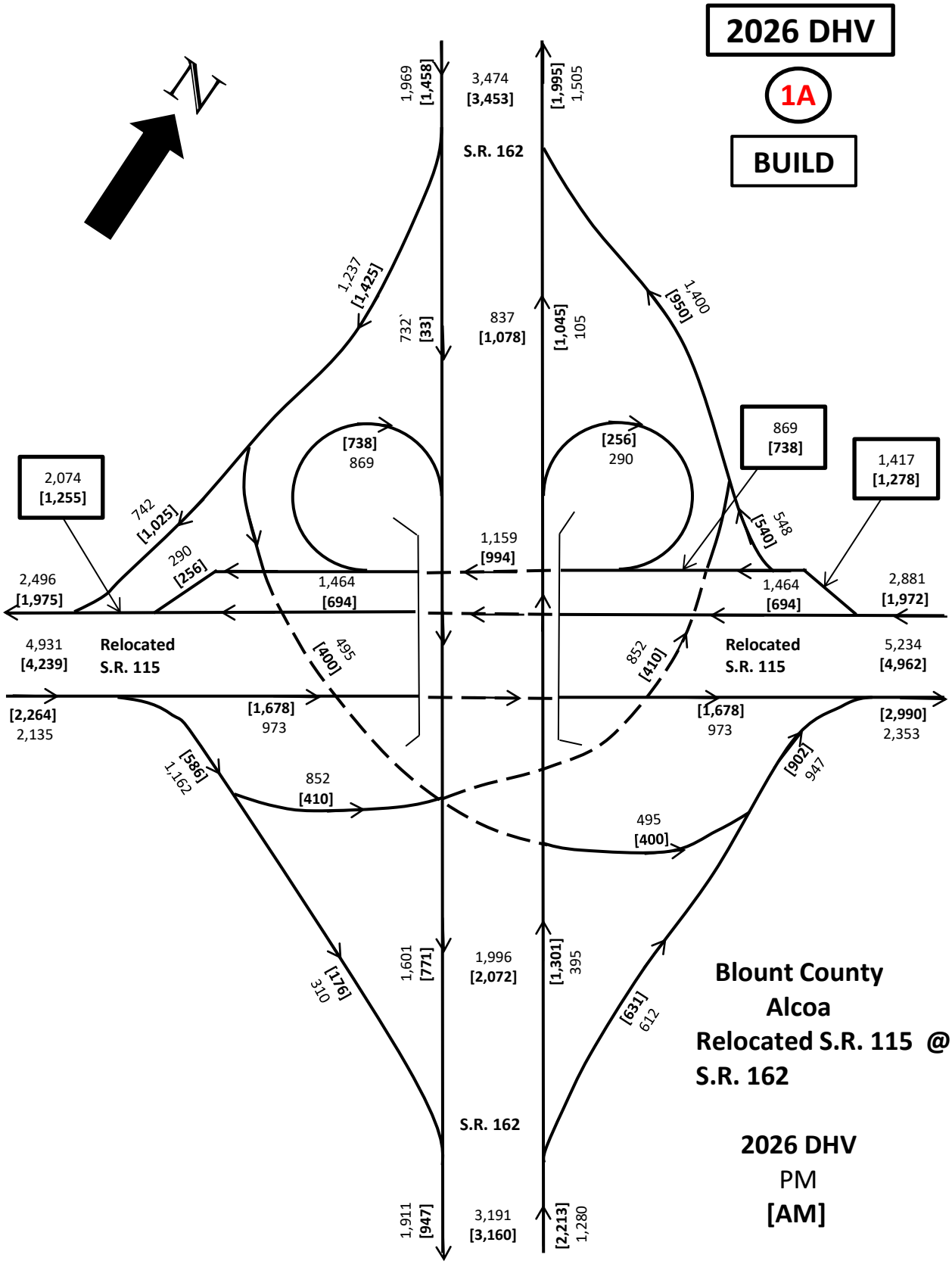
TA



Blount County
Alcoa
I-140/S.R. 162 @
Existing S.R. 115 With
S.R. 115 Bypass

2026 DHV
PM
[AM]

Date: July 19, 2023
TA



Blount County
Alcoa
Relocated S.R. 115 @ S.R. 162

2026 DHV
PM
[AM]

Date: July 19, 2023
TA

N

2026 DHV

2

Build

7,201
6,515

4,004
2,543

3,197
3,972

S.R. 115

2,669
1,538

1,335
1,005

1,086
1,043

1,086
1,043

S.R. 35

2,539
2,201

1,453
1,158

2,111
2,929

118
153

S.R. 115

Blount County
Maryville
S.R. 35 @ S.R. 115

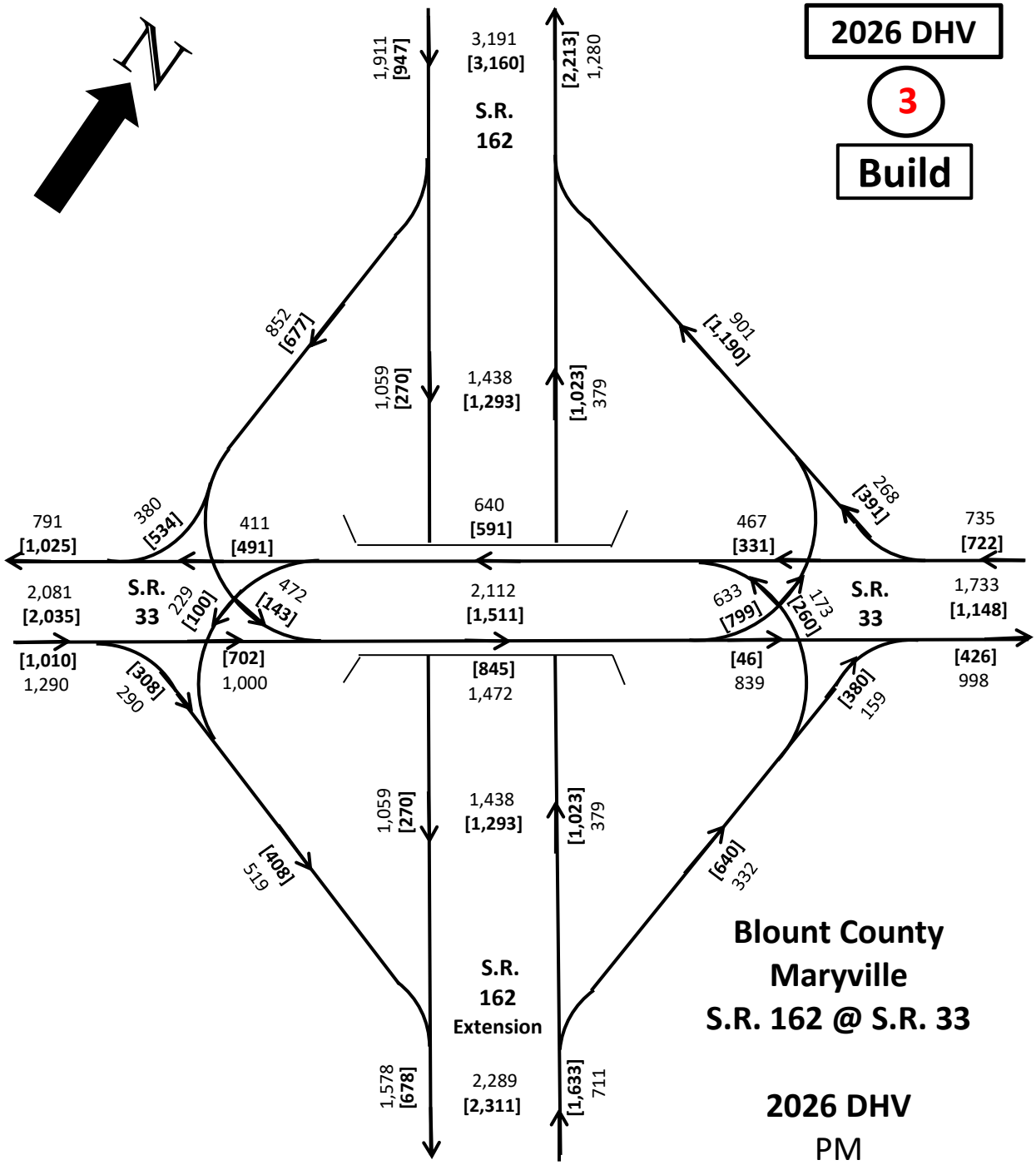
2,669
1,538

2,229
3,082

4,620
4,898

2026 DHV
PM
AM

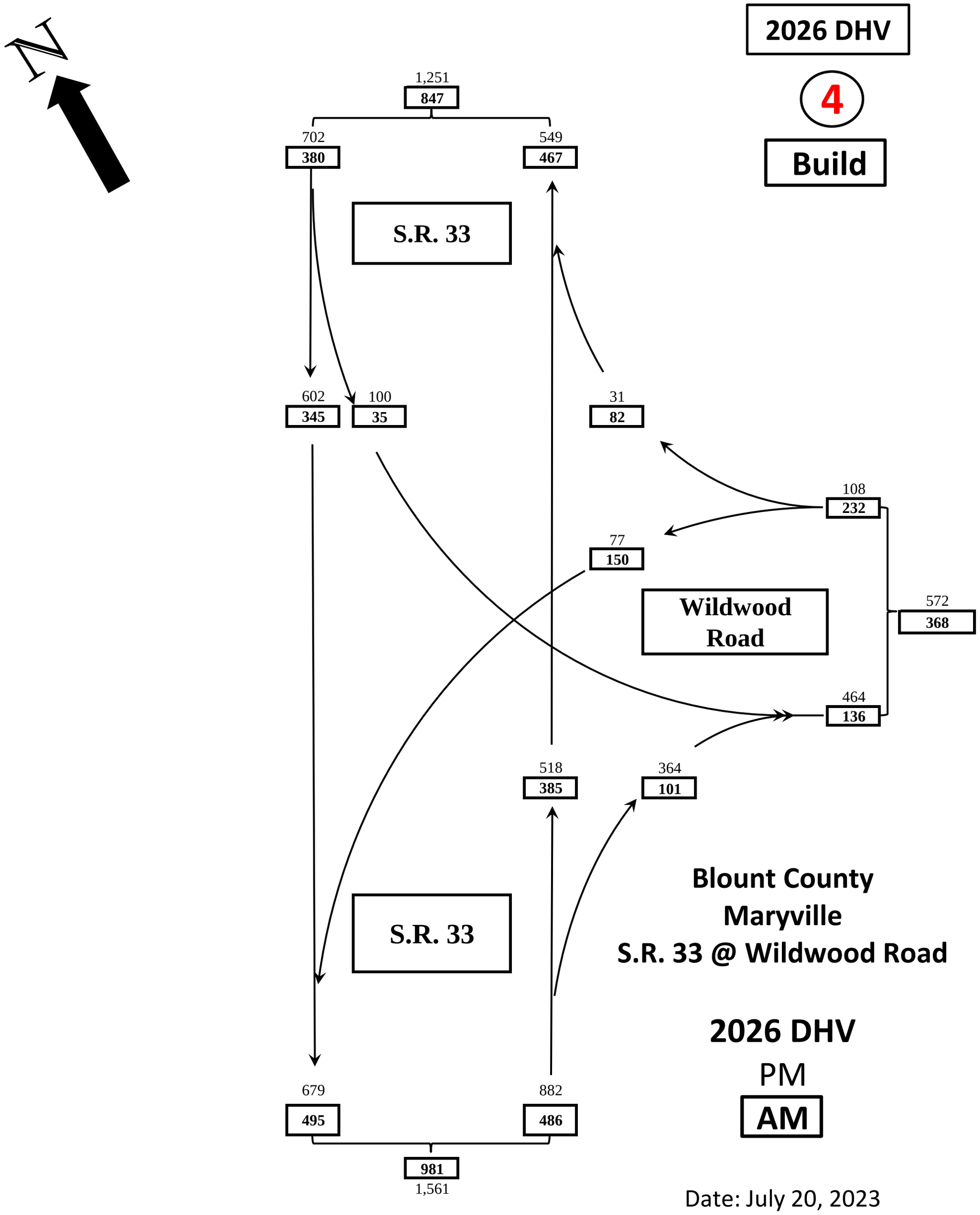
Date: July 20, 2023
TA



Blount County
Maryville
S.R. 162 @ S.R. 33

2026 DHV
PM
[AM]

Date: July 20, 2022
TA



2026 DHV

4

Build

Blount County
Maryville
S.R. 33 @ Wildwood Road

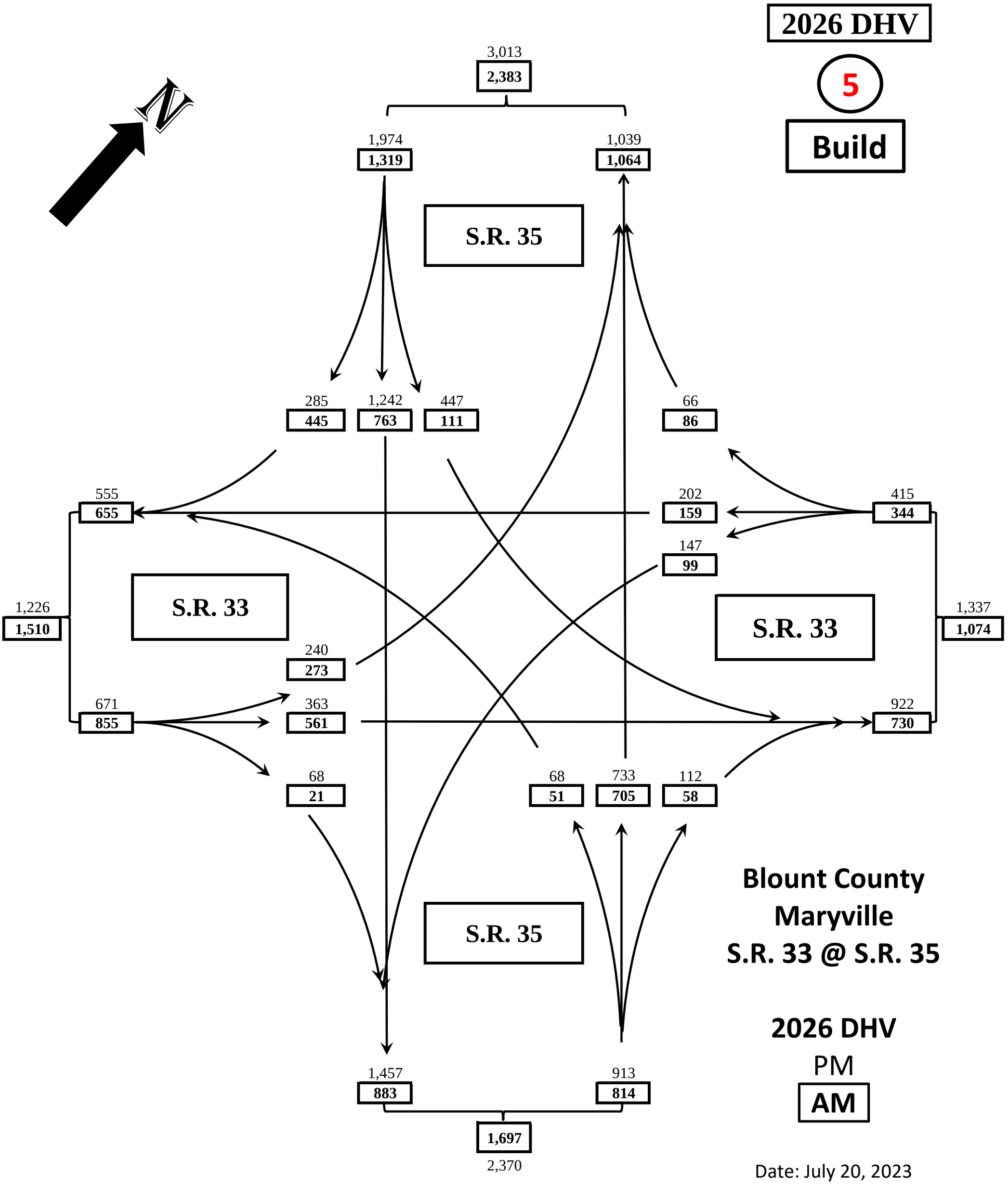
2026 DHV

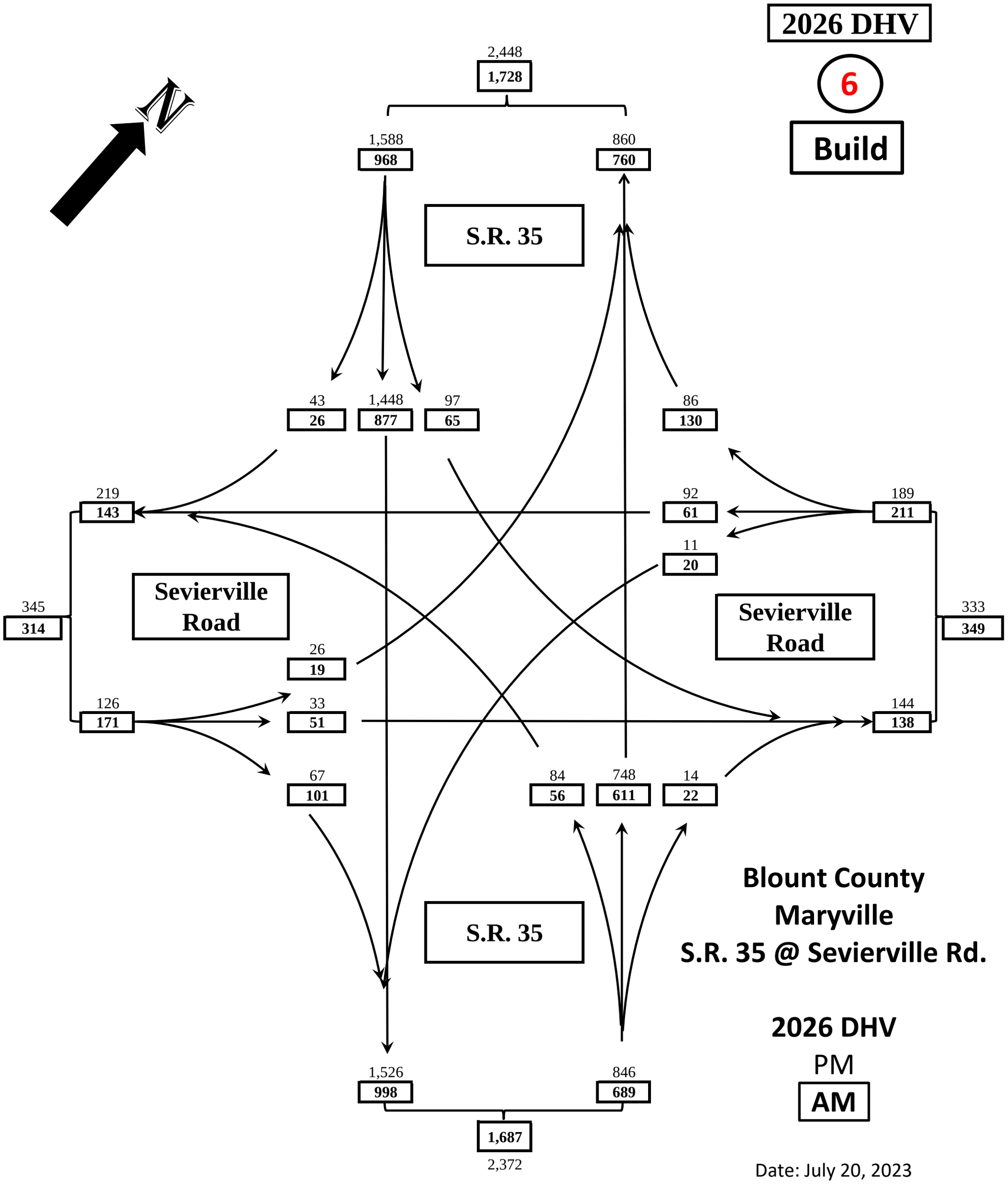
PM

AM

Date: July 20, 2023

TA

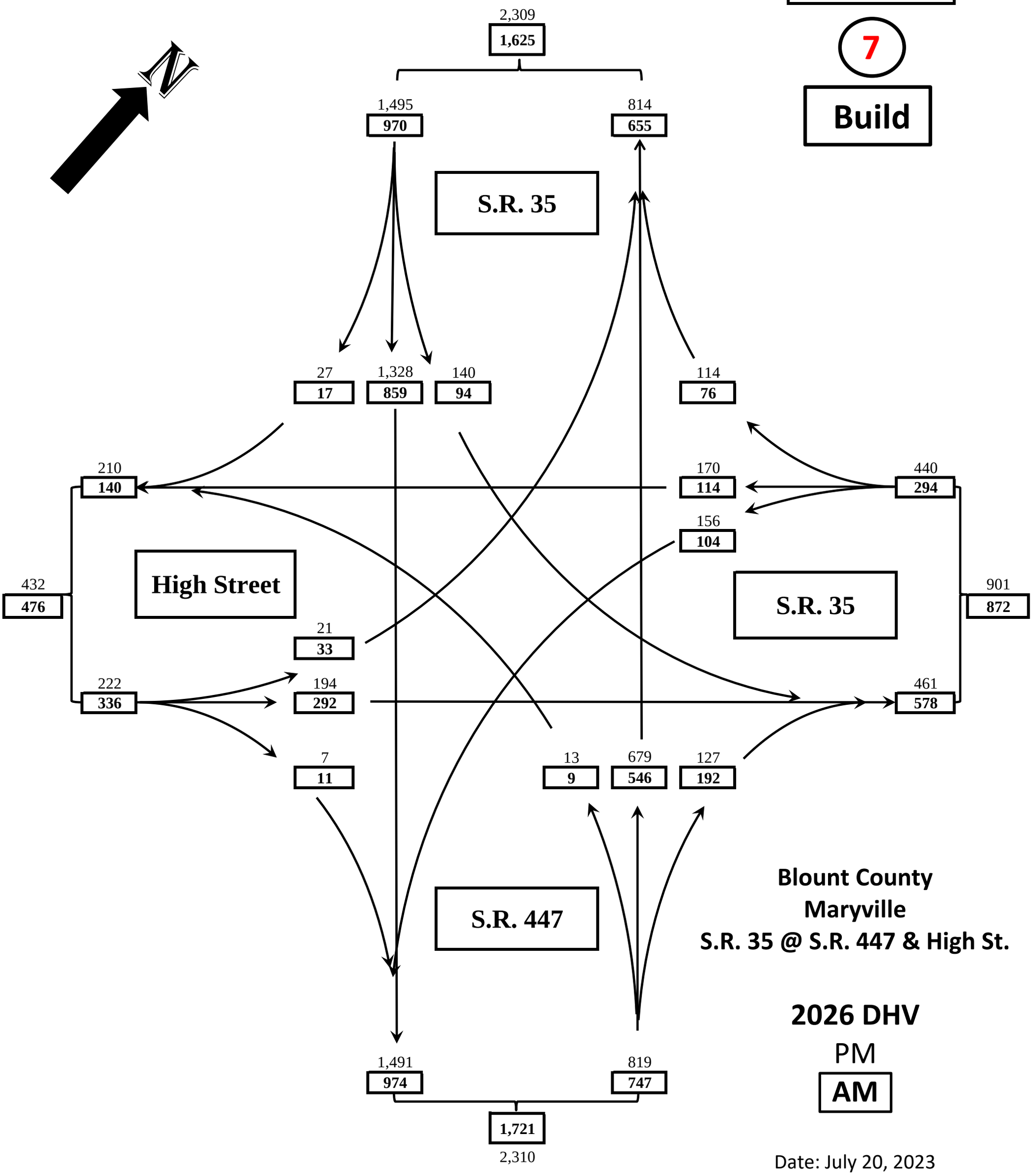

2026 DHV
5
Build
N
3,013
2,383
1,974
1,319
1,039
1,064
S.R. 35
285
445
1,242
763
447
111
66
86
555
655
202
159
415
344
147
99
S.R. 33
1,226
1,510
S.R. 33
1,337
1,074
240
273
671
855
363
561
922
730
68
21
68
51
733
705
112
58
S.R. 35
Blount County
Maryville
S.R. 33 @ S.R. 35
1,457
883
913
814
1,697
2,370
2026 DHV
PM
AM
Date: July 20, 2023
TA


2026 DHV
6
Build
N
2,448
1,728
1,588
968
860
760
S.R. 35
43
26
1,448
877
97
65
86
130
219
143
92
61
189
211
11
20
Sevierville Road
Sevierville Road
345
314
333
349
26
19
126
171
33
51
144
138
67
101
84
56
748
611
14
22
S.R. 35
Blount County
Maryville
S.R. 35 @ Sevierville Rd.
1,526
998
846
689
1,687
2,372
2026 DHV
PM
AM
Date: July 20, 2023
TA

2026 DHV

7

Build



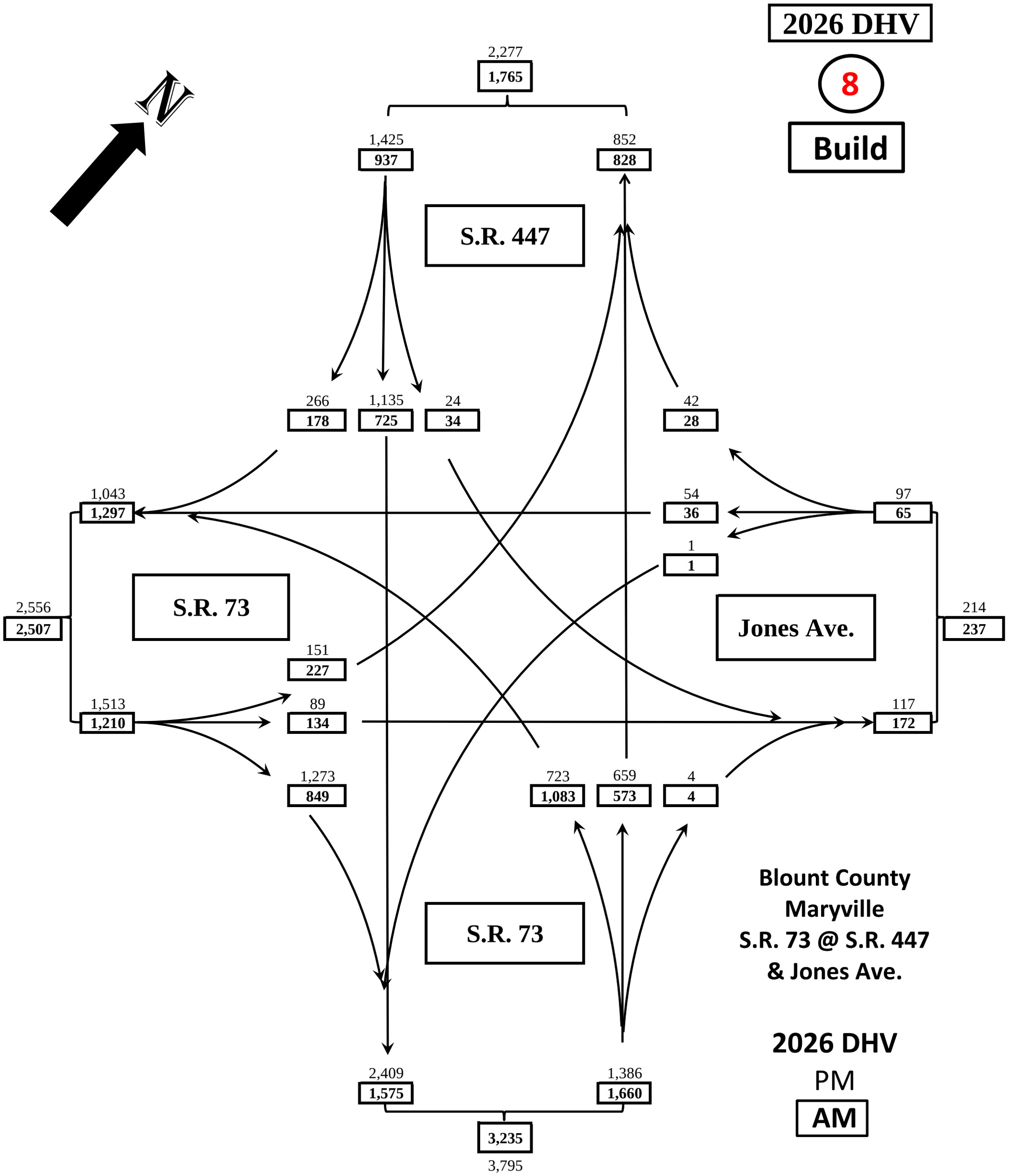
Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.

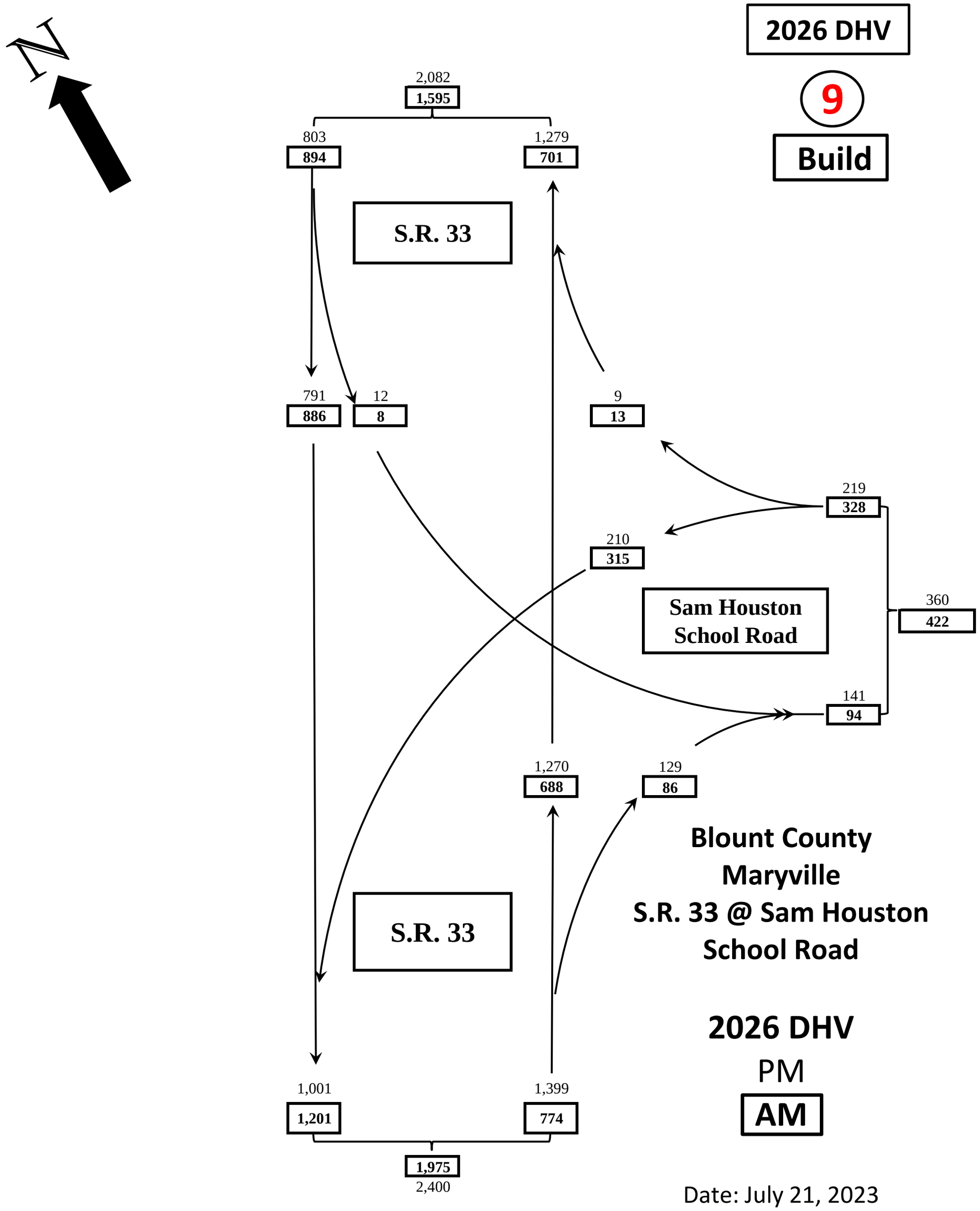
2026 DHV

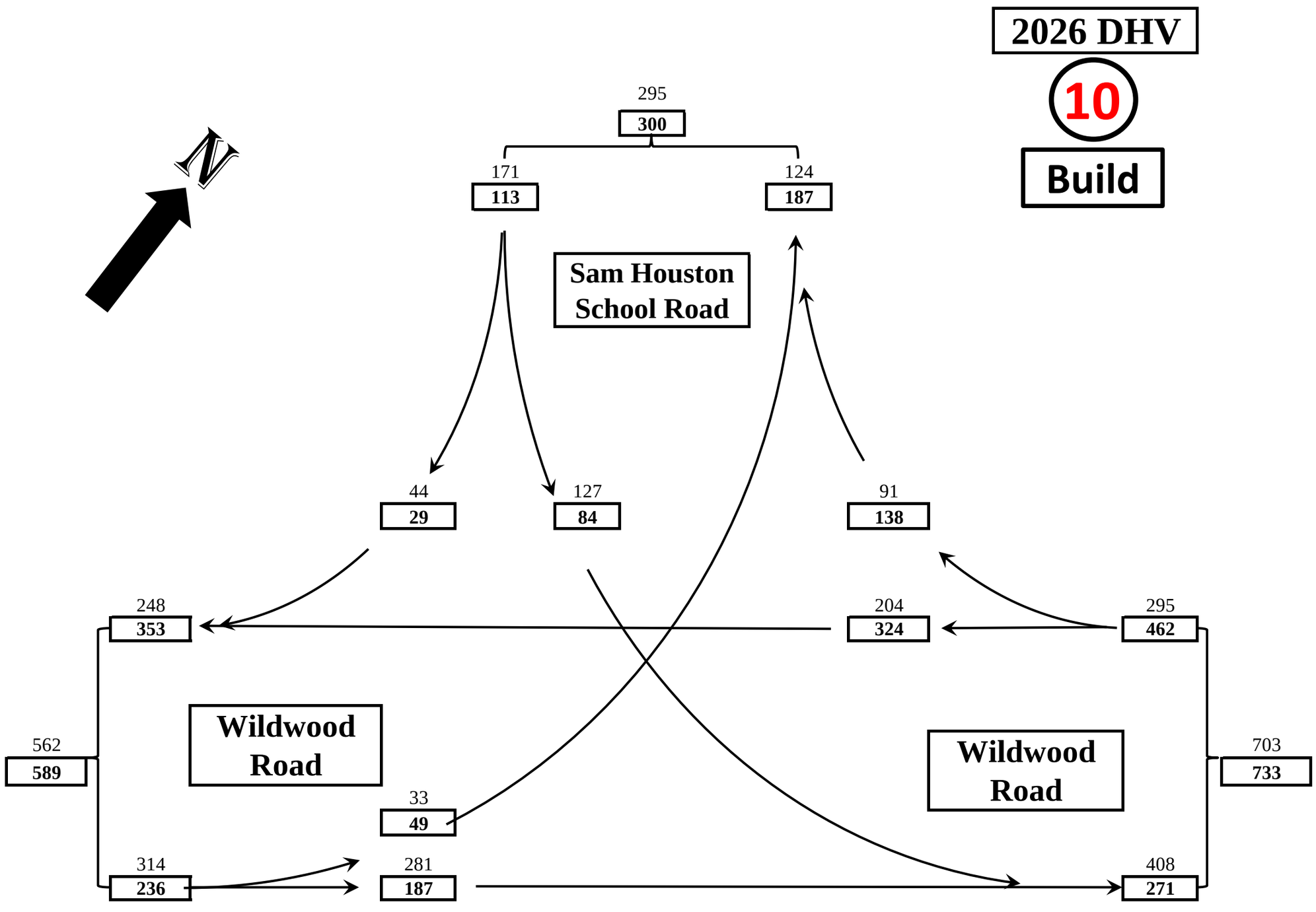
PM

AM

Date: July 20, 2023
TA


2026 DHV
8
Build
N
2,277
1,765
1,425
937
852
828
S.R. 447
266
178
1,135
725
24
34
42
28
1,043
1,297
54
36
97
65
1
1
S.R. 73
Jones Ave.
2,556
2,507
214
237
151
227
1,513
1,210
89
134
117
172
1,273
849
723
1,083
659
573
4
4
S.R. 73
Blount County
Maryville
S.R. 73 @ S.R. 447
& Jones Ave.
2026 DHV
PM
AM
2,409
1,575
1,386
1,660
3,235
3,795
Date: July 21, 2023
TA


N
2026 DHV
9
Build
2,082
1,595
803
894
1,279
701
S.R. 33
791
886
12
8
9
13
219
328
210
315
Sam Houston
School Road
360
422
141
94
1,270
688
129
86
S.R. 33
Blount County
Maryville
S.R. 33 @ Sam Houston
School Road
2026 DHV
PM
AM
1,001
1,201
1,399
774
1,975
2,400
Date: July 21, 2023
TA



2026 DHV

10

Build

Blount County
Maryville
Wildwood Road @
Sam Houston School Rd.

2026 DHV

PM

AM

Date: July 21, 2023

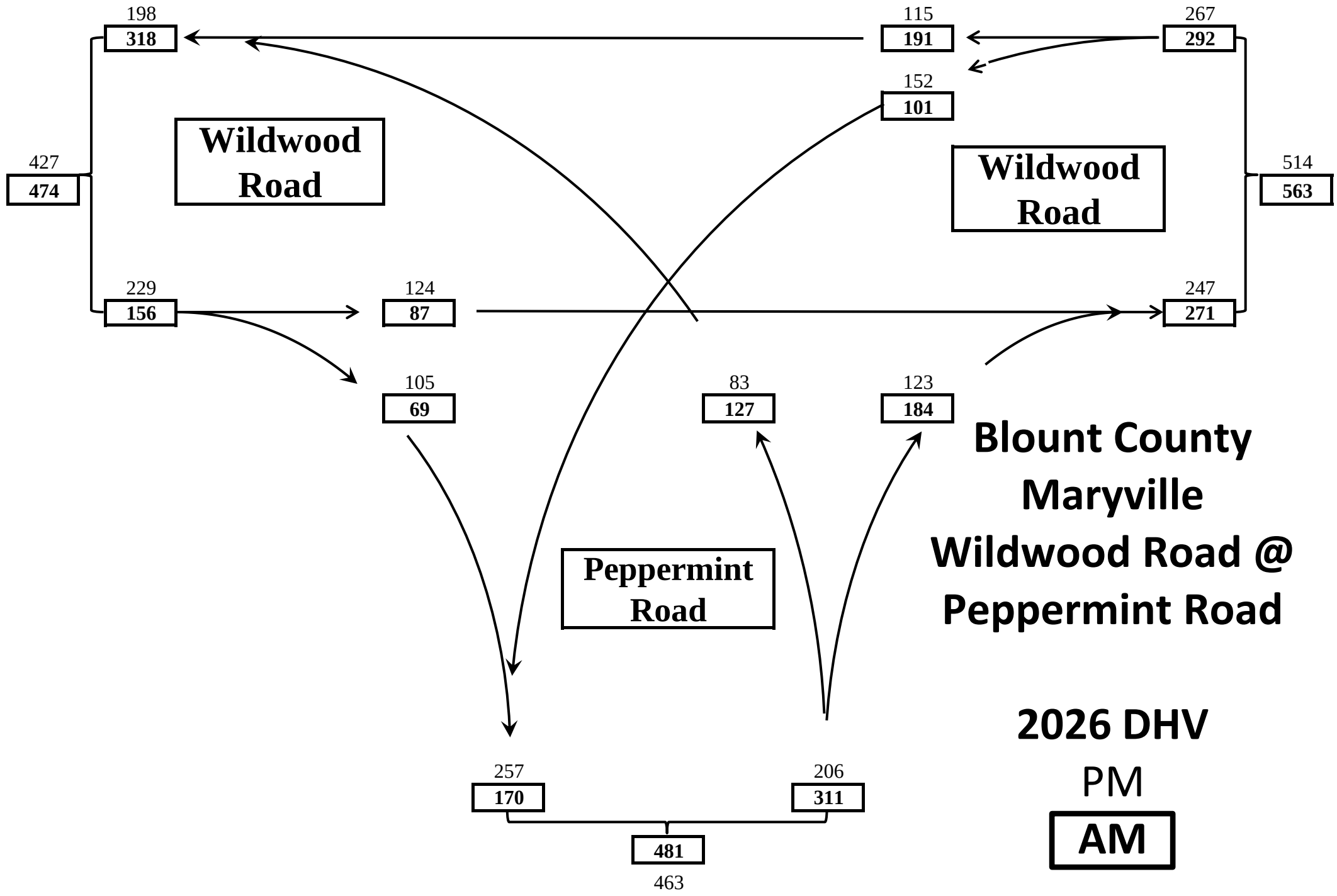
TA

N

2026 DHV

11

Build



Blount County
Maryville
Wildwood Road @
Peppermint Road

2026 DHV

PM

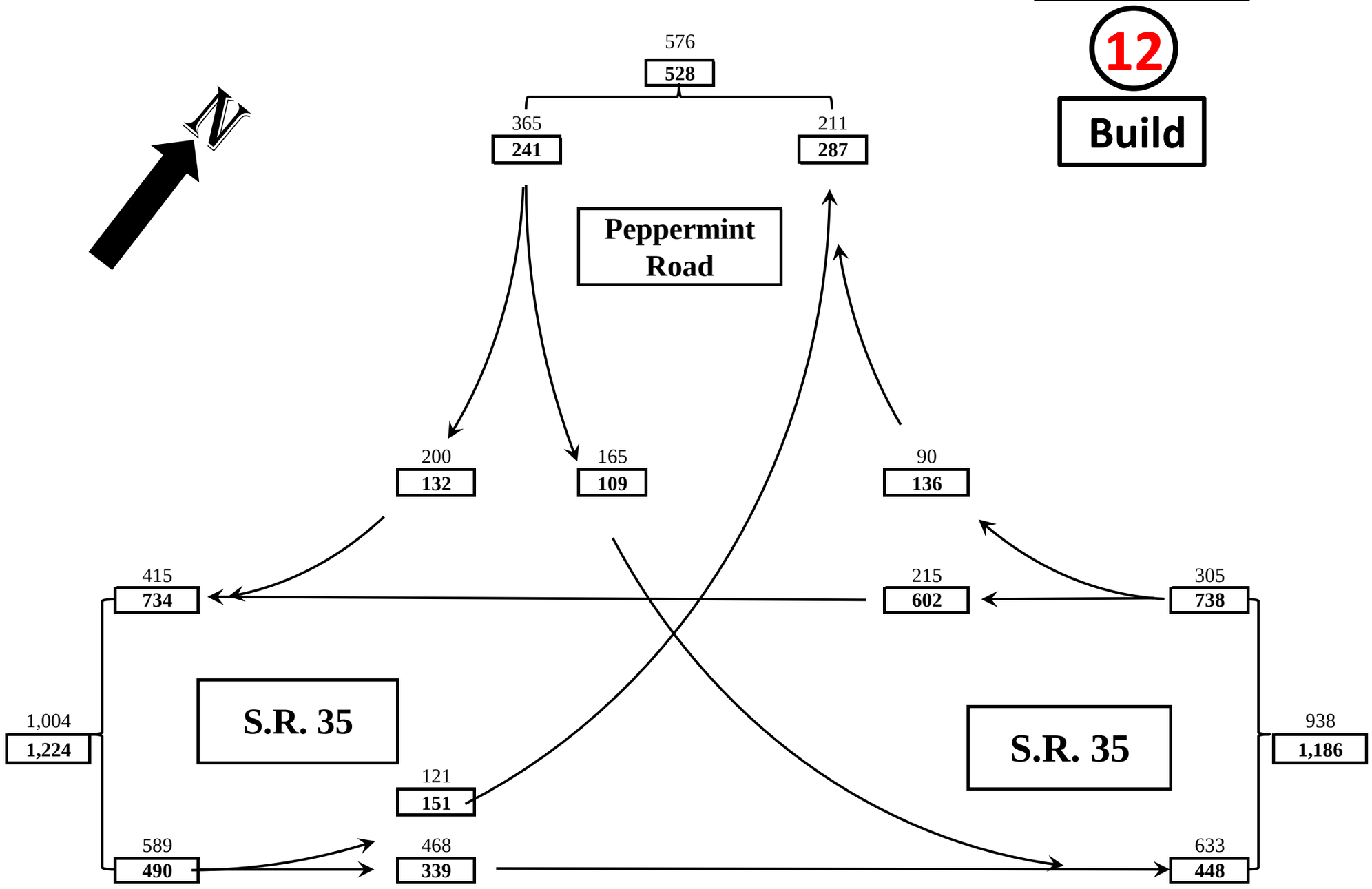
AM

Date: July 20, 2023
TA

2026 DHV

12

Build



Blount County

Maryville

S.R. 35 @ Peppermint Rd.

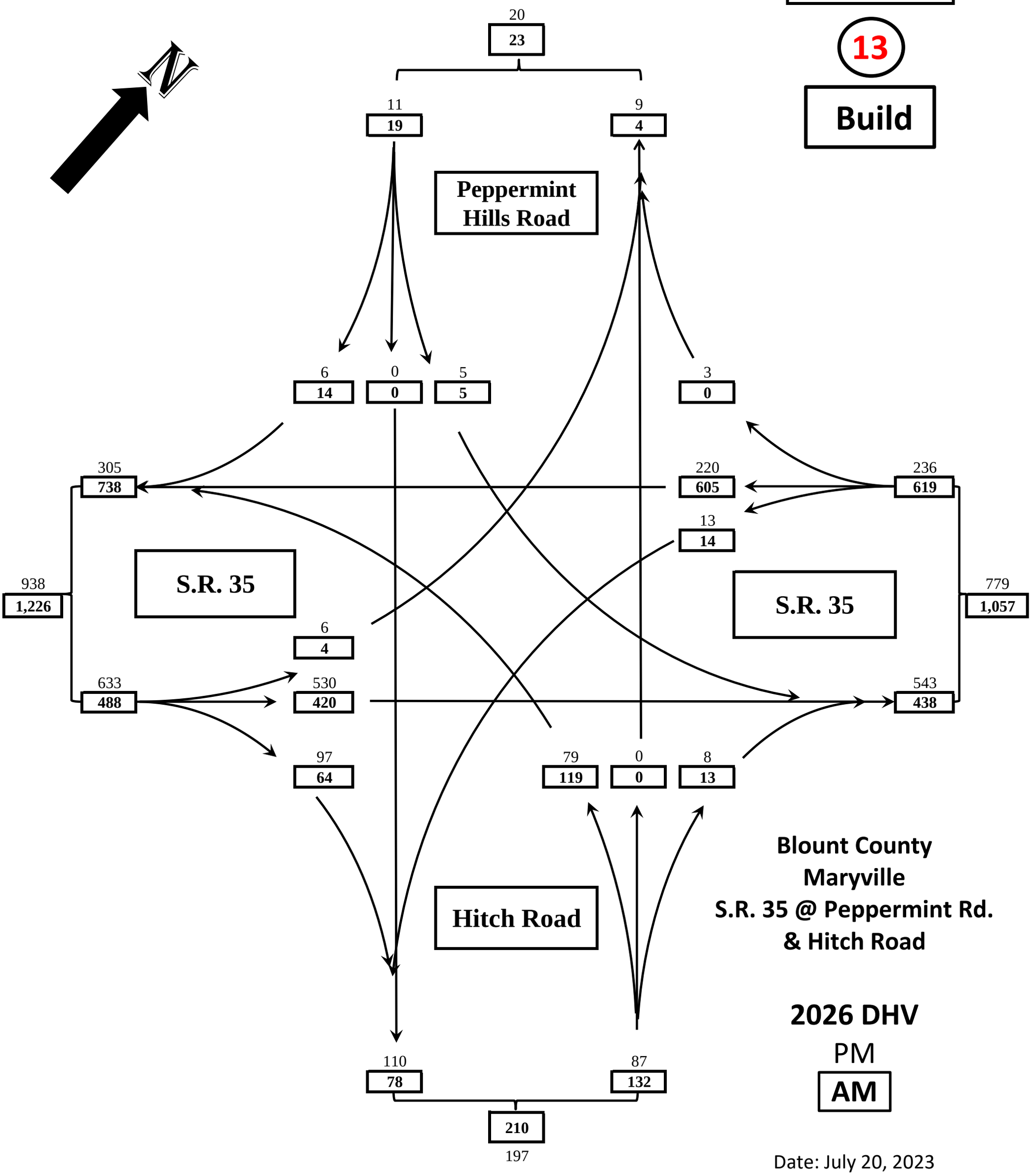
2026 DHV

PM

AM

Date: July 20, 2023

TA



2026 DHV

13

Build

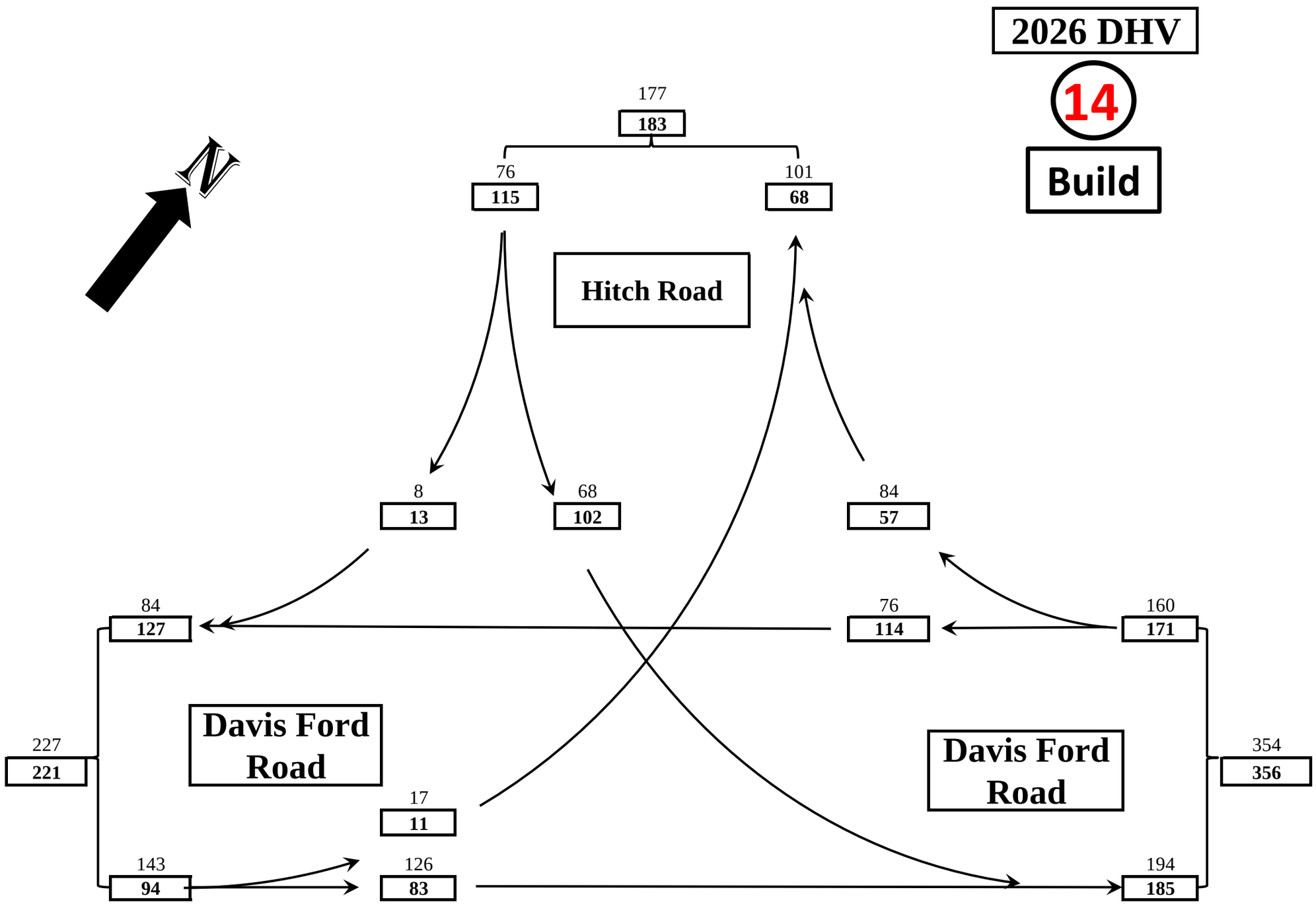
Blount County
Maryville
S.R. 35 @ Peppermint Rd.
& Hitch Road

2026 DHV

PM

AM

Date: July 20, 2023
TA



2026 DHV

14

Build

Blount County
Maryville
Davis Ford Rd. @ Hitch Rd.

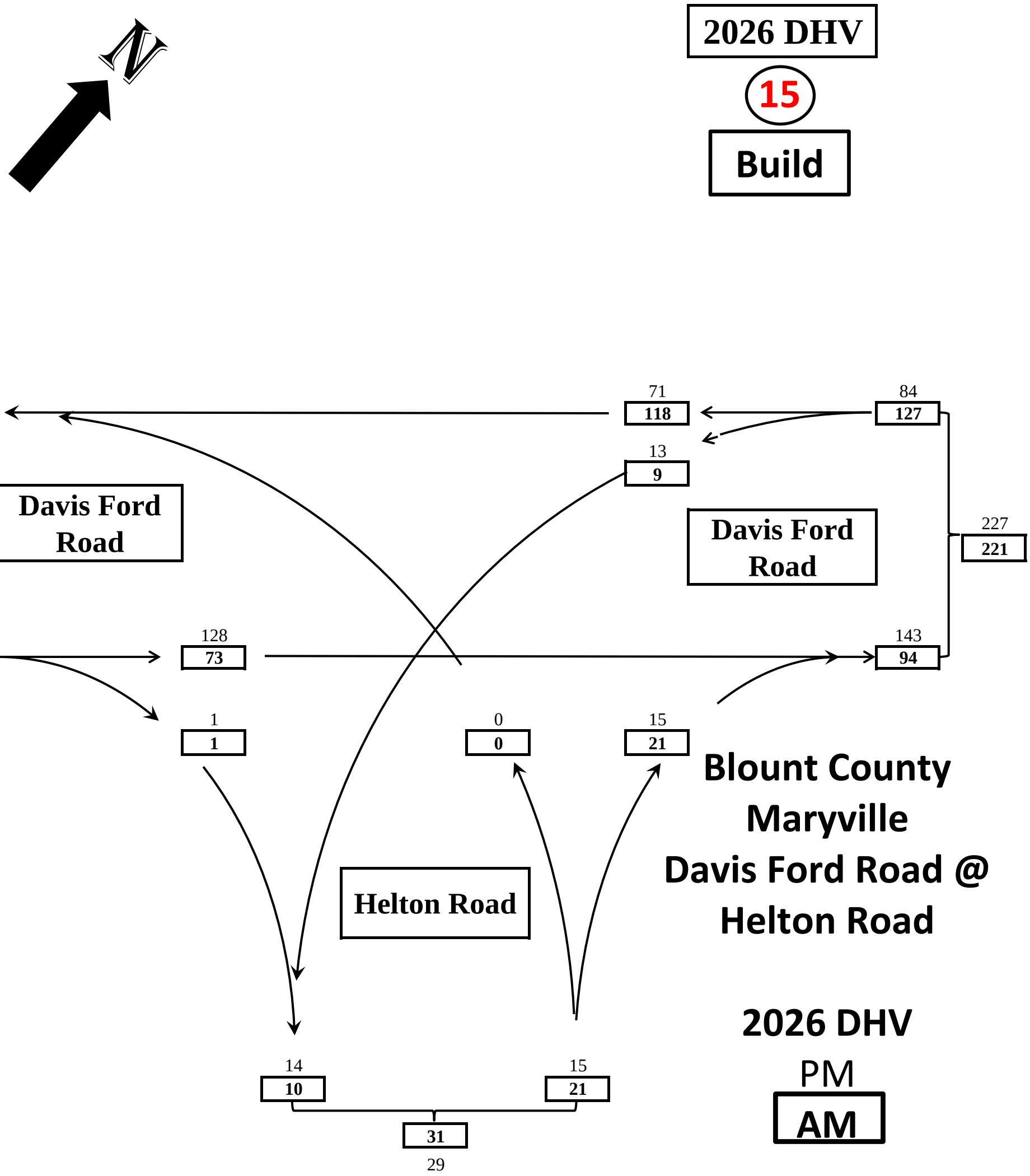
2026 DHV

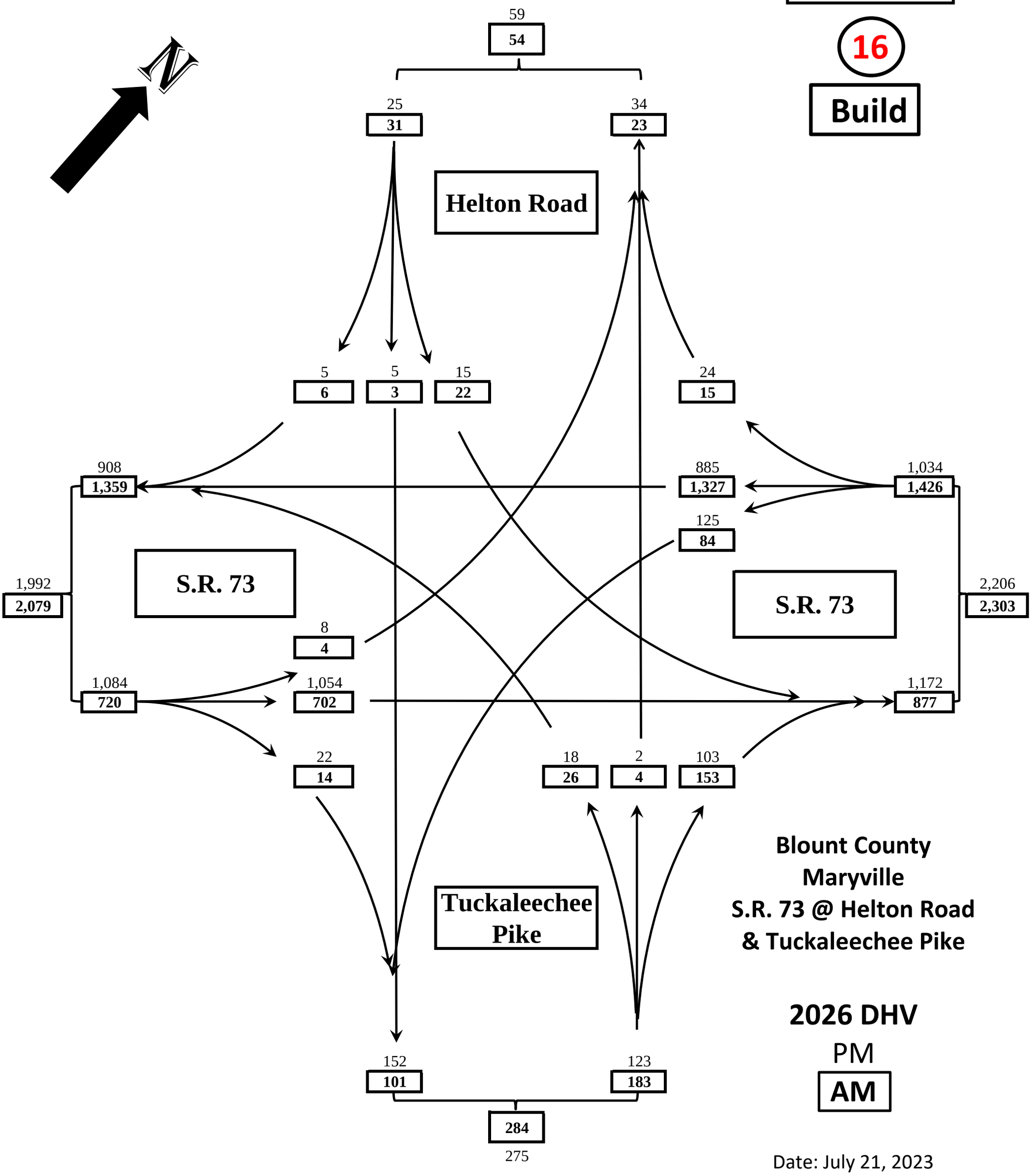
PM

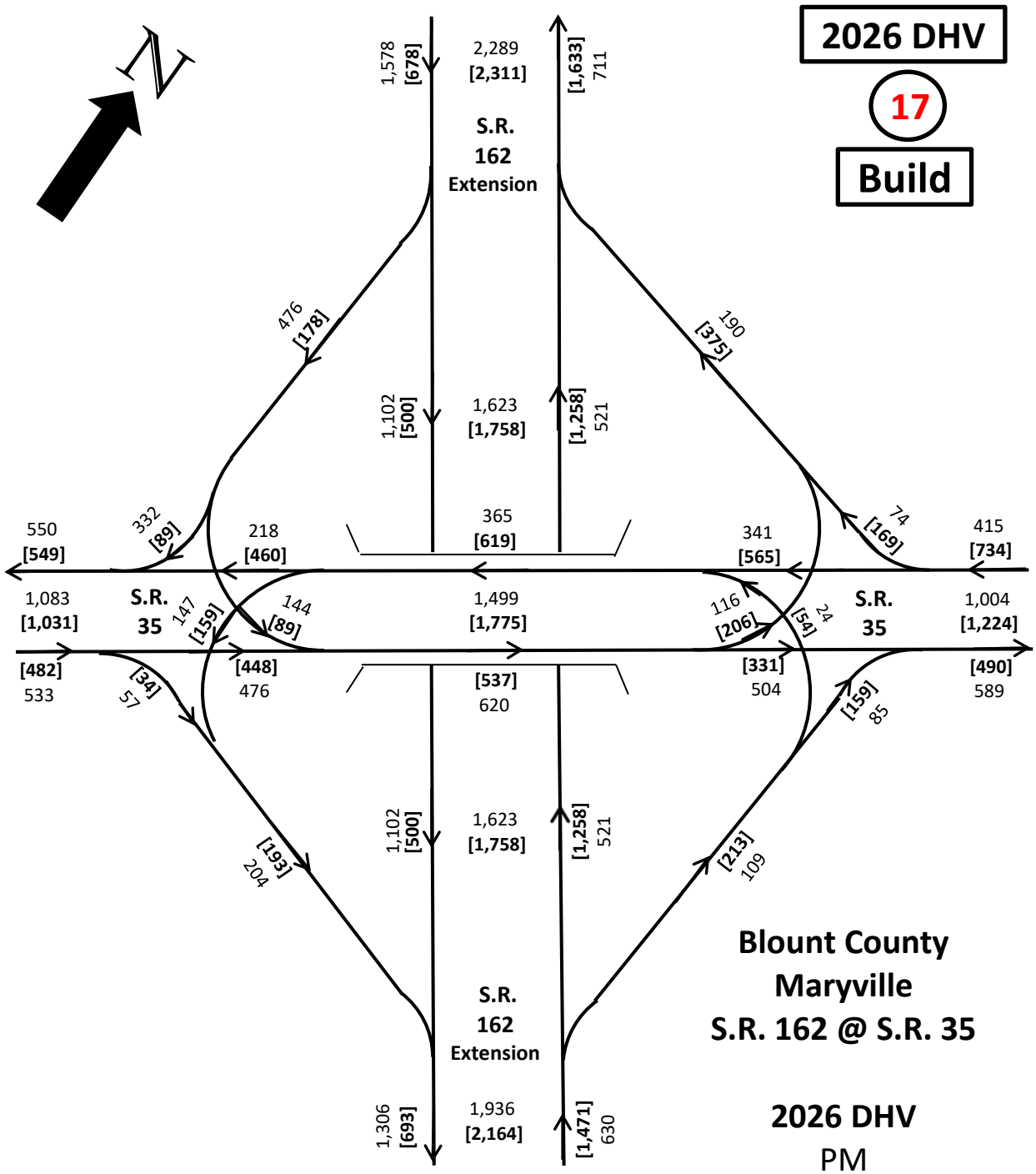
AM

Date: July 20, 2023

TA


N
2026 DHV
15
Build
71
118
71
118
84
127
13
9
200
192
Davis Ford Road
Davis Ford Road
227
221
129
74
128
73
143
94
1
1
0
0
15
21
Helton Road
Blount County
Maryville
Davis Ford Road @ Helton Road
2026 DHV
14
10
15
21
31
29
PM
AM
Date: July 21, 2023
TA

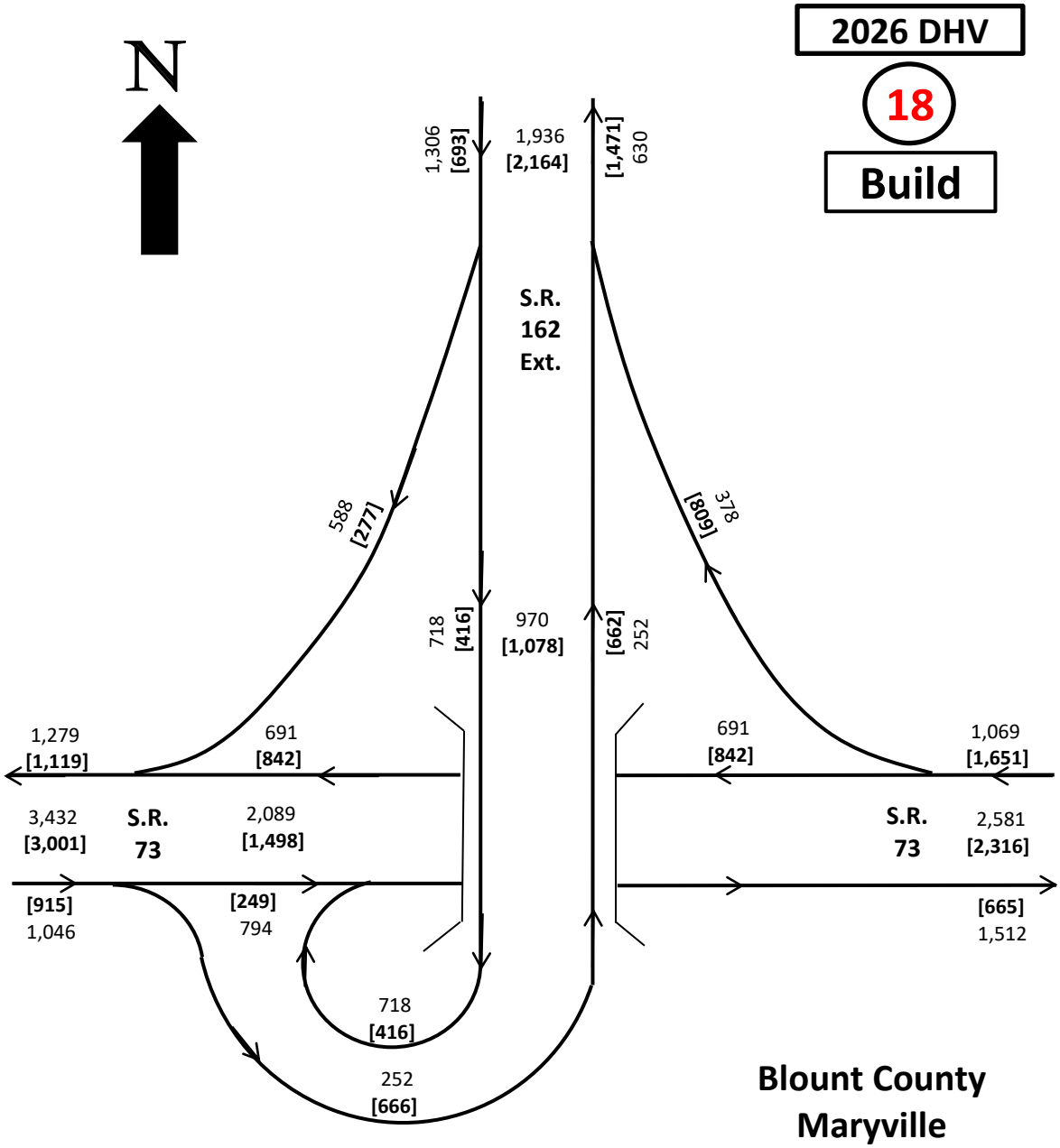

2026 DHV
16
Build
N
59
54
25
31
34
23
Helton Road
5
6
5
3
15
22
24
15
908
1,359
885
1,327
1,034
1,426
125
84
S.R. 73
S.R. 73
1,992
2,079
2,206
2,303
8
4
1,084
720
1,054
702
1,172
877
22
14
18
26
2
4
103
153
Tuckaleechee Pike
Blount County
Maryville
S.R. 73 @ Helton Road
& Tuckaleechee Pike
2026 DHV
PM
AM
152
101
123
183
284
275
Date: July 21, 2023
TA



Blount County
Maryville
S.R. 162 @ S.R. 35

2026 DHV
PM
[AM]

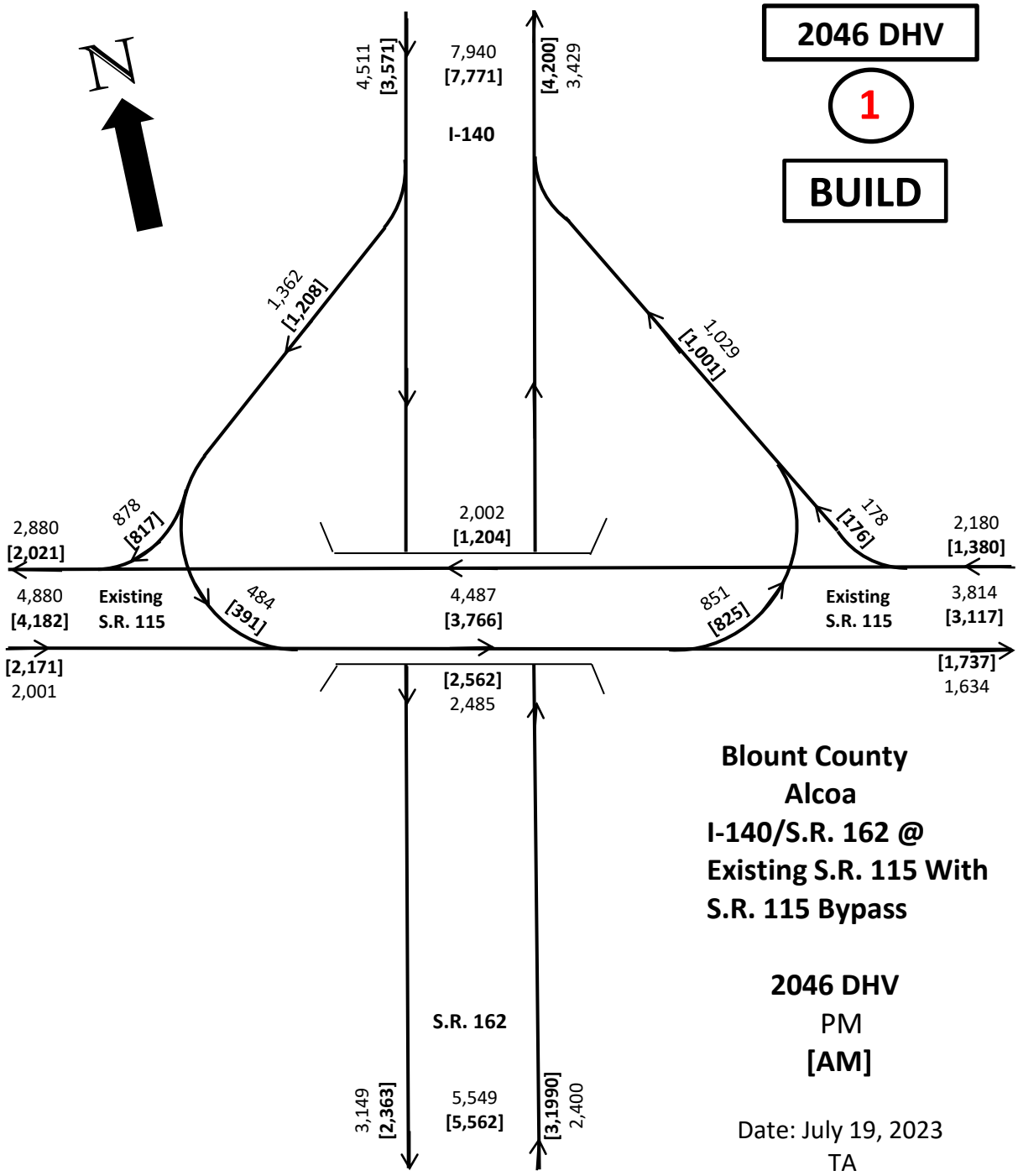
Date: June 1, 2023
TA



Blount County
Maryville
S.R. 162 @ S.R. 73

2026 DHV
PM
[AM]

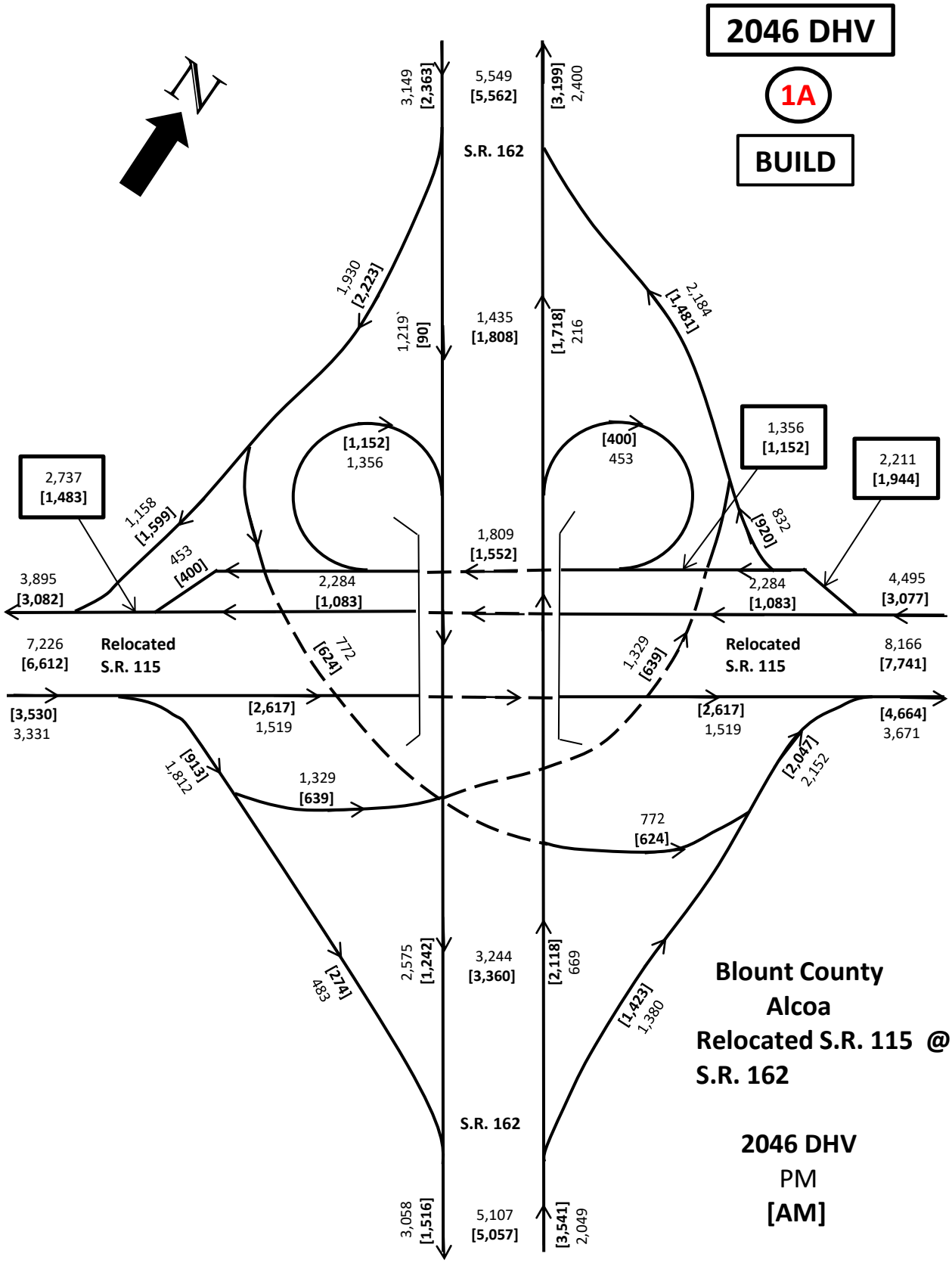
Date: June 1, 2023
TA



Blount County
Alcoa
I-140/S.R. 162 @
Existing S.R. 115 With
S.R. 115 Bypass

2046 DHV
PM
[AM]

Date: July 19, 2023
TA



Blount County
Alcoa
Relocated S.R. 115 @ S.R. 162

2046 DHV
PM
[AM]

Date: July 19, 2023
TA

N

8,227
7,553

4,664
2,970

3,563
4,583

S.R. 115

3,062
1,764

1,602
1,206

1,304
1,448

1,304
1,448

S.R. 35

3,050
2,841

1,746
1,393

2,259
3,135

144
187

S.R. 115

3,062
1,764

2,403
3,322

5,086
5,465

2046 DHV

2

Build

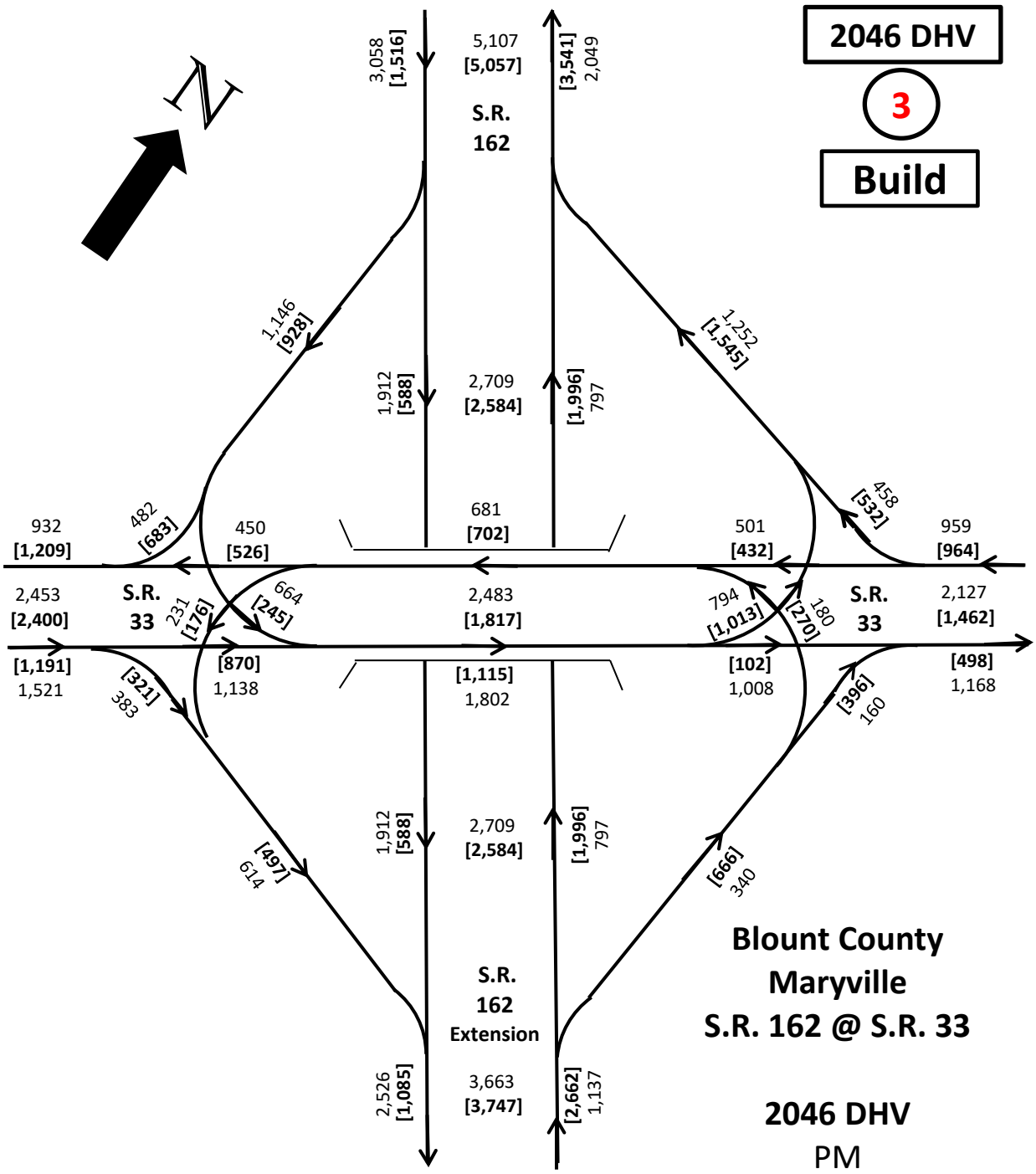
Blount County
Maryville
S.R. 35 @ S.R. 115

2046 DHV

PM

AM

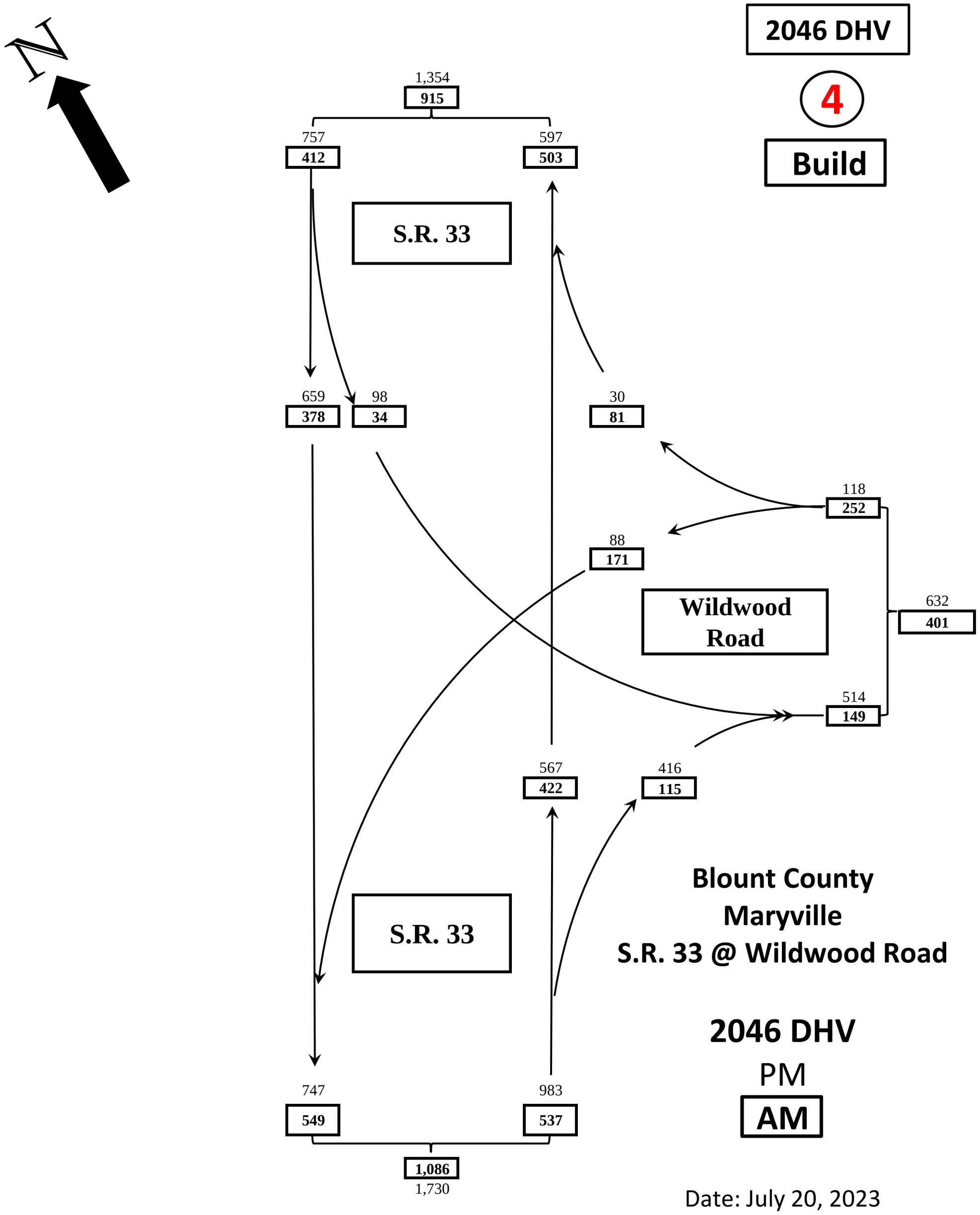
Date: July 20, 2023
TA



Blount County
Maryville
S.R. 162 @ S.R. 33

2046 DHV
PM
[AM]

Date: July 20, 2023
TA



2046 DHV

4

Build

Blount County
Maryville
S.R. 33 @ Wildwood Road

2046 DHV

PM

AM

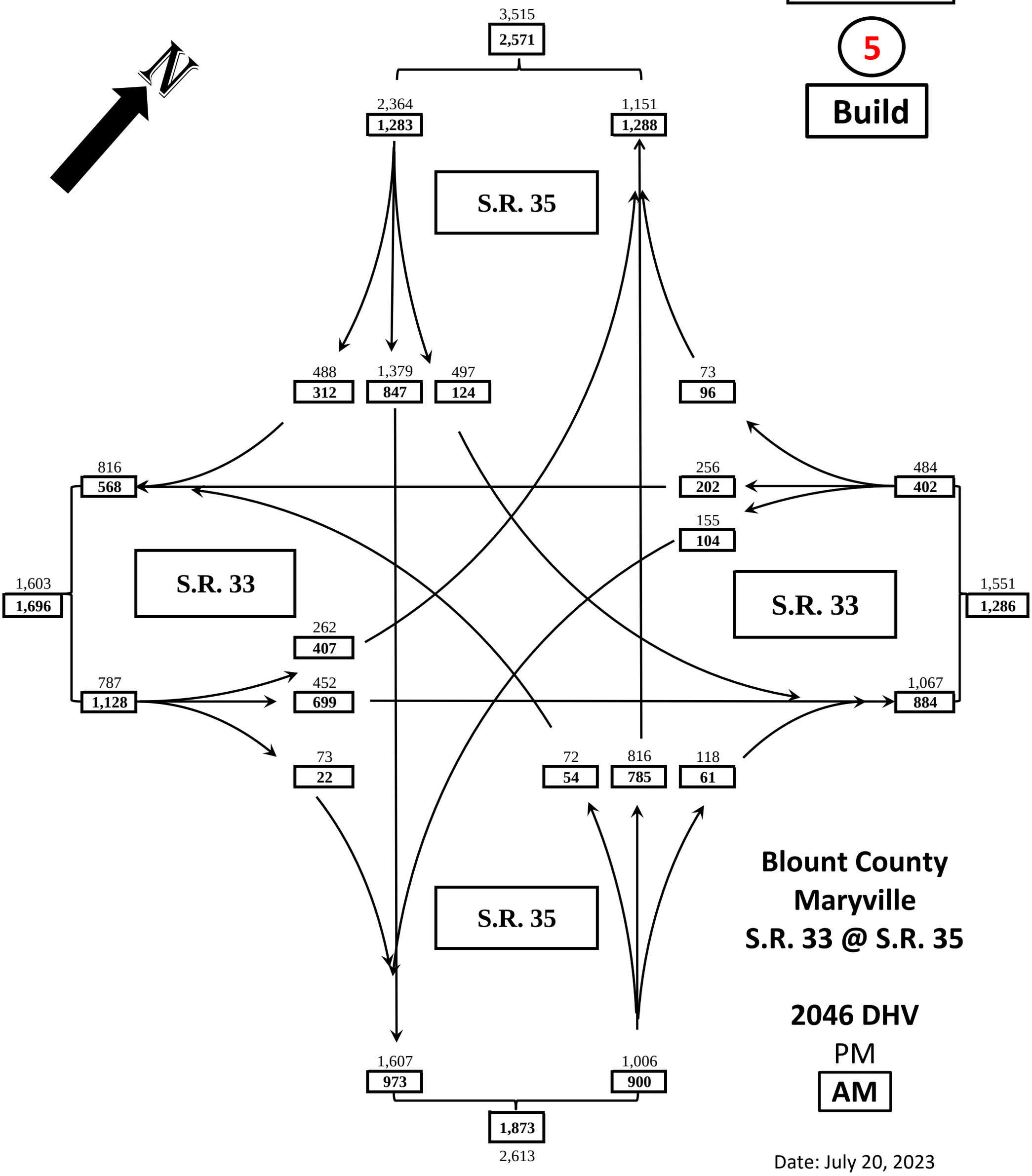
Date: July 20, 2023

TA

2046 DHV

5

Build



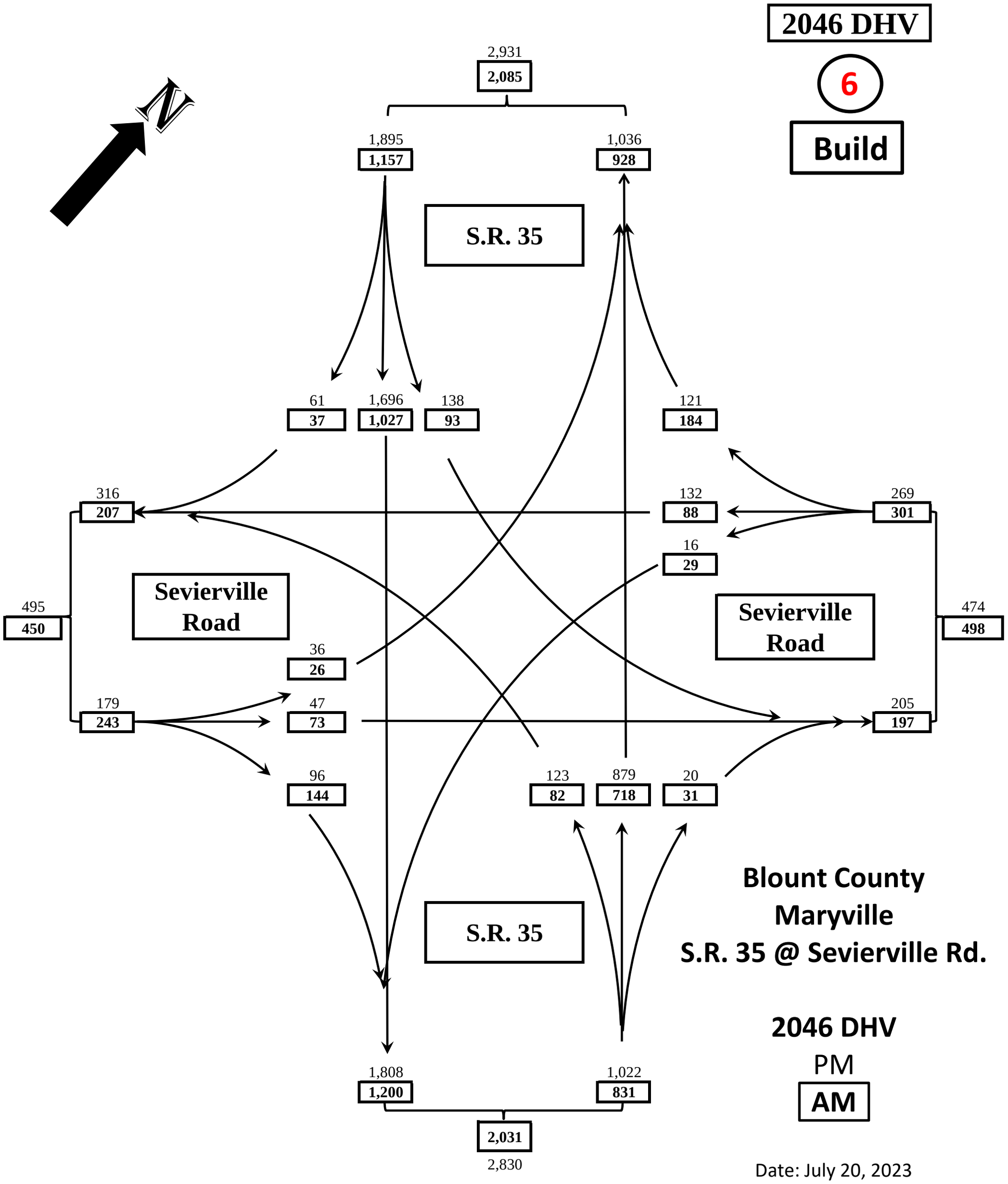
Blount County
Maryville
S.R. 33 @ S.R. 35

2046 DHV

PM

AM

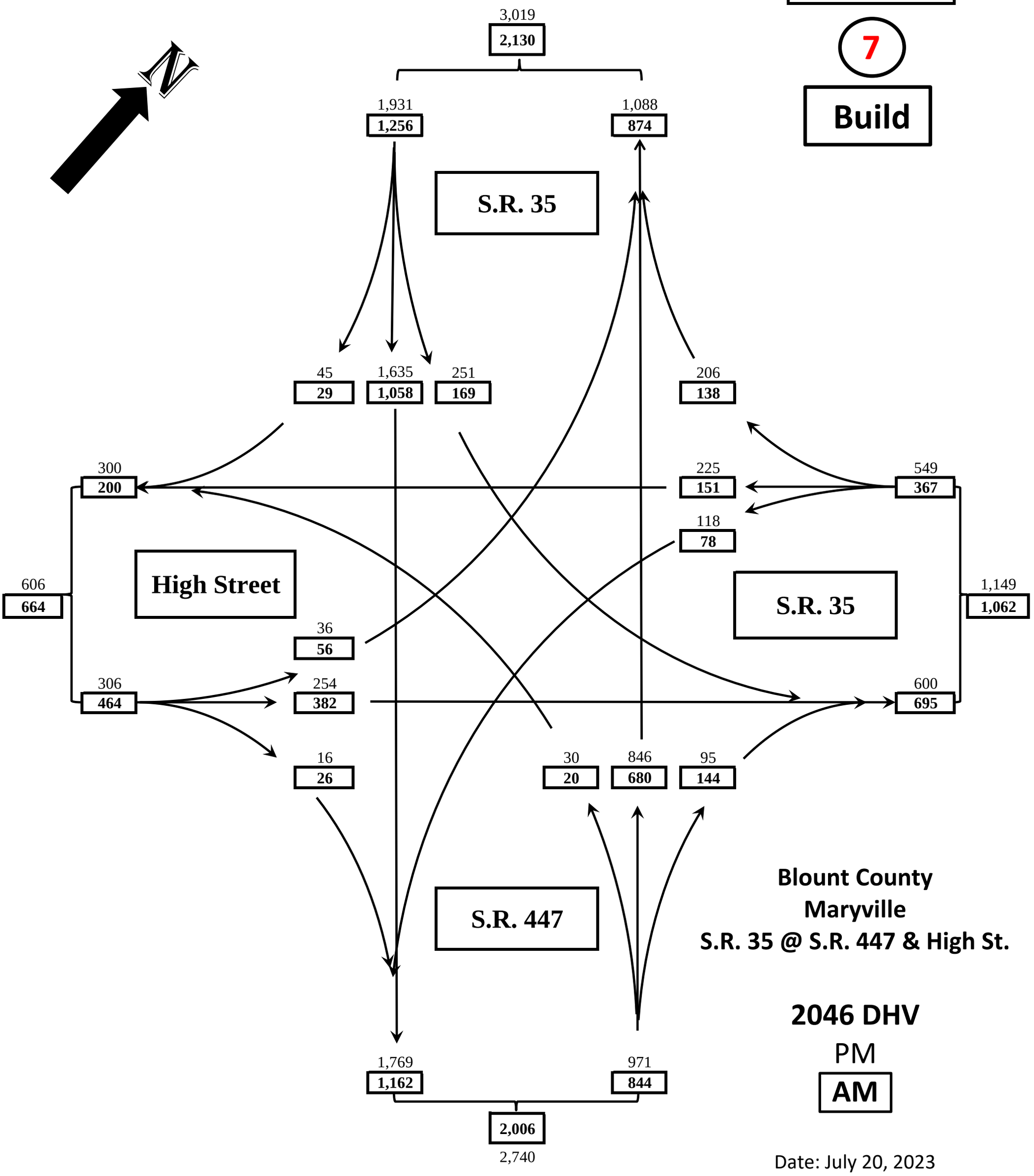
Date: July 20, 2023
TA


2046 DHV
6
Build
N
2,931
2,085
1,895
1,157
1,036
928
S.R. 35
61
37
1,696
1,027
138
93
121
184
316
207
132
88
269
301
16
29
Sevierville Road
Sevierville Road
495
450
474
498
36
26
179
243
47
73
205
197
96
144
123
82
879
718
20
31
S.R. 35
Blount County
Maryville
S.R. 35 @ Sevierville Rd.
1,808
1,200
1,022
831
2,031
2,830
2046 DHV
PM
AM
Date: July 20, 2023
TA

2046 DHV

7

Build



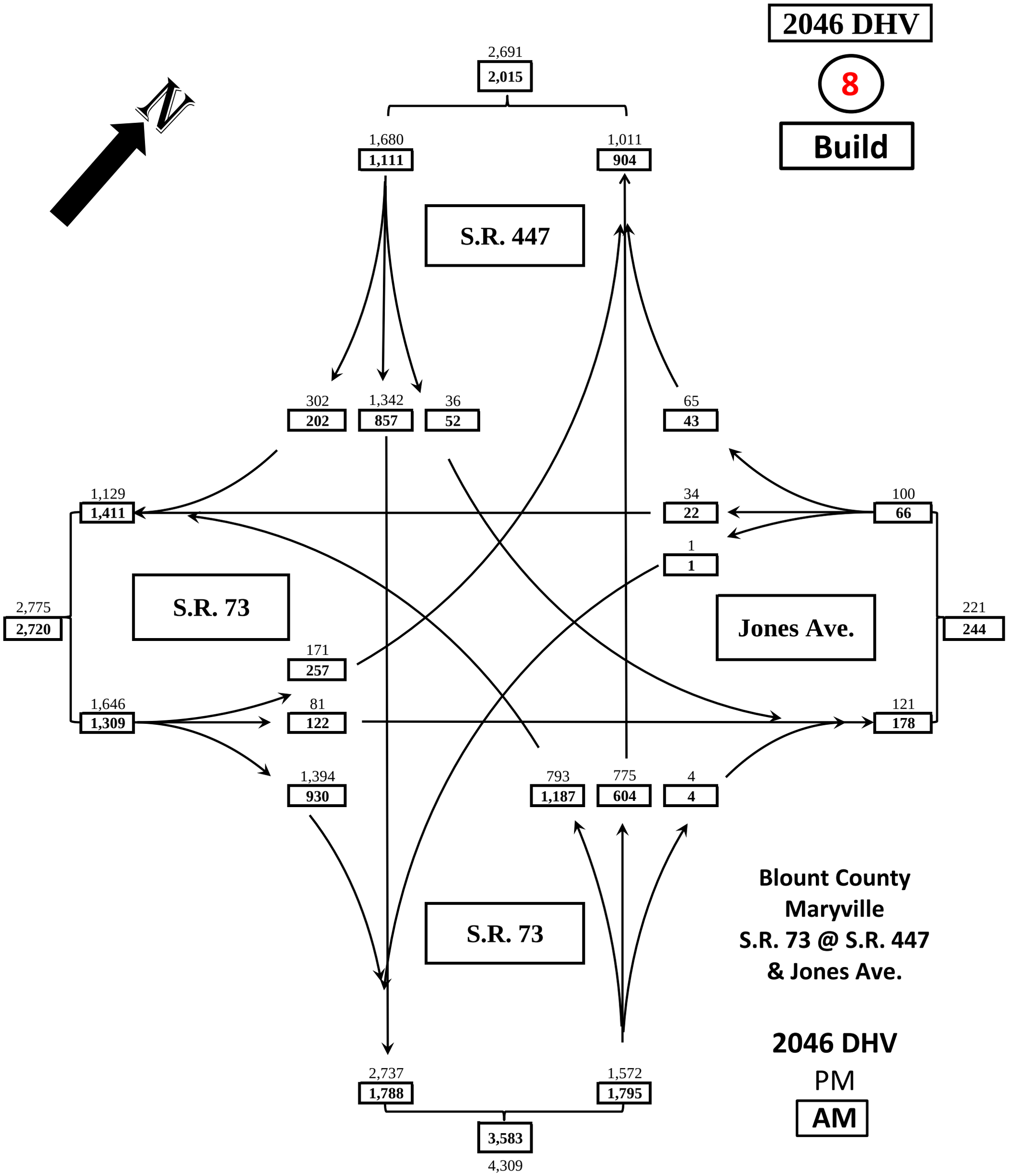
Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.

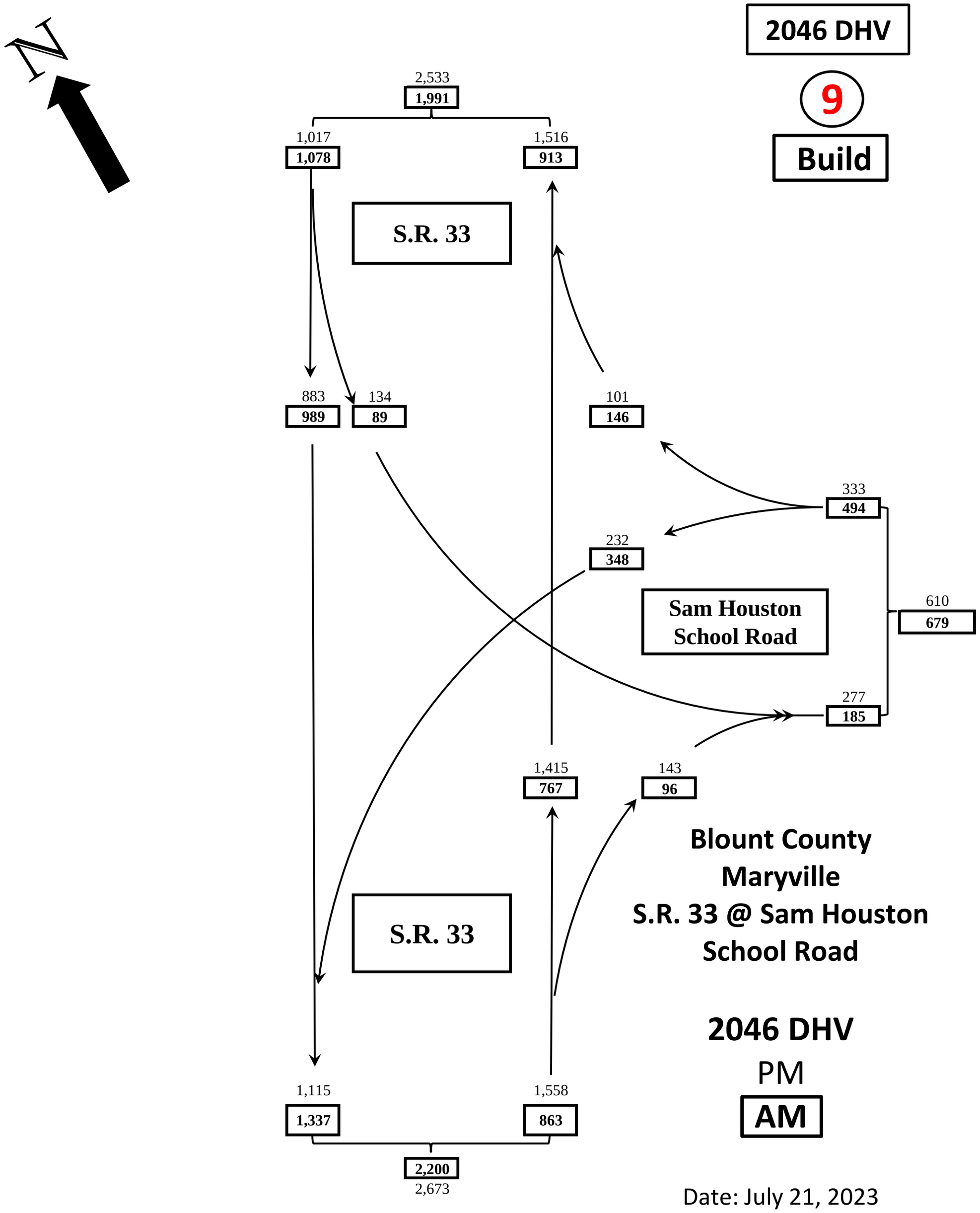
2046 DHV

PM

AM

Date: July 20, 2023
TA


2046 DHV
8
Build
N
2,691
2,015
1,680
1,111
1,011
904
S.R. 447
302
202
1,342
857
36
52
65
43
1,129
1,411
34
22
100
66
1
1
S.R. 73
Jones Ave.
2,775
2,720
221
244
171
257
1,646
1,309
81
122
121
178
1,394
930
793
1,187
775
604
4
4
S.R. 73
Blount County
Maryville
S.R. 73 @ S.R. 447
& Jones Ave.
2046 DHV
PM
AM
2,737
1,788
1,572
1,795
3,583
4,309
Date: July 21, 2023
TA



2046 DHV

9

Build

Blount County
Maryville
S.R. 33 @ Sam Houston
School Road

2046 DHV

PM

AM

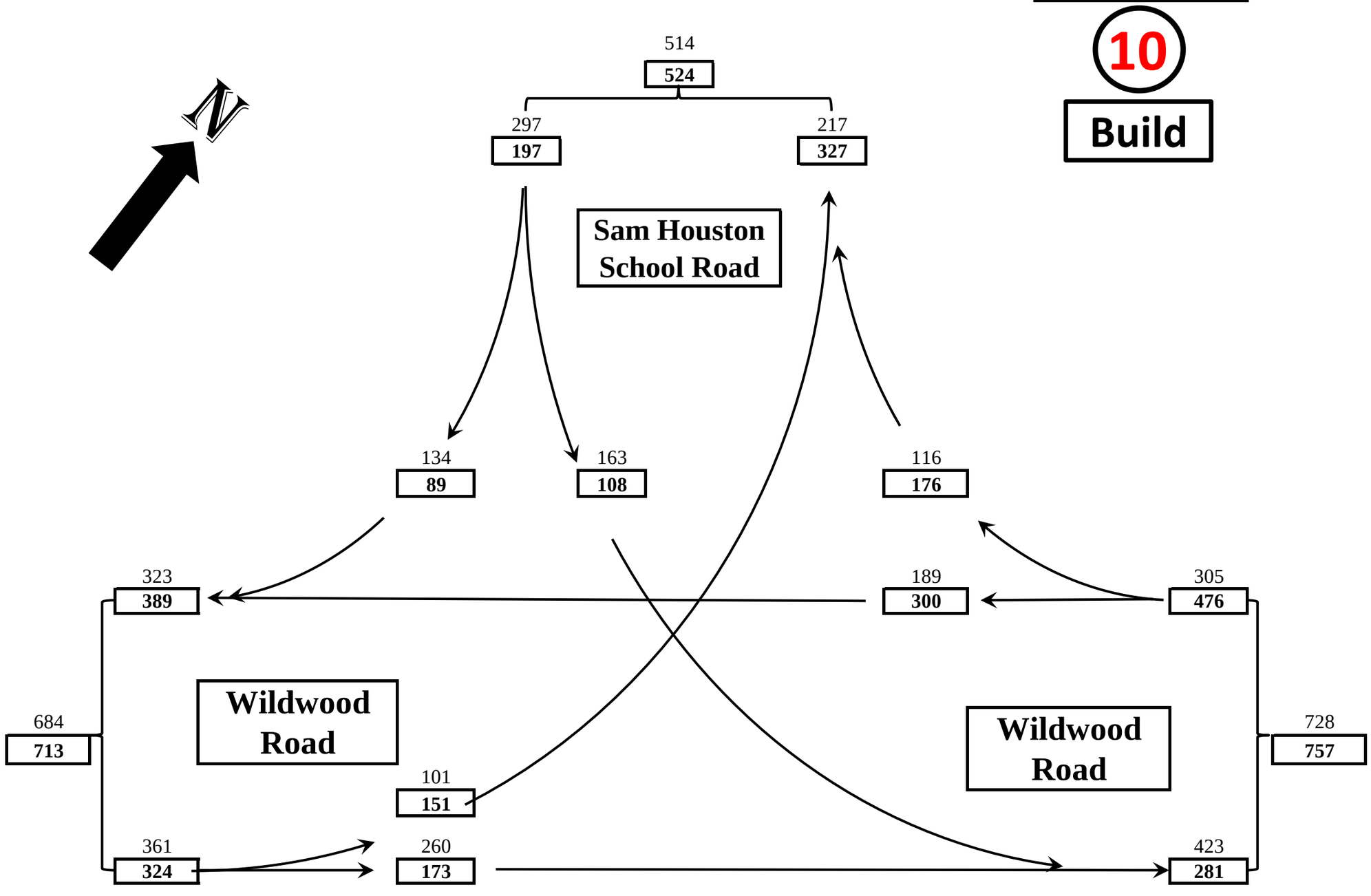
Date: July 21, 2023

TA

2046 DHV

10

Build



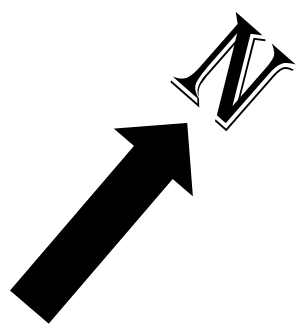
Blount County
Maryville
Wildwood Road @
Sam Houston School Rd.

2046 DHV

PM

AM

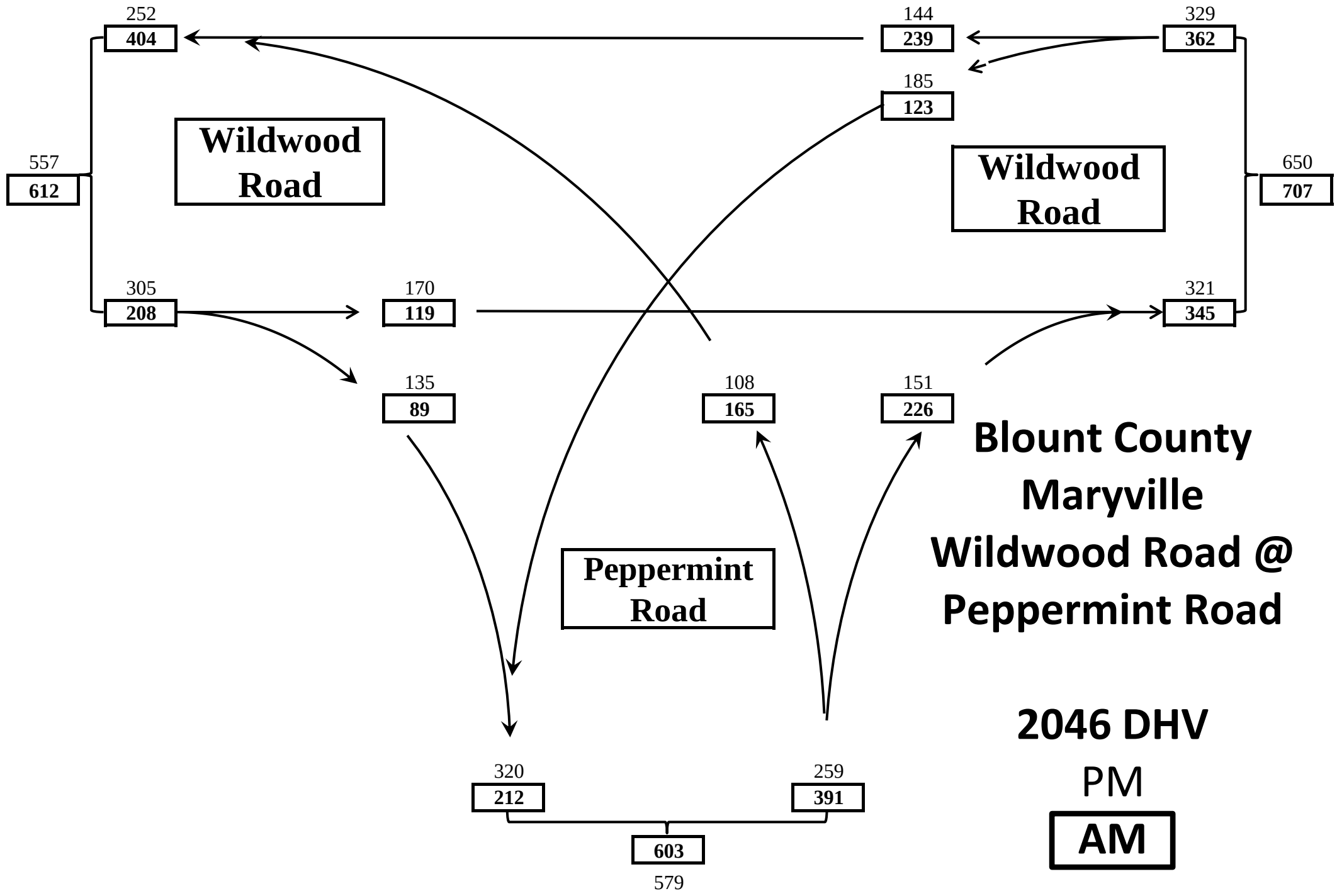
Date: July 21, 2023
TA



2046 DHV

11

Build



Blount County
Maryville
Wildwood Road @ Peppermint Road

2046 DHV

PM

AM

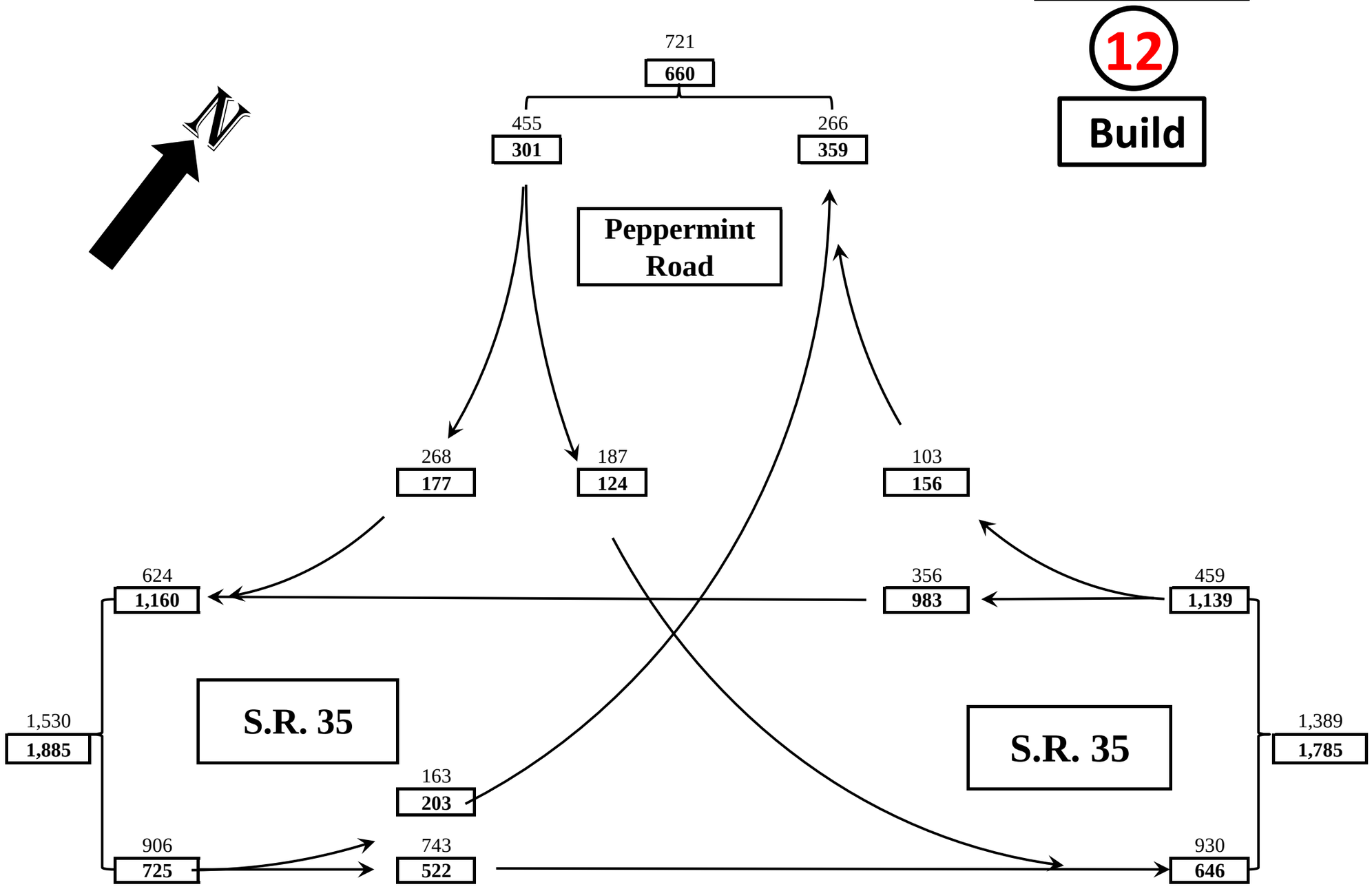
Date: July 20, 2023

TA

2046 DHV

12

Build



Blount County

Maryville

S.R. 35 @ Peppermint Rd.

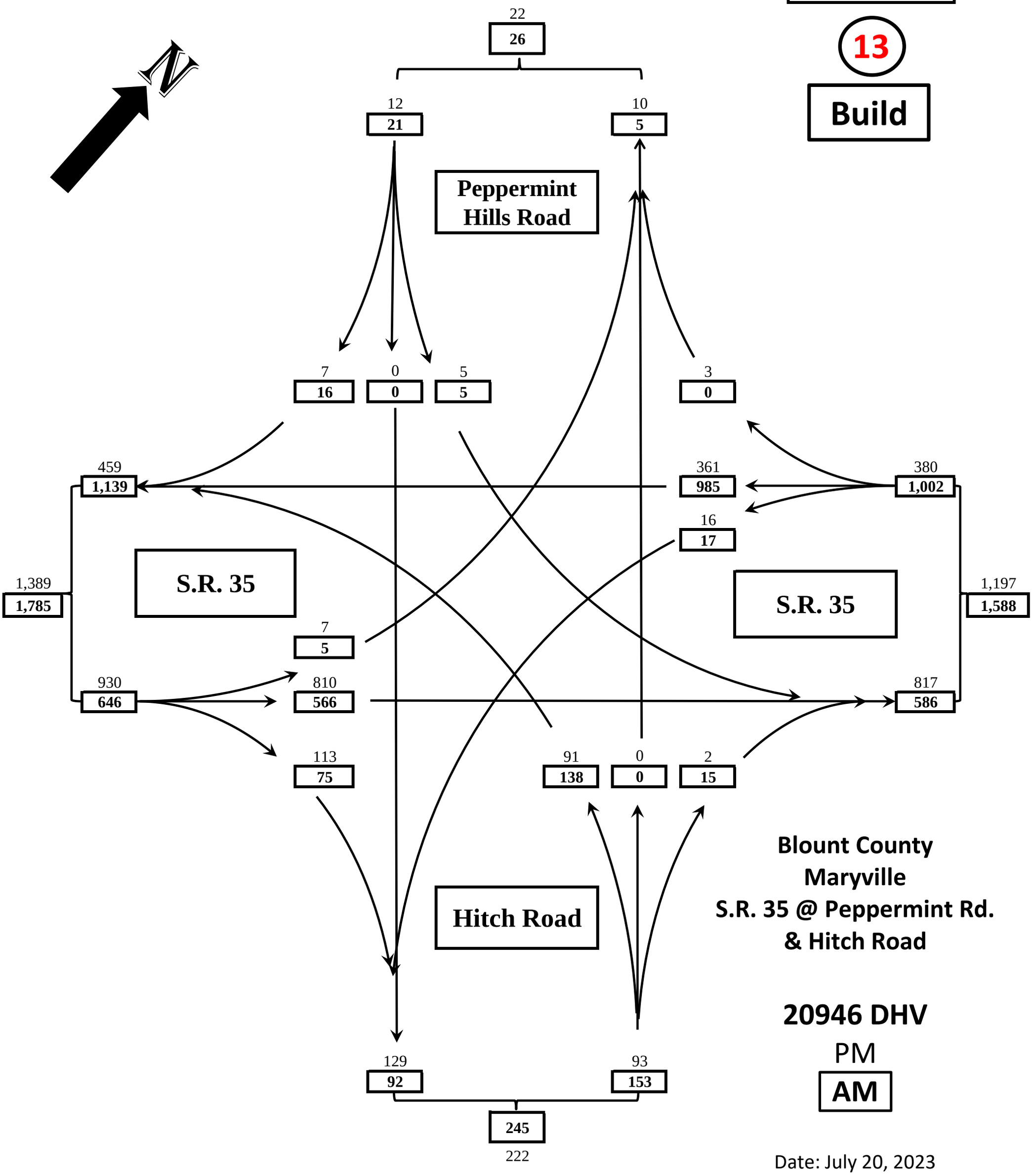
2046 DHV

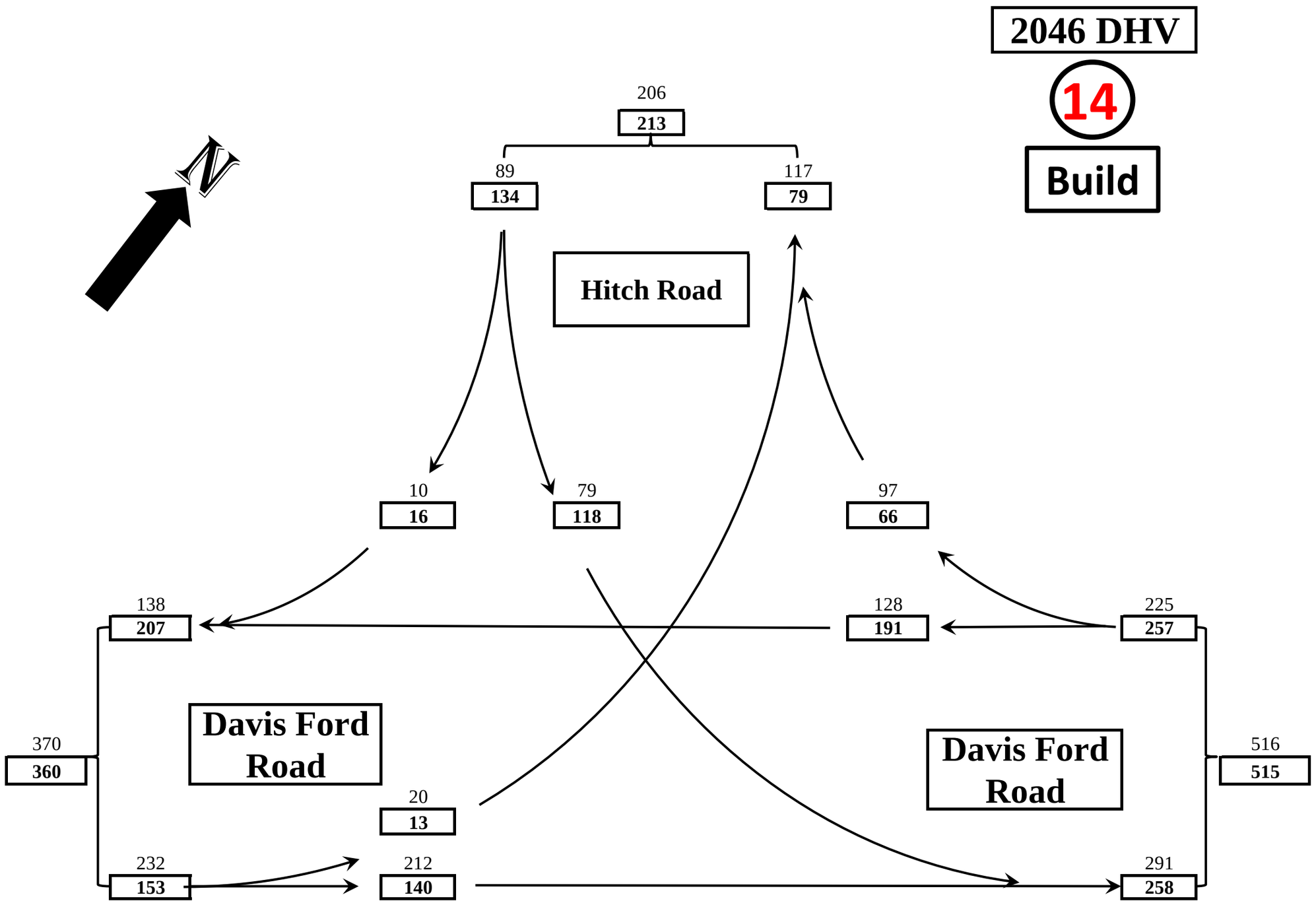
PM

AM

Date: July 20, 2023

TA


2046 DHV
13
Build
N
22
26
12
21
10
5
Peppermint
Hills Road
7
16
0
0
5
5
3
0
459
1,139
361
985
380
1,002
16
17
1,389
1,785
S.R. 35
S.R. 35
1,197
1,588
7
5
930
646
810
566
817
586
113
75
91
138
0
0
2
15
Hitch Road
Blount County
Maryville
S.R. 35 @ Peppermint Rd.
& Hitch Road
129
92
93
153
245
222
20946 DHV
PM
AM
Date: July 20, 2023
TA

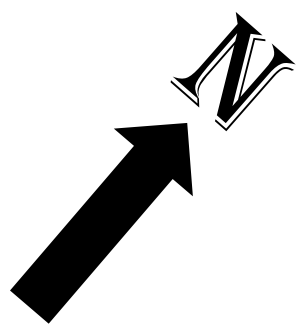


Blount County
Maryville
Davis Ford Rd. @ Hitch Rd.

2046 DHV
PM

AM

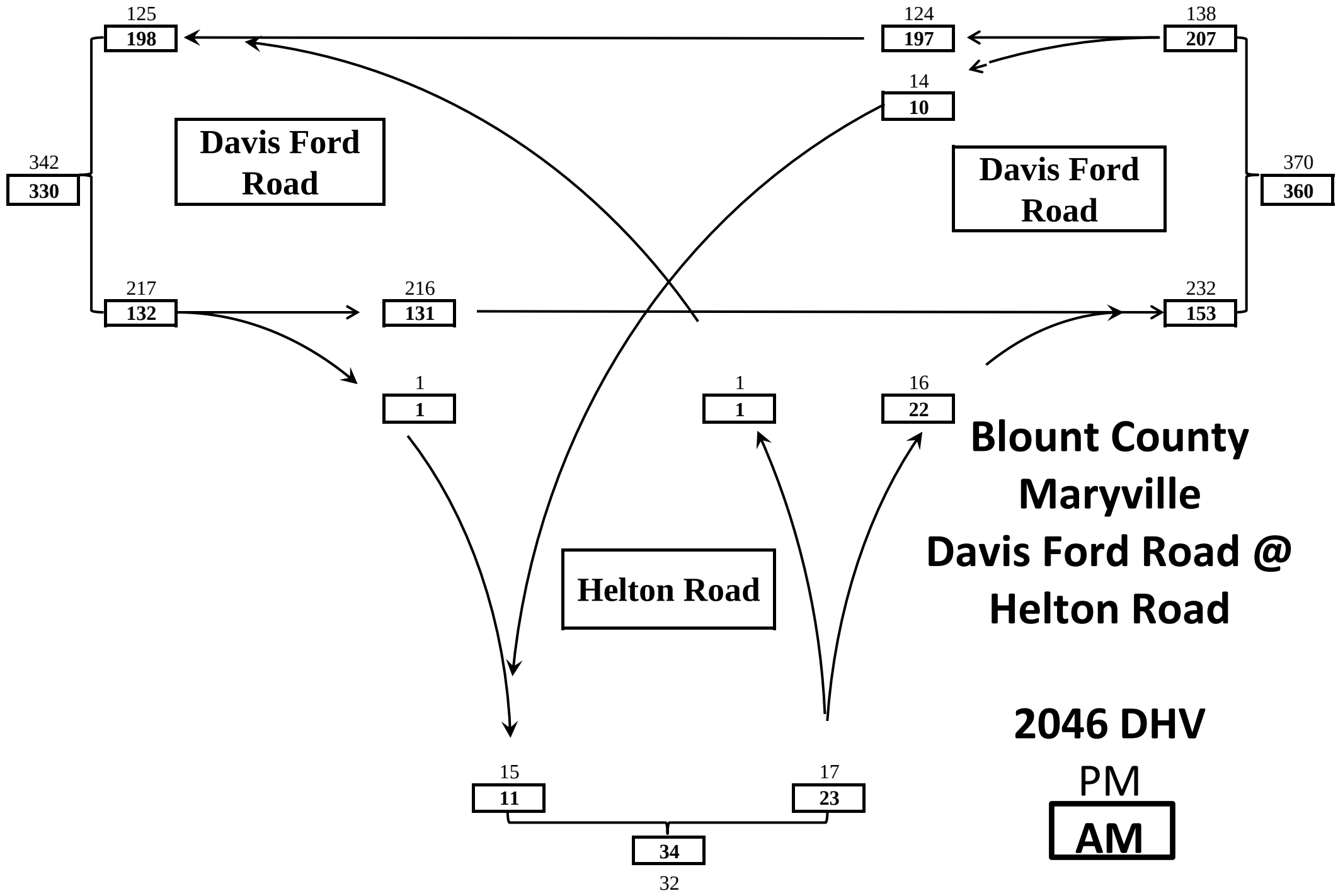
Date: July 20, 2023
TA



2046 DHV

15

Build



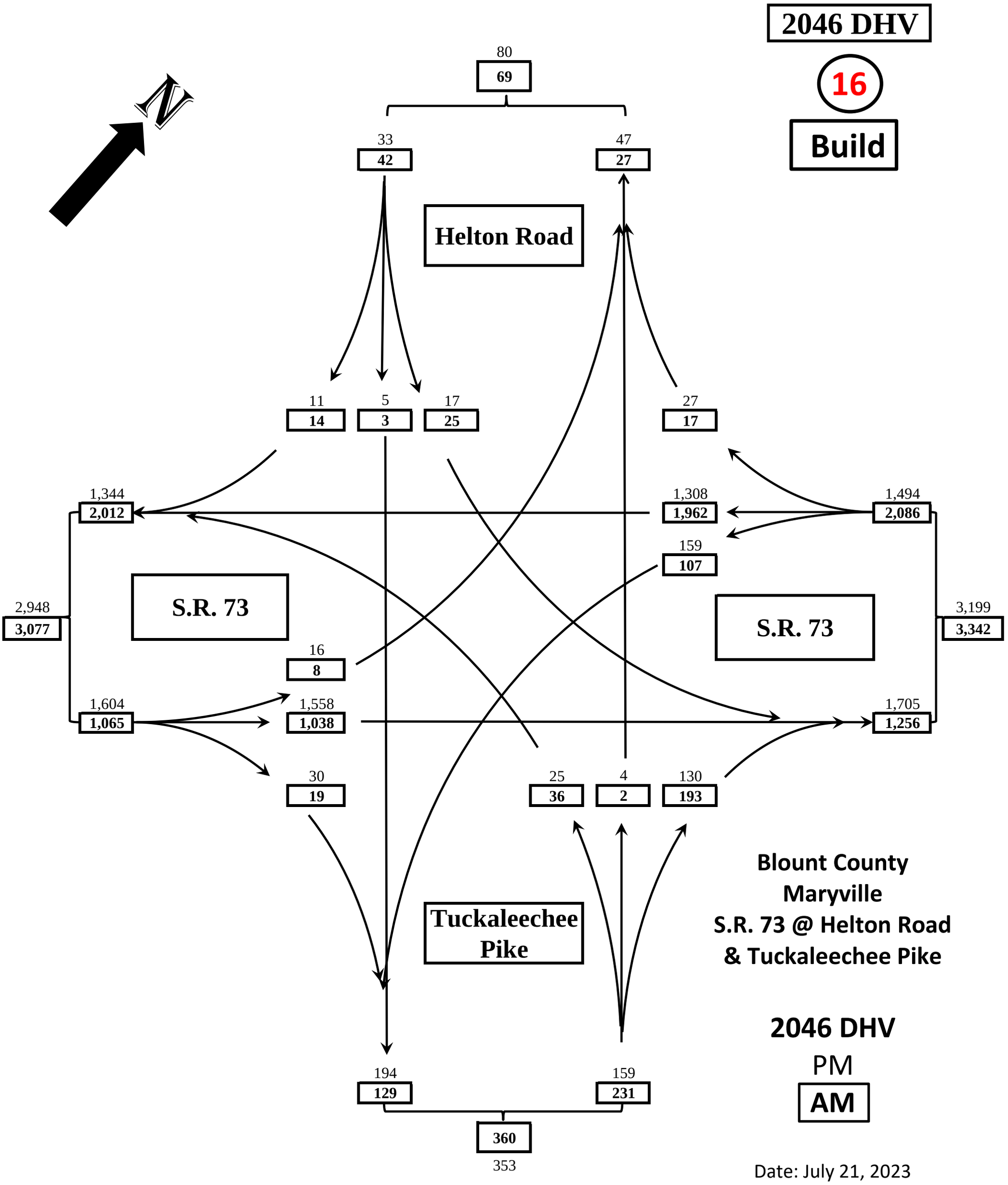
Blount County
Maryville
Davis Ford Road @
Helton Road

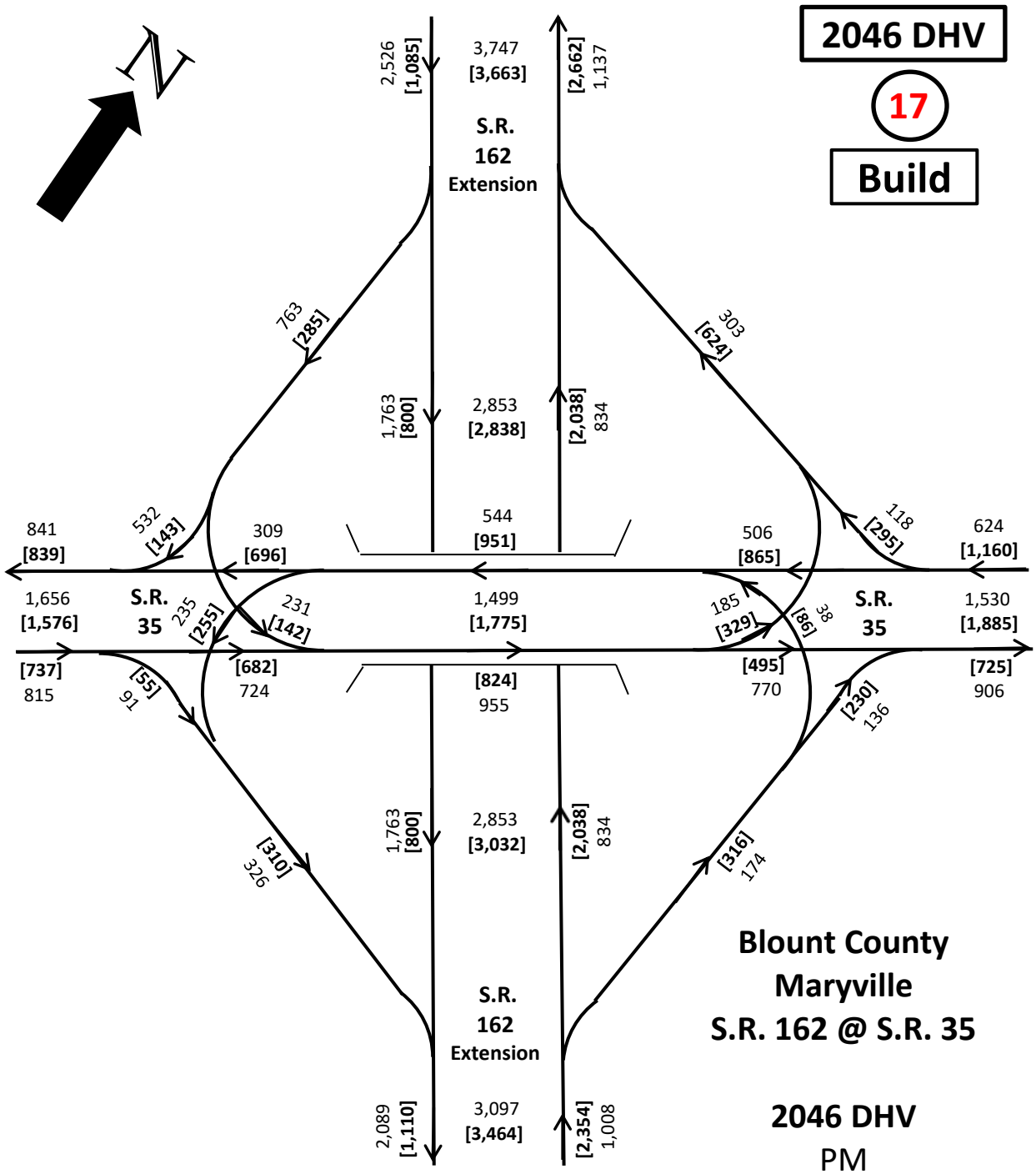
2046 DHV

PM

AM

Date: July 21, 2023
TA

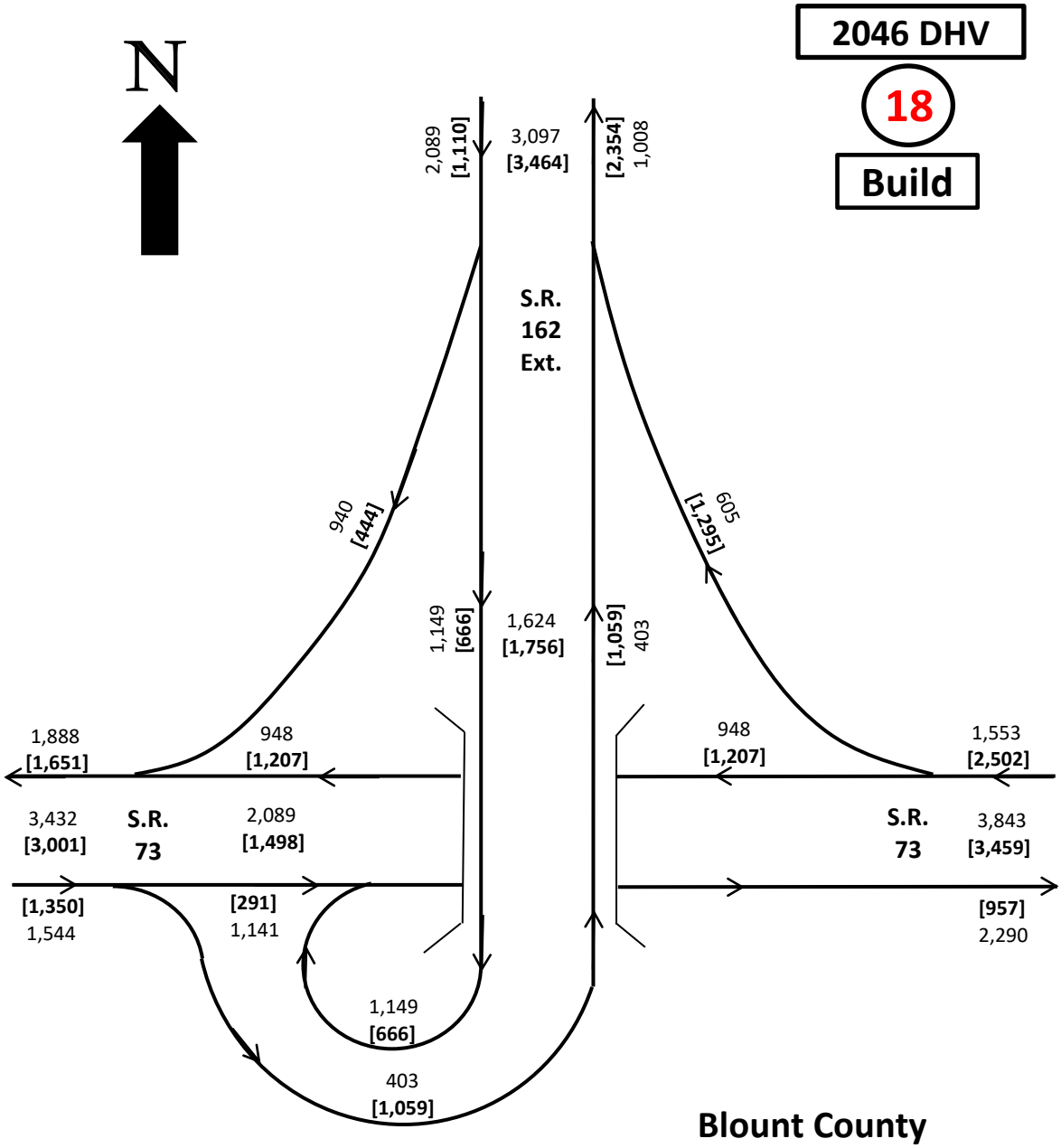

2046 DHV
16
Build
N
80
69
33
42
47
27
Helton Road
11
14
5
3
17
25
27
17
1,344
2,012
1,308
1,962
1,494
2,086
159
107
2,948
3,077
S.R. 73
S.R. 73
3,199
3,342
16
8
1,604
1,065
1,558
1,038
1,705
1,256
30
19
25
36
4
2
130
193
Tuckaleechee Pike
194
129
159
231
360
353
Blount County
Maryville
S.R. 73 @ Helton Road
& Tuckaleechee Pike
2046 DHV
PM
AM
Date: July 21, 2023
TA



Blount County
Maryville
S.R. 162 @ S.R. 35

2046 DHV
PM
[AM]

Date: June 1, 2023
TA



Blount County
Maryville
S.R. 162 @ S.R. 73

2046 DHV
PM
[AM]

Date: June 1, 2023
TA

TENNESSEE DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION

PROJECT NO.: HPP/NH-162(7) : 05097-1233-14 ROUTE: S.R. 162 EXTENSION [ALT. 'D']
COUNTY: BLOUNT CITY: MARYVILLE
PROJECT PIN NUMBER: 101423.00
PROJECT DESCRIPTION: FROM S.R. 33 TO S.R. 73.

ALTERNATE 'D' TRAFFIC DATA

DIVISION REQUESTING:

MAINTENANCE	☐	PAVEMENT DESIGN	☐
S.T.I.D.	☐	STRUCTURES	☐
PROG. DEVELOPMENT & ADM.	☐	SURVEY & ROADWAY DESIGN	☐
PUBLIC TRANS. & AERO.	☐	TRAFFIC SIGNAL DESIGN	☐
		OTHER ENVIRONMENTAL	☒

YEAR PROJECT PROGRAMMED FOR CONSTRUCTION: 2026
PROJECTED LETTING DATE: 2026

TRAFFIC ASSIGNMENT:

BASE YEAR		[SEE ATTACHMENTS] DESIGN YEAR					DESIGN ROADWAY % TRUCKS		DESIGN AVERAGE DAILY LOADS	
AADT	YEAR	AADT	DHV	%	YEAR	DIR.DIST.	DHV	AADT	FLEX	RIGID
	2026				2046					

REQUESTED BY: NAME ERICK HUNT-HAWKINS DATE 5/19/23
DIVISION ENVIRONMENTAL
ADDRESS 900 J. K. POLK BUILDING
NASHVILLE TN 37246

REVIEWED BY: RANDY BOGUSKIE Randy Boguskie DATE 7/27/2023
TRANSPORTATION MANAGER 1
SUITE 1000, JAMES K. POLK BUILDING

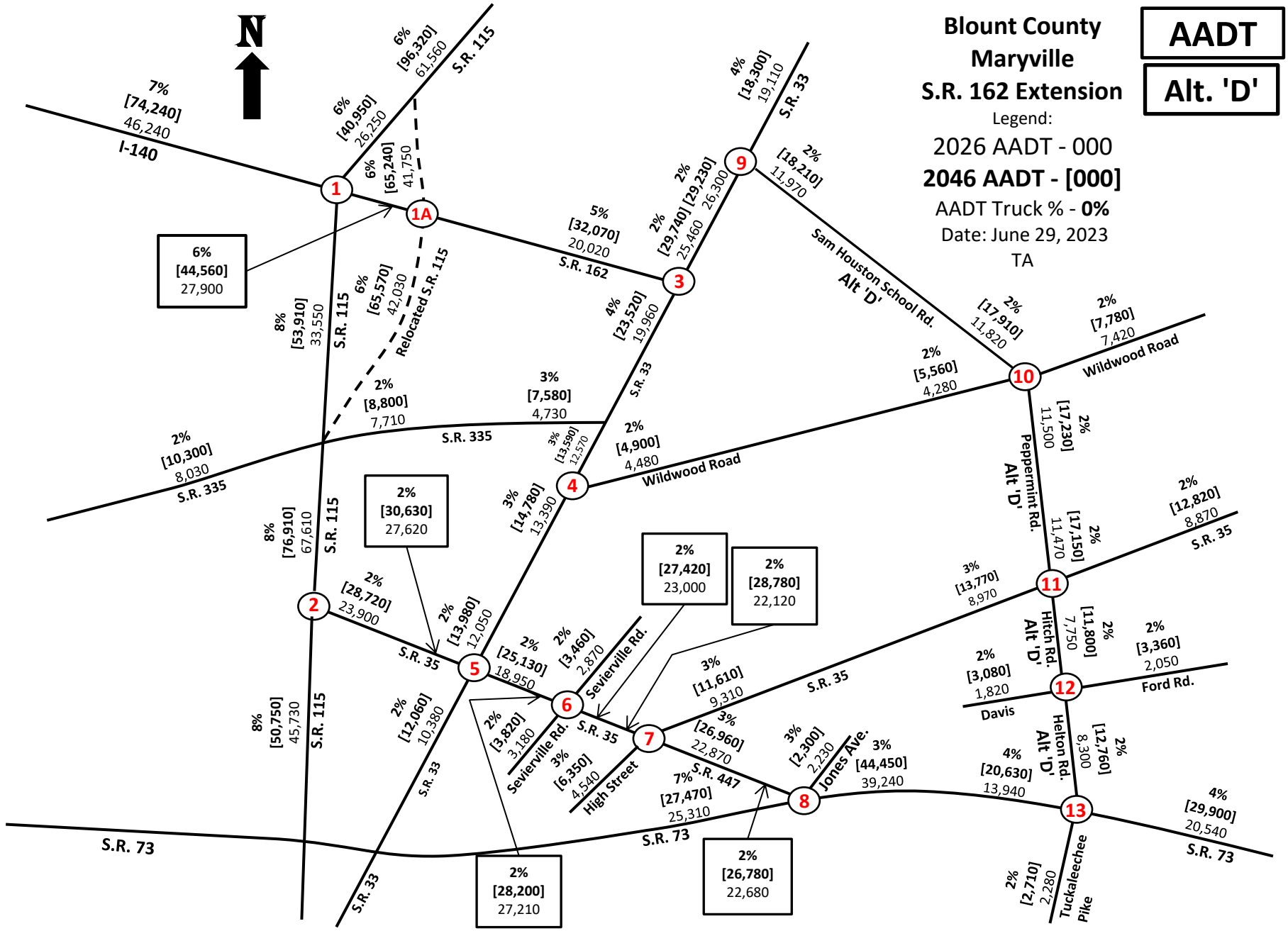
APPROVED BY: TONY ARMSTRONG Tony Armstrong DATE 7/27/2023
TRANSPORTATION MANAGER 2
SUITE 1000, JAMES K. POLK BUILDING

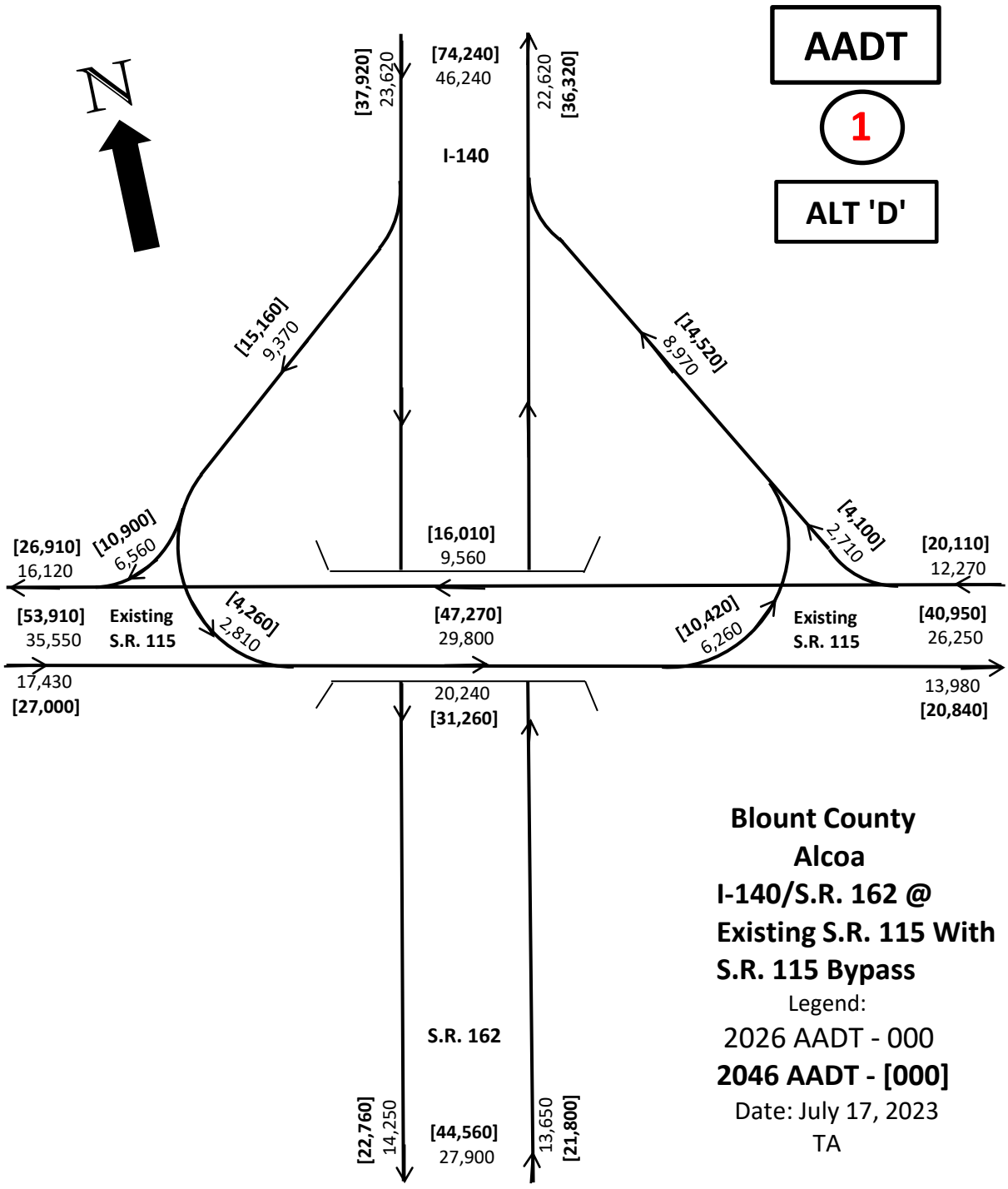
COMMENTS:

THIS TRAFFIC UPDATES THE PREVIOUS TRAFFIC FORECAST STUDY PREPARED BY SAIN ASSOCIATES DATED 2/25/2016 AND IS BASED ON 2022 CYCLE COUNTS. THE DESIGN YEAR TRAFFIC IS BASED ON MODEL RUNS FROM THE KNOXVILLE TPO. THIS TRAFFIC INCLUDES AADT's AND BOTH YEAR DHV's FOR ALTERNATE 'D'.

DHV'S ARE NOT REQUIRED FOR SIDE ROADS LESS THAN 1000 AADT.

NOTE: FOR BRIDGE REPLACEMENT PROJECTS, ADLs ARE NOT REQUIRED FOR ADTs OF 1000 OR LESS AND PERCENTAGE OF TRUCKS OF 7% OR LESS.
SEE ATTACHMENTS FOR TURNING MOVEMENTS AND/OR OTHER DETAILS. (REV. 6/9/21)


N
Blount County
Maryville
S.R. 162 Extension
Legend:
2026 AADT - 000
2046 AADT - [000]
AADT Truck % - 0%
Date: June 29, 2023
TA
AADT
Alt. 'D'
I-140
S.R. 115
S.R. 33
S.R. 162
S.R. 335
S.R. 35
S.R. 73
S.R. 447
Relocated S.R. 115
Sam Houston School Rd. Alt 'D'
Wildwood Road
Peppermint Rd. Alt 'D'
Hitch Rd. Alt 'D'
Helton Rd. Alt 'D'
Sevierville Rd.
High Street
Jones Ave.
Davis
Ford Rd.
Tuckaleechee Pike
1
1A
2
3
4
5
6
7
8
9
10
11
12
13



Blount County
Alcoa
I-140/S.R. 162 @
Existing S.R. 115 With
S.R. 115 Bypass

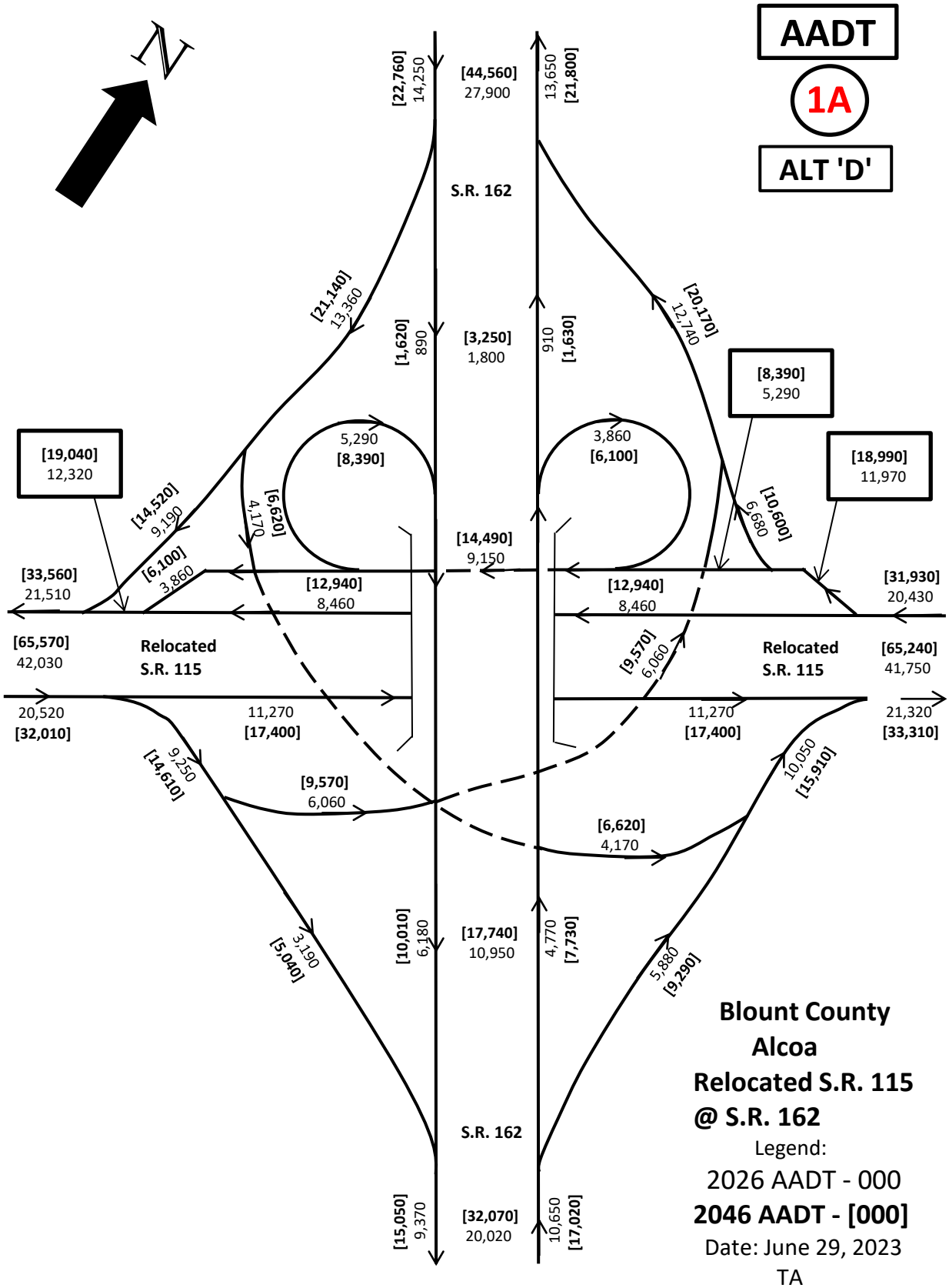
Legend:

2026 AADT - 000

2046 AADT - [000]

Date: July 17, 2023

TA



Blount County
Alcoa
Relocated S.R. 115
@ S.R. 162

Legend:

2026 AADT - 000

2046 AADT - [000]

Date: June 29, 2023

TA

N

AADT

2

ALT 'D'

67,610
76,910

32,950
37,480

34,660
39,430

S.R. 115

21,450
23,700

11,500
13,780

11,390
13,660

11,390
13,660

S.R. 35

23,900
28,720

12,510
15,060

23,270
25,770

1,010
1,280

S.R. 115

21,450
23,700

24,280
27,050

50,750
45,730

Blount County
Maryville
S.R. 35 @ S.R. 115

Legend:

2026 AADT - 000

2046 AADT - 000

Date: June 29, 2023

TA

N

AADT

3

ALT 'D'

25,460
29,740

12,350
14,810

13,110
14,930

S.R. 33

6,790
10,180

5,560
4,630

10,650
17,020

S.R. 162

20,020
32,070

5,970
8,970

9,370
15,050

3,400
6,080

3,860
6,840

7,140
5,960

S.R. 33

8,960
10,710

11,000
12,800

23,510
19,960

Blount County
Maryville
S.R. 33 @ S.R. 162

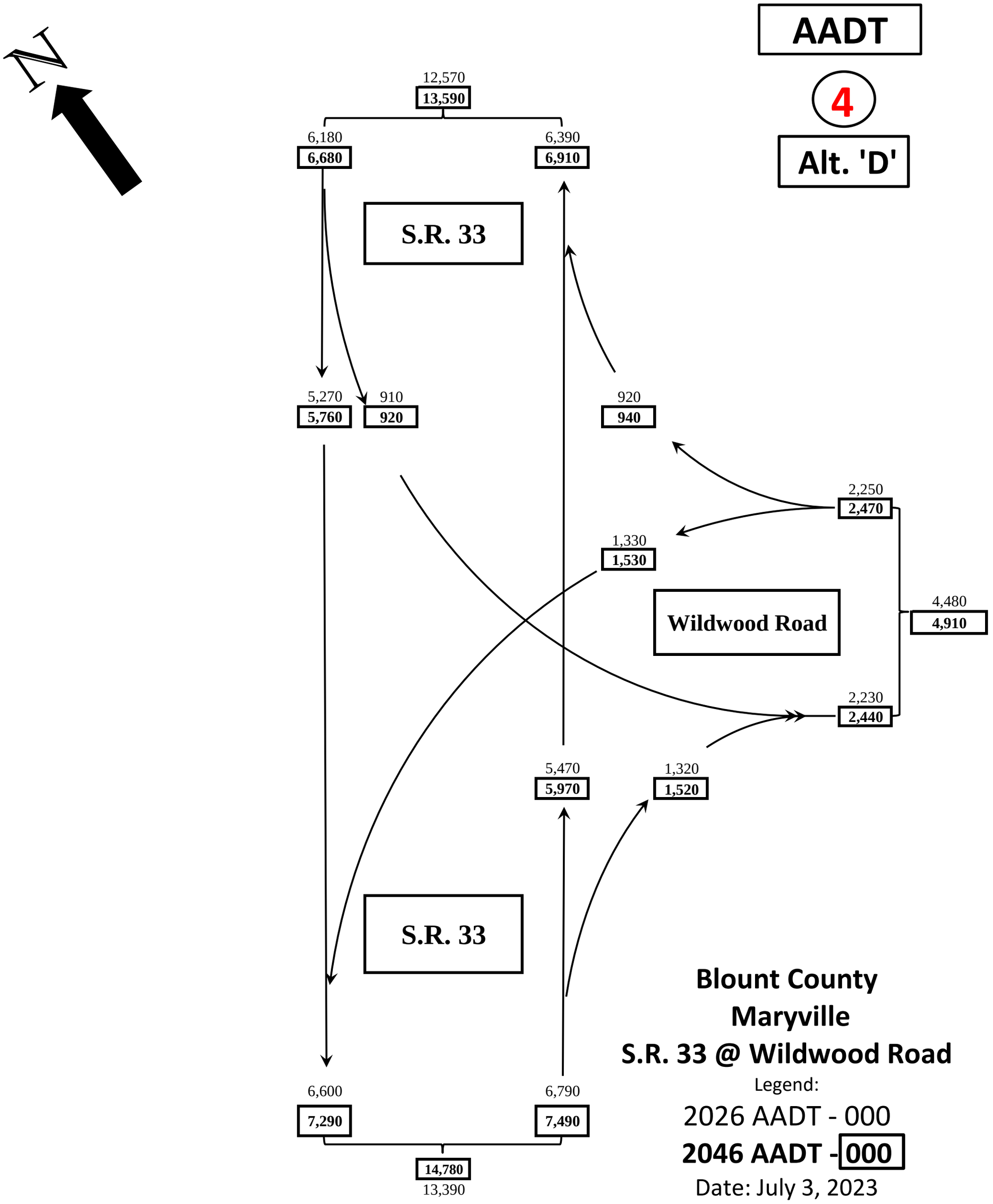
Legend:

2026 AADT - 000

2046 AADT - 000

Date: June 29, 2023

TA



AADT

4

Alt. 'D'

Blount County
Maryville
S.R. 33 @ Wildwood Road

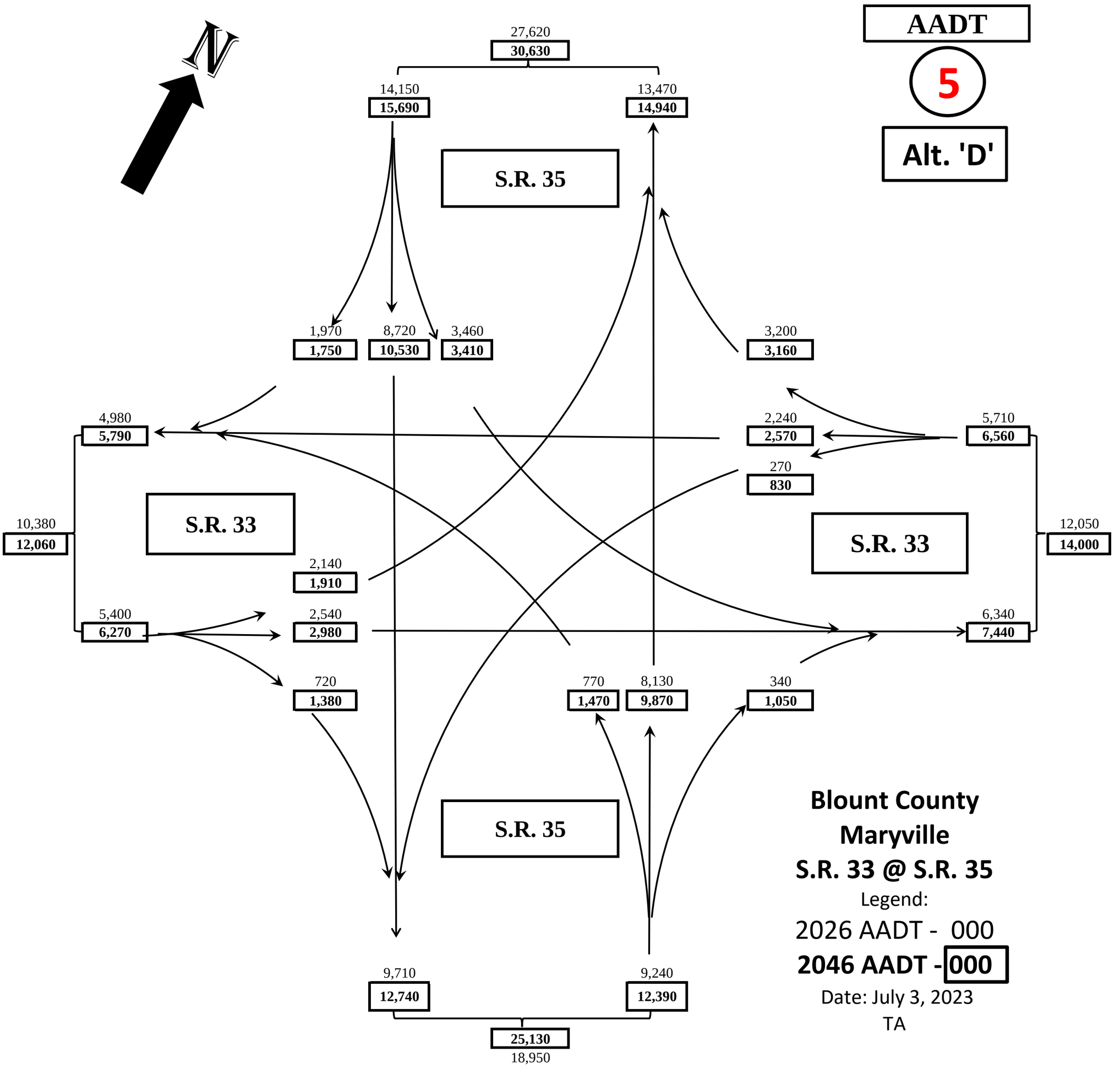
Legend:

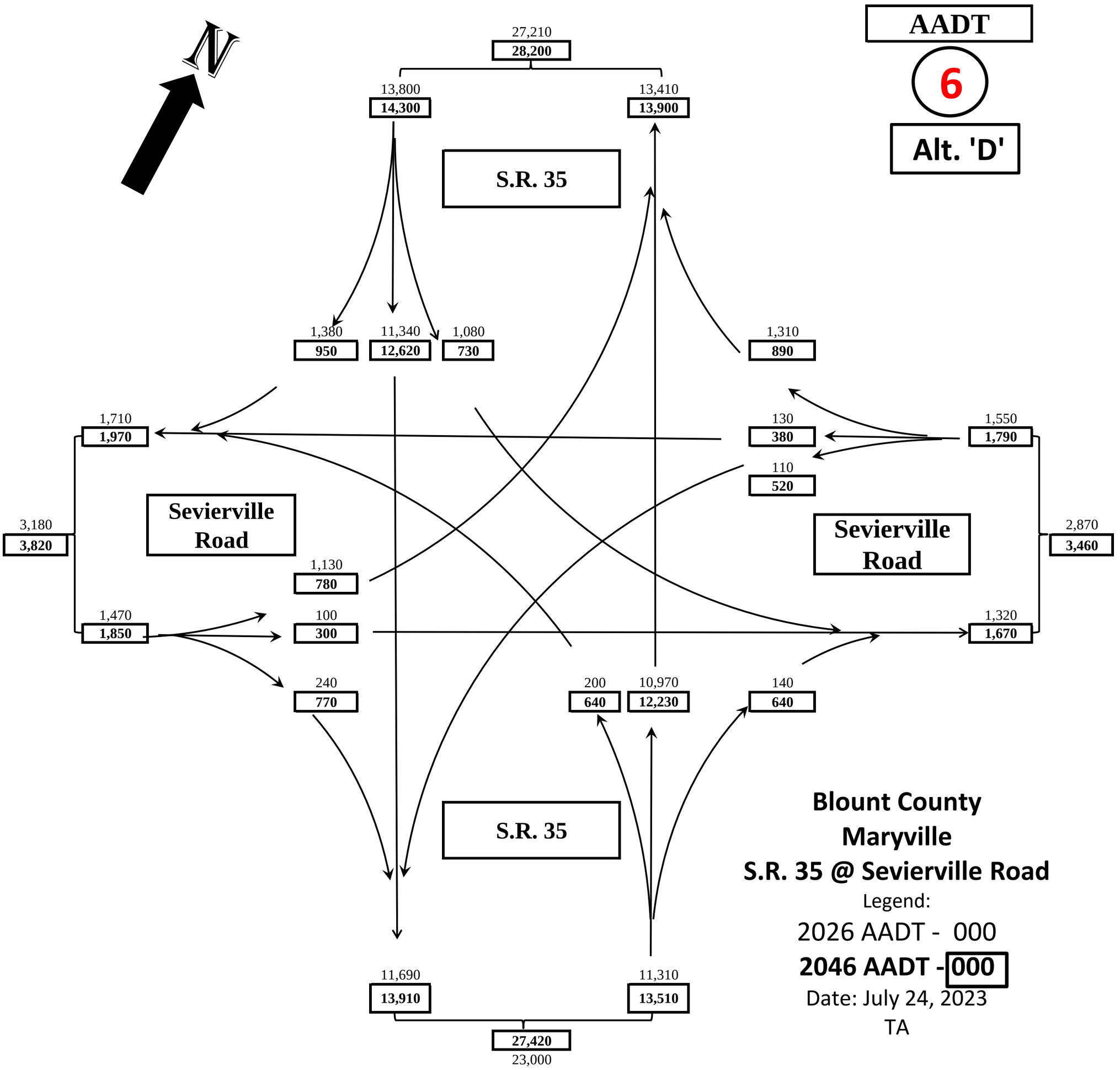
2026 AADT - 000

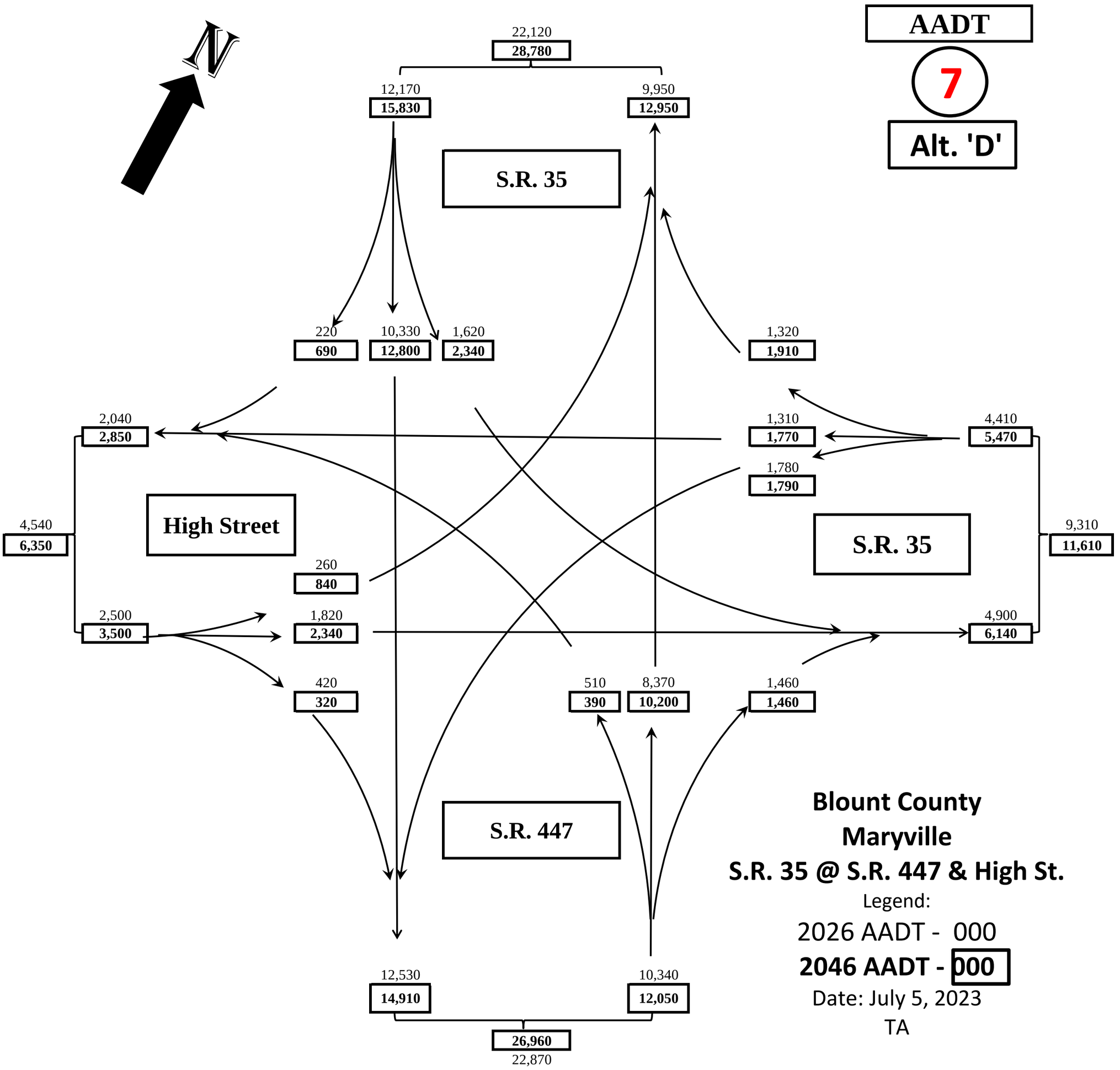
2046 AADT - 000

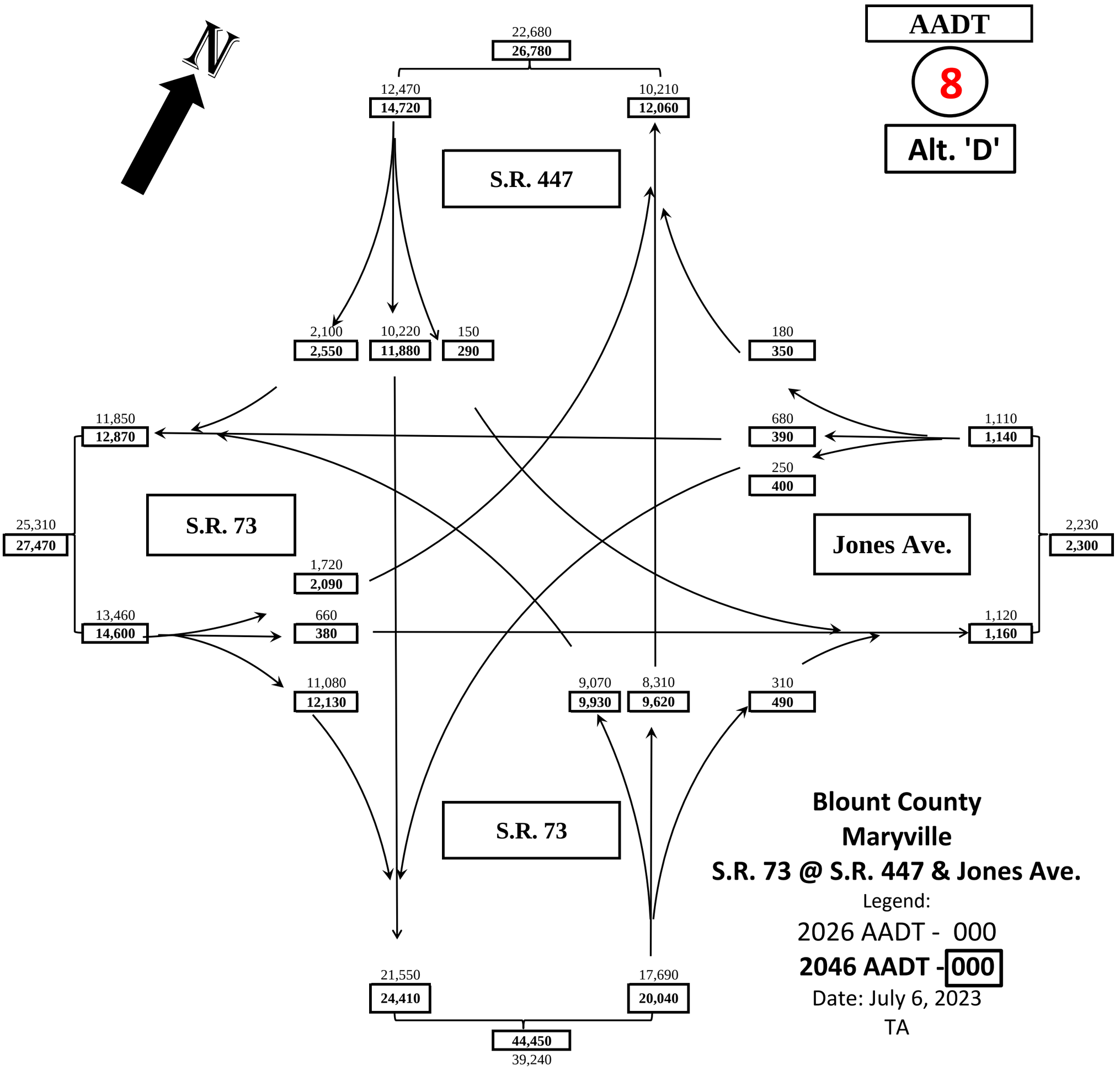
Date: July 3, 2023

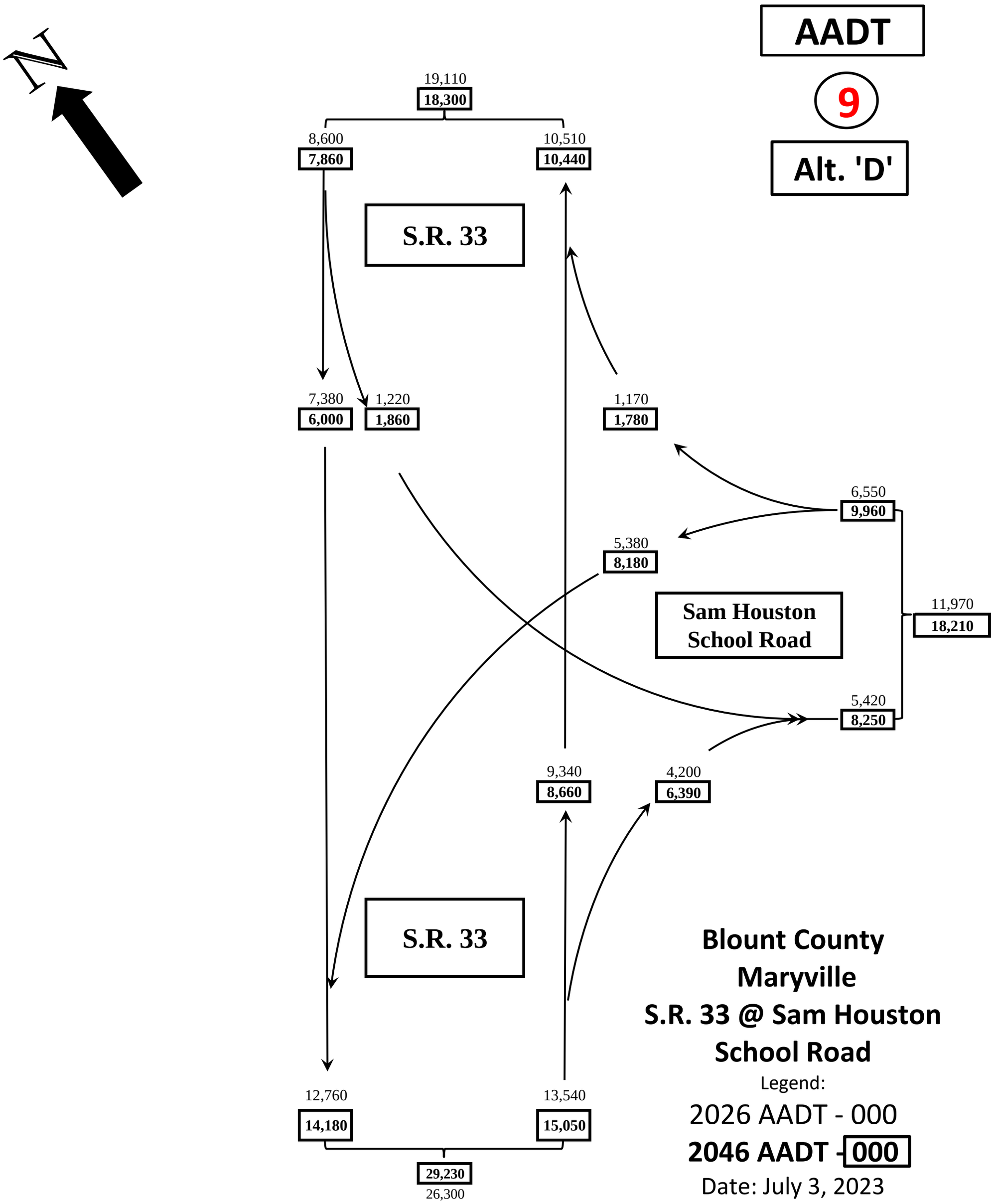
TA


AADT
5
Alt. 'D'
N
27,620
30,630
14,150
15,690
13,470
14,940
S.R. 35
1,970
1,750
8,720
10,530
3,460
3,410
3,200
3,160
4,980
5,790
2,240
2,570
5,710
6,560
270
830
S.R. 33
S.R. 33
10,380
12,060
12,050
14,000
2,140
1,910
5,400
6,270
2,540
2,980
6,340
7,440
720
1,380
770
1,470
8,130
9,870
340
1,050
S.R. 35
9,710
12,740
9,240
12,390
25,130
18,950
Blount County
Maryville
S.R. 33 @ S.R. 35
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 3, 2023
TA


AADT
6
Alt. 'D'
N
27,210
28,200
13,800
14,300
13,410
13,900
S.R. 35
1,380
950
11,340
12,620
1,080
730
1,310
890
1,710
1,970
130
380
1,550
1,790
110
520
Sevierville Road
Sevierville Road
3,180
3,820
2,870
3,460
1,130
780
1,470
1,850
100
300
1,320
1,670
240
770
200
640
10,970
12,230
140
640
S.R. 35
11,690
13,910
11,310
13,510
27,420
23,000
Blount County
Maryville
S.R. 35 @ Sevierville Road
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 24, 2023
TA


AADT
7
Alt. 'D'
22,120
28,780
12,170
15,830
9,950
12,950
S.R. 35
220
690
10,330
12,800
1,620
2,340
1,320
1,910
2,040
2,850
1,310
1,770
4,410
5,470
1,780
1,790
High Street
4,540
6,350
S.R. 35
9,310
11,610
260
840
2,500
3,500
1,820
2,340
4,900
6,140
420
320
510
390
8,370
10,200
1,460
1,460
S.R. 447
12,530
14,910
10,340
12,050
26,960
22,870
Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 5, 2023
TA


AADT
8
Alt. 'D'
22,680
26,780
12,470
14,720
10,210
12,060
S.R. 447
2,100
2,550
10,220
11,880
150
290
180
350
11,850
12,870
680
390
1,110
1,140
250
400
25,310
27,470
S.R. 73
Jones Ave.
2,230
2,300
1,720
2,090
13,460
14,600
660
380
1,120
1,160
11,080
12,130
9,070
9,930
8,310
9,620
310
490
S.R. 73
21,550
24,410
17,690
20,040
44,450
39,240
Blount County
Maryville
S.R. 73 @ S.R. 447 & Jones Ave.
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 6, 2023
TA



AADT

9

Alt. 'D'

Blount County
Maryville
S.R. 33 @ Sam Houston School Road

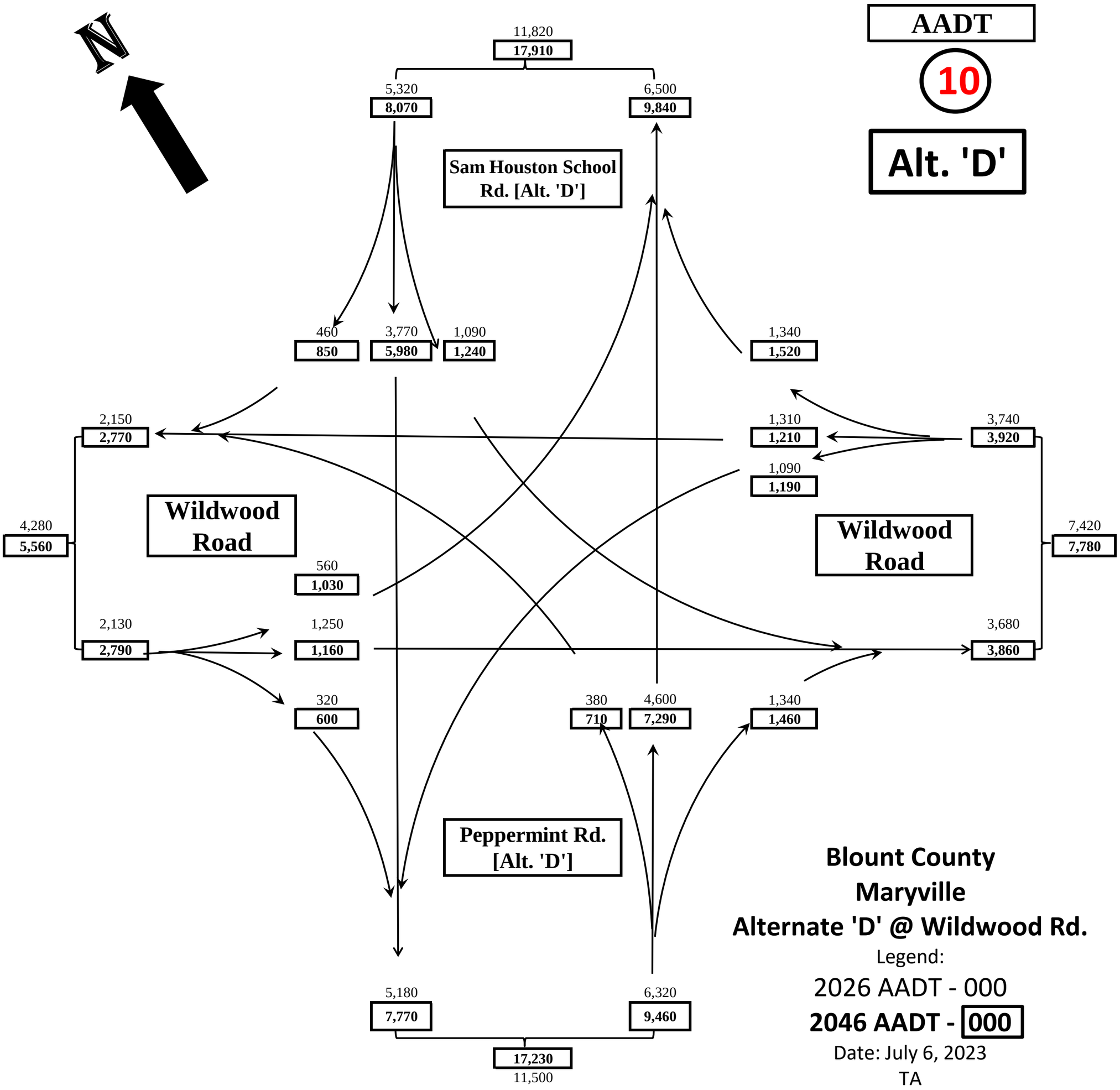
Legend:

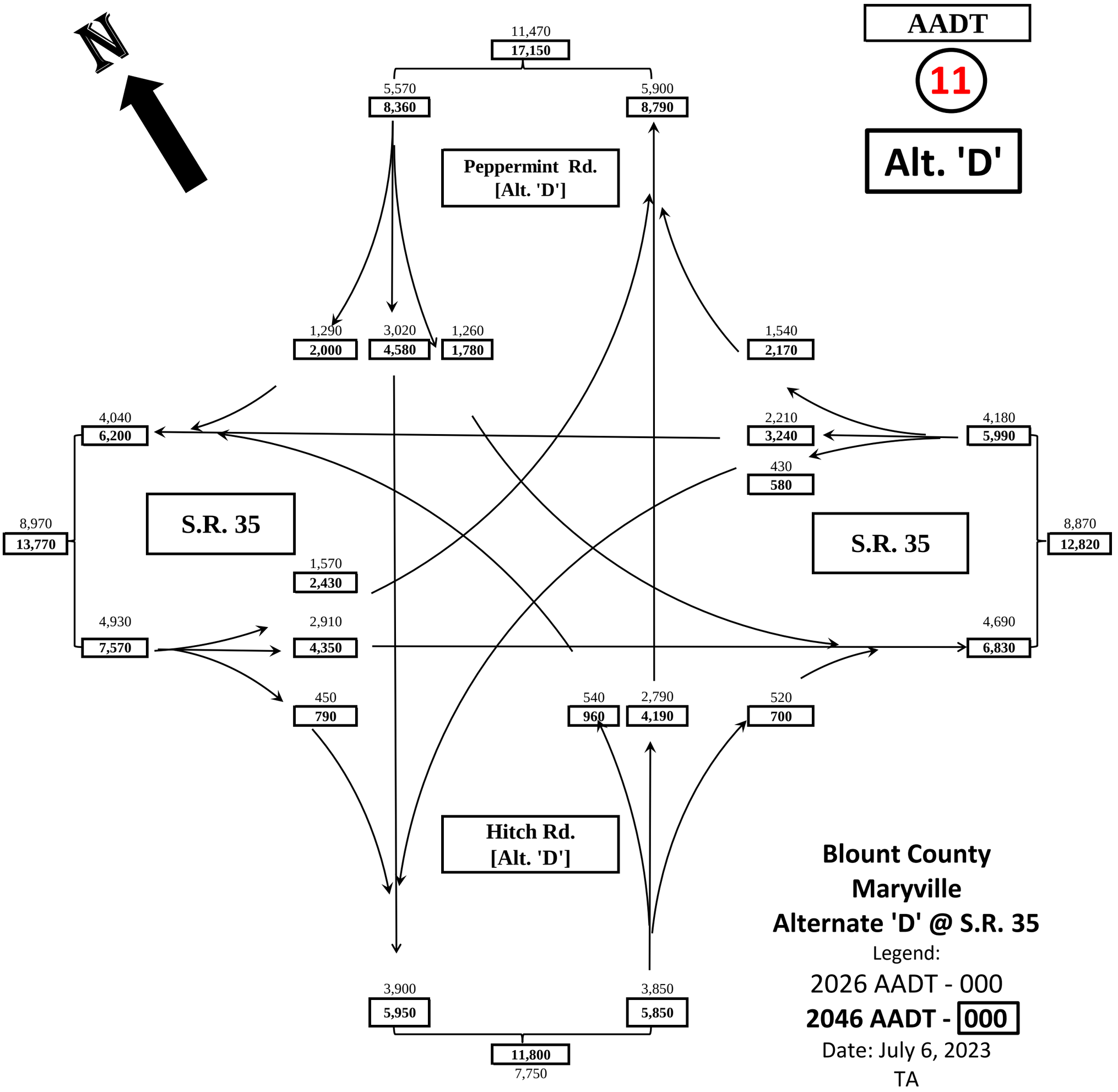
2026 AADT - 000

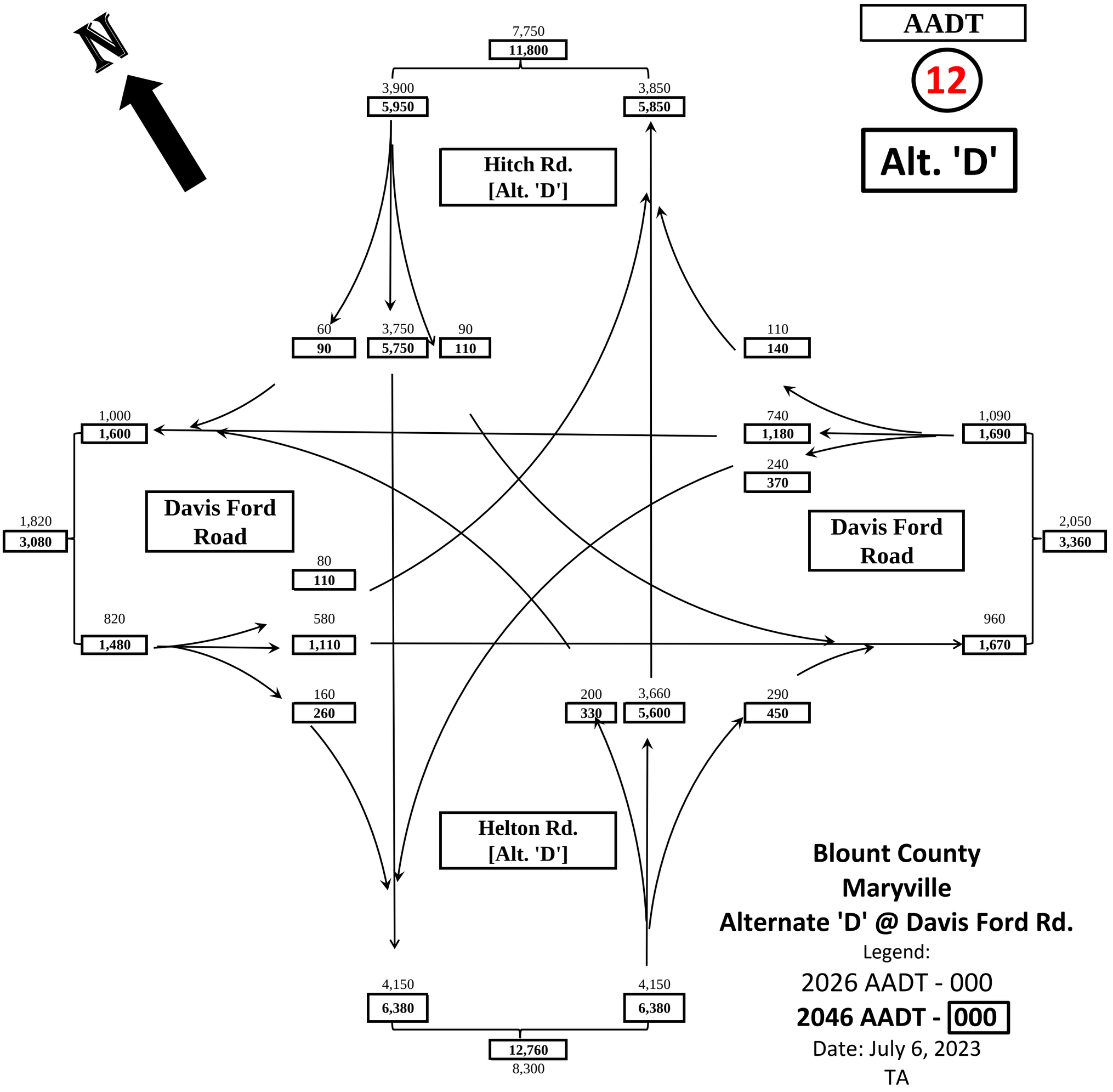
2046 AADT - 000

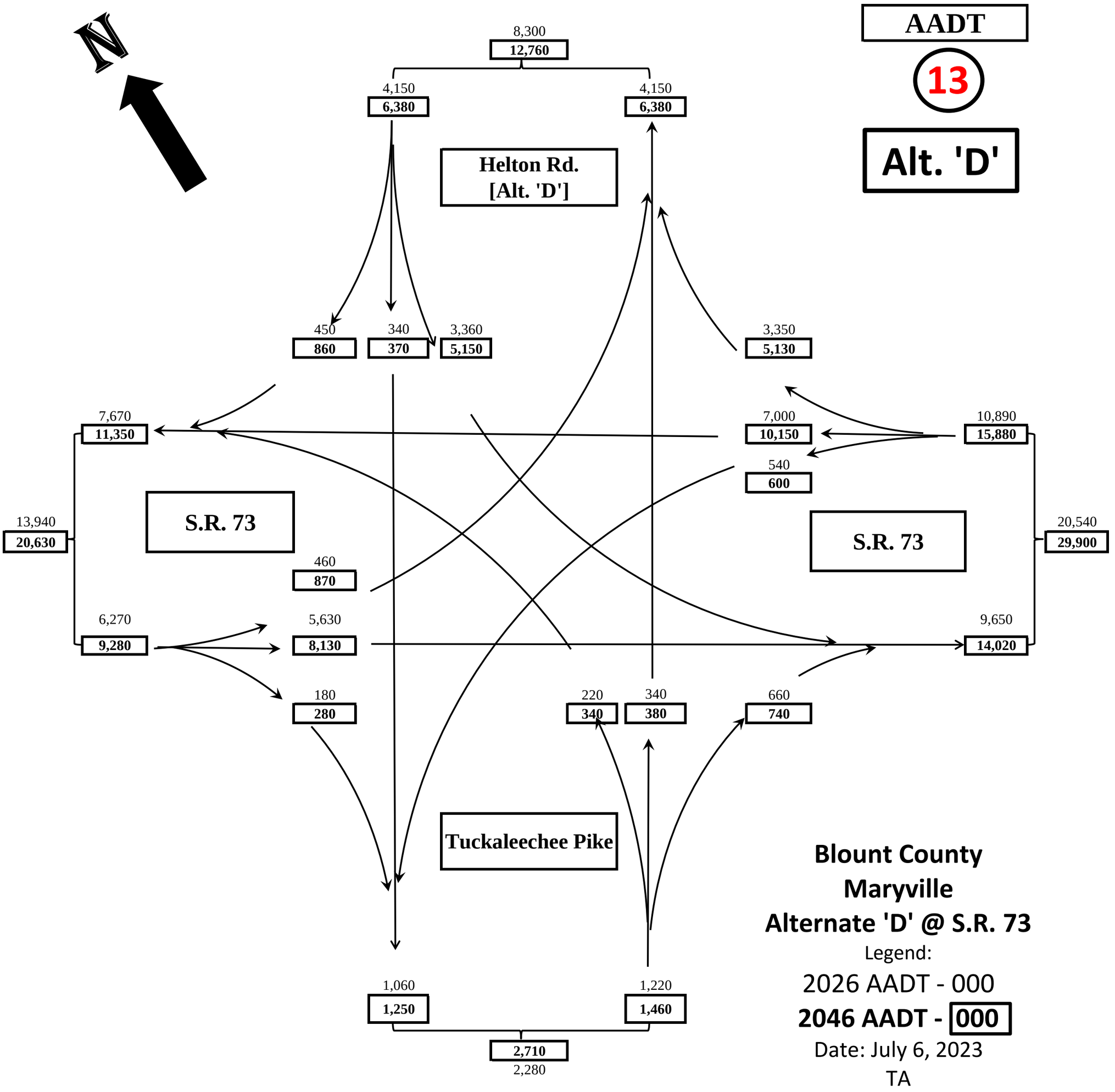
Date: July 3, 2023

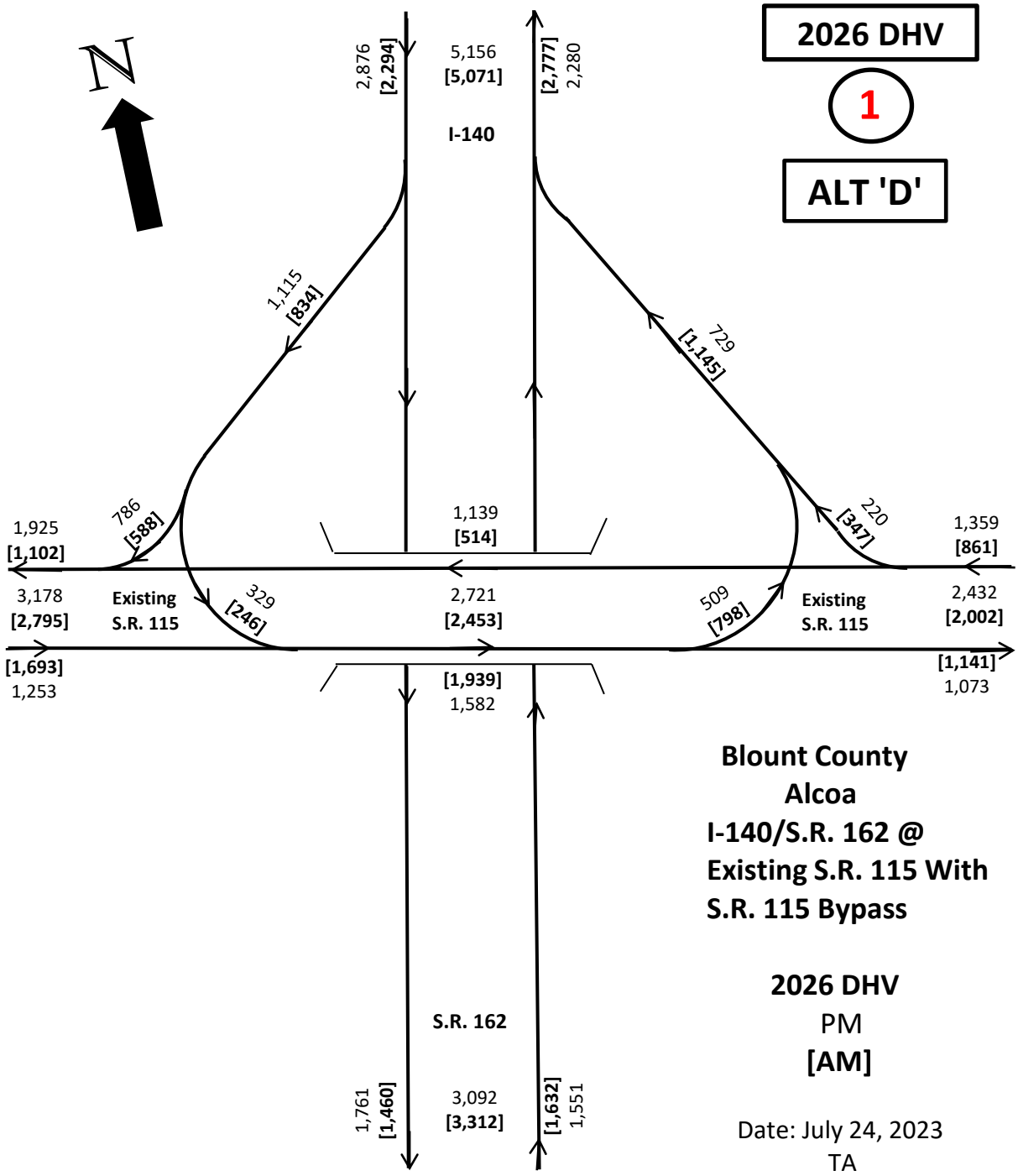
TA


N
AADT
10
Alt. 'D'
11,820
17,910
5,320
8,070
6,500
9,840
Sam Houston School Rd. [Alt. 'D']
460
850
3,770
5,980
1,090
1,240
1,340
1,520
2,150
2,770
1,310
1,210
3,740
3,920
1,090
1,190
Wildwood Road
Wildwood Road
4,280
5,560
7,420
7,780
560
1,030
2,130
2,790
1,250
1,160
3,680
3,860
320
600
380
710
4,600
7,290
1,340
1,460
Peppermint Rd. [Alt. 'D']
5,180
7,770
6,320
9,460
17,230
11,500
Blount County
Maryville
Alternate 'D' @ Wildwood Rd.
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 6, 2023
TA


N
AADT
11
Alt. 'D'
11,470
17,150
5,570
8,360
5,900
8,790
Peppermint Rd.
[Alt. 'D']
1,290
2,000
3,020
4,580
1,260
1,780
1,540
2,170
4,040
6,200
2,210
3,240
4,180
5,990
430
580
S.R. 35
S.R. 35
8,970
13,770
8,870
12,820
1,570
2,430
4,930
7,570
2,910
4,350
4,690
6,830
450
790
540
960
2,790
4,190
520
700
Hitch Rd.
[Alt. 'D']
3,900
5,950
3,850
5,850
11,800
7,750
Blount County
Maryville
Alternate 'D' @ S.R. 35
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 6, 2023
TA


N
AADT
12
Alt. 'D'
7,750
11,800
3,900
5,950
3,850
5,850
Hitch Rd.
[Alt. 'D']
60
90
3,750
5,750
90
110
110
140
1,000
1,600
740
1,180
1,090
1,690
240
370
Davis Ford
Road
Davis Ford
Road
1,820
3,080
2,050
3,360
80
110
820
1,480
580
1,110
960
1,670
160
260
200
330
3,660
5,600
290
450
Helton Rd.
[Alt. 'D']
4,150
6,380
4,150
6,380
12,760
8,300
Blount County
Maryville
Alternate 'D' @ Davis Ford Rd.
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 6, 2023
TA

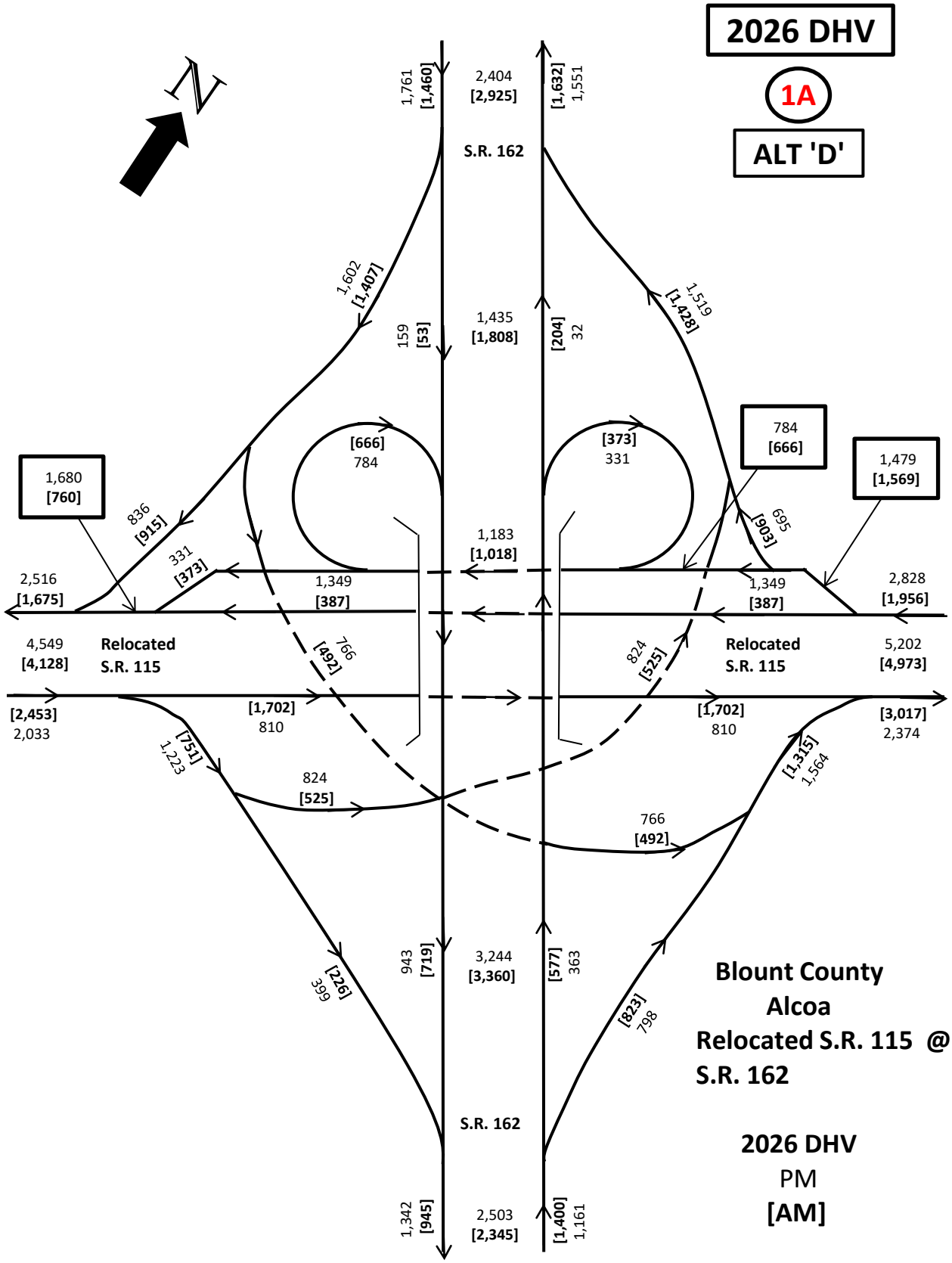

N
AADT
13
Alt. 'D'
8,300
12,760
4,150
6,380
4,150
6,380
Helton Rd.
[Alt. 'D']
450
860
340
370
3,360
5,150
3,350
5,130
7,670
11,350
7,000
10,150
10,890
15,880
540
600
S.R. 73
S.R. 73
13,940
20,630
20,540
29,900
460
870
6,270
9,280
5,630
8,130
9,650
14,020
180
280
220
340
340
380
660
740
Tuckaleechee Pike
1,060
1,250
1,220
1,460
2,710
2,280
Blount County
Maryville
Alternate 'D' @ S.R. 73
Legend:
2026 AADT - 000
2046 AADT - 000
Date: July 6, 2023
TA



Blount County
Alcoa
I-140/S.R. 162 @
Existing S.R. 115 With
S.R. 115 Bypass

2026 DHV
PM
[AM]

Date: July 24, 2023
TA



Blount County
Alcoa
Relocated S.R. 115 @ S.R. 162

2026 DHV
PM
[AM]

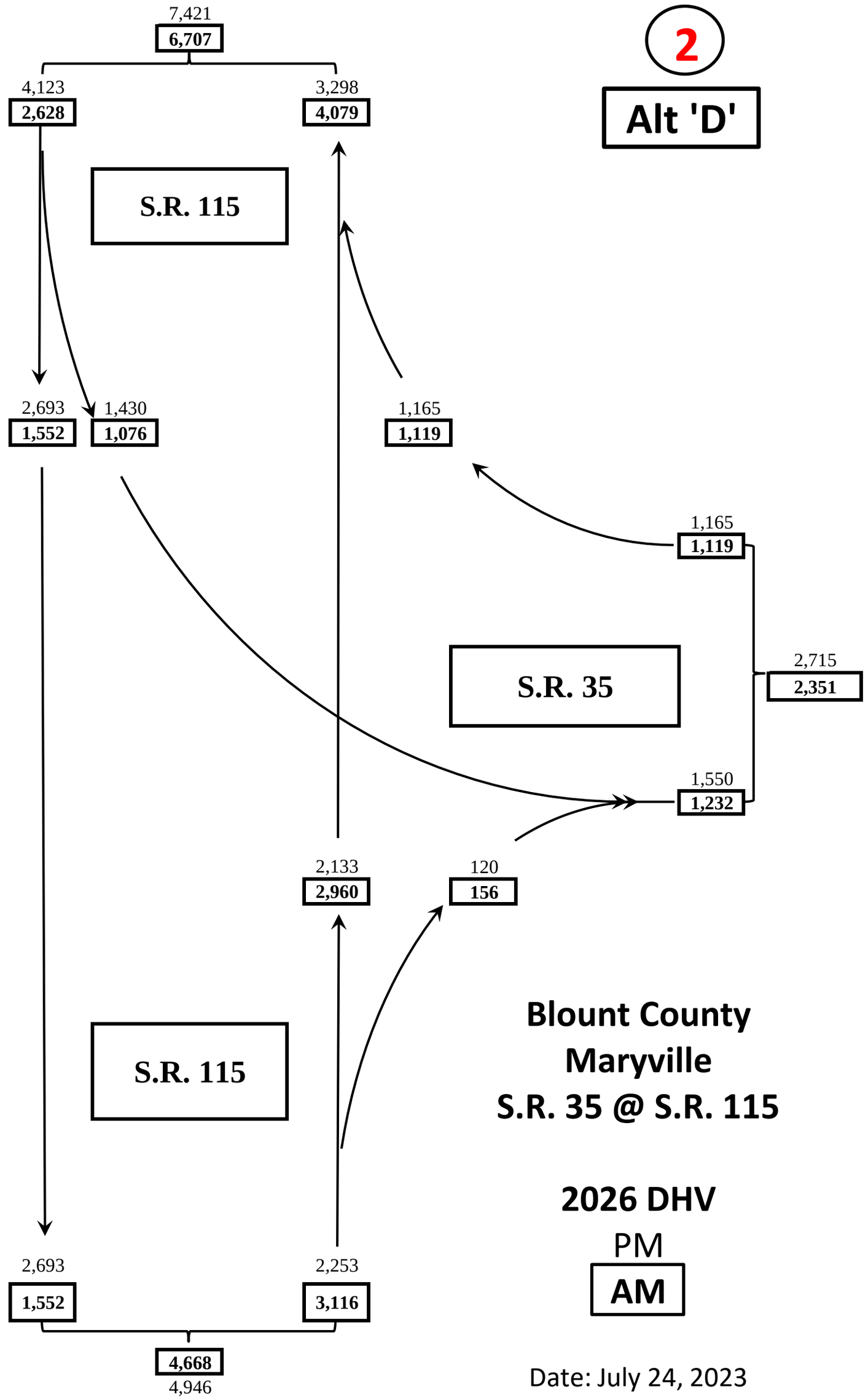
Date: July 24, 2023
TA

N

2026 DHV

2

Alt 'D'



Blount County
Maryville
S.R. 35 @ S.R. 115

2026 DHV

PM

AM

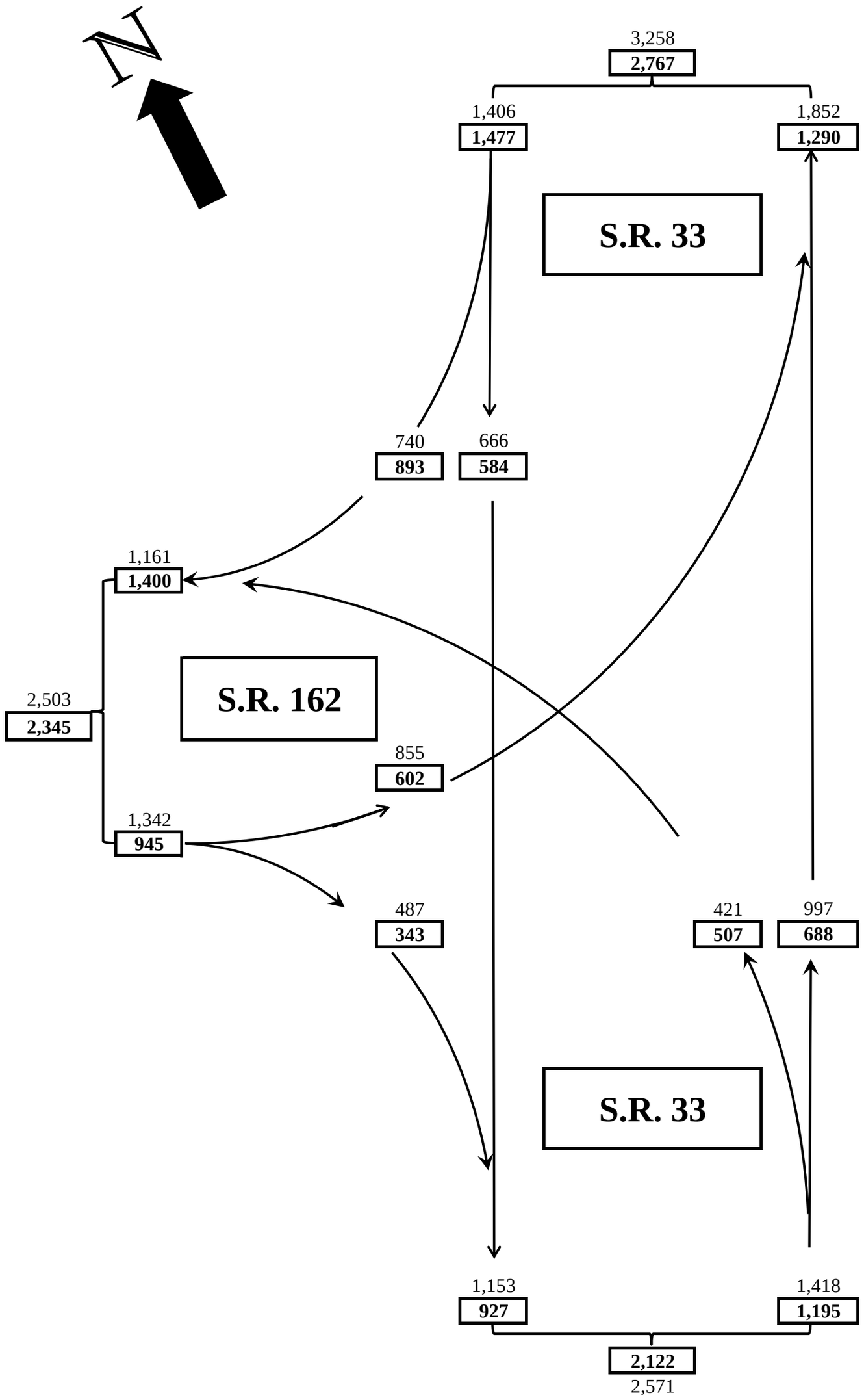
Date: July 24, 2023

TA

2026 DHV

Alt. 'D'

3



Blount County

Maryville

S.R. 33 @ S.R. 162

2026 DHV

PM

AM

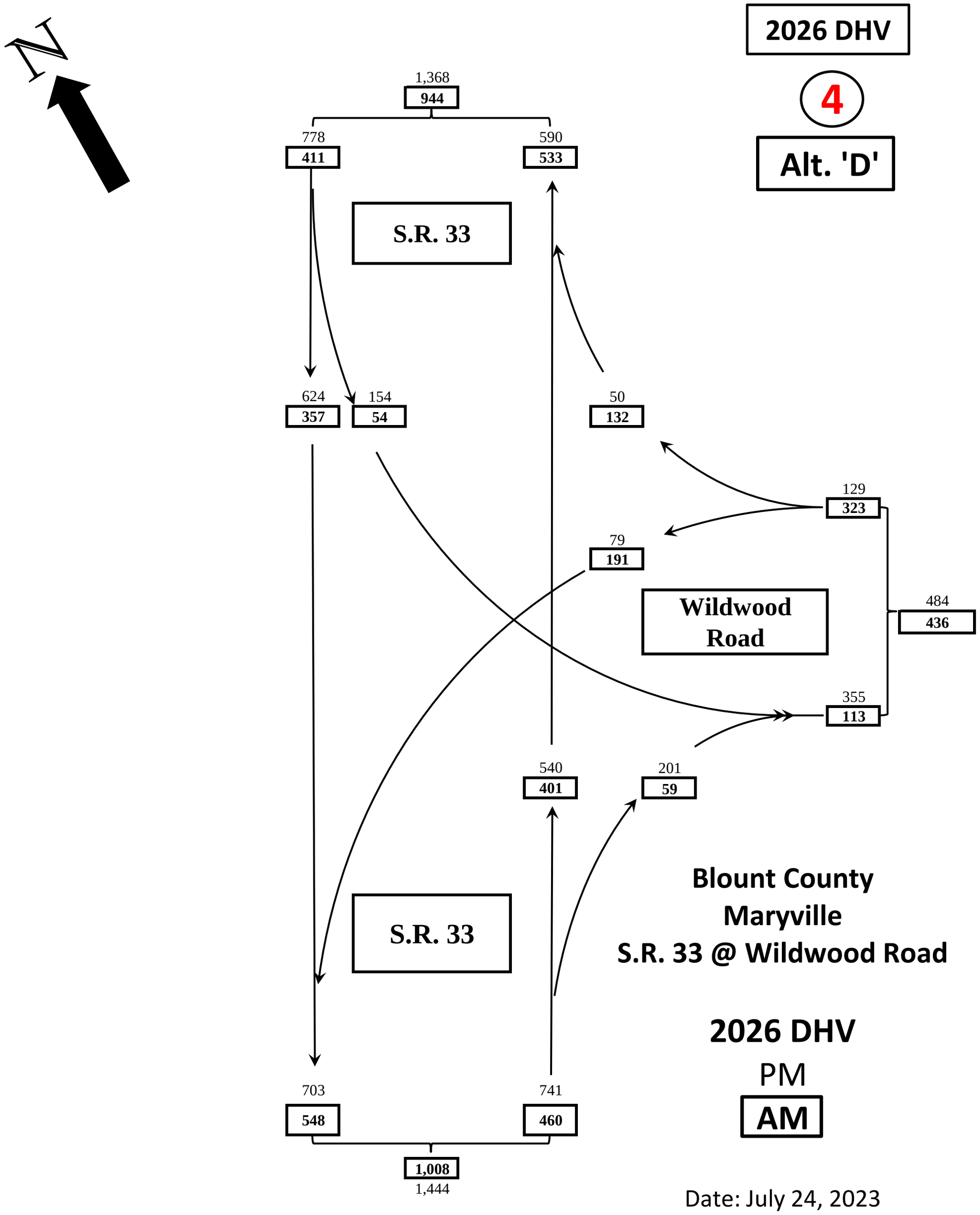
Date: July 24, 2023

TA

2026 DHV

4

Alt. 'D'



Blount County
Maryville
S.R. 33 @ Wildwood Road

2026 DHV

PM

AM

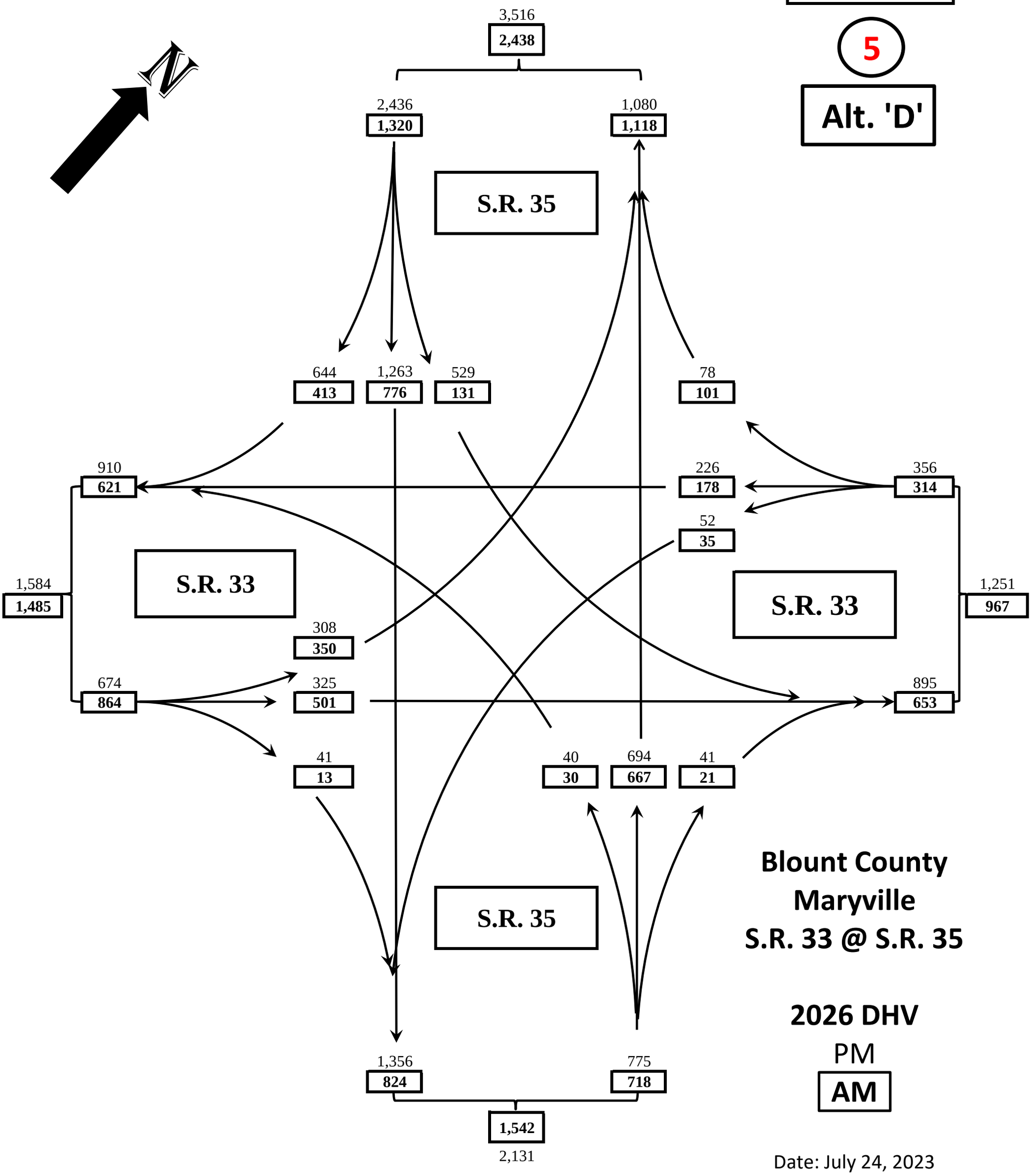
Date: July 24, 2023

TA

2026 DHV

5

Alt. 'D'



Blount County
Maryville
S.R. 33 @ S.R. 35

2026 DHV

PM

AM

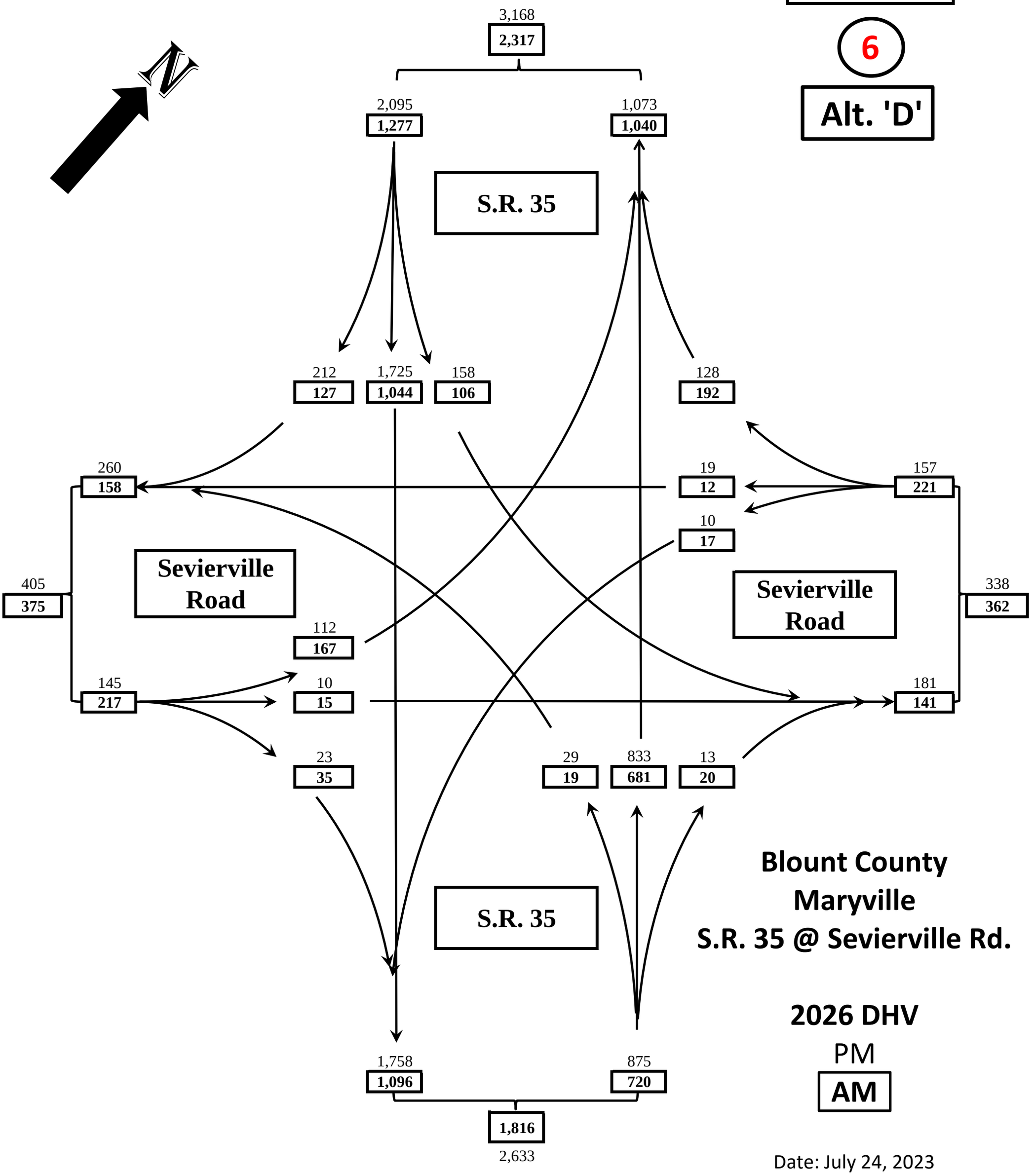
Date: July 24, 2023

TA

2026 DHV

6

Alt. 'D'



Blount County
Maryville
S.R. 35 @ Sevierville Rd.

2026 DHV

PM

AM

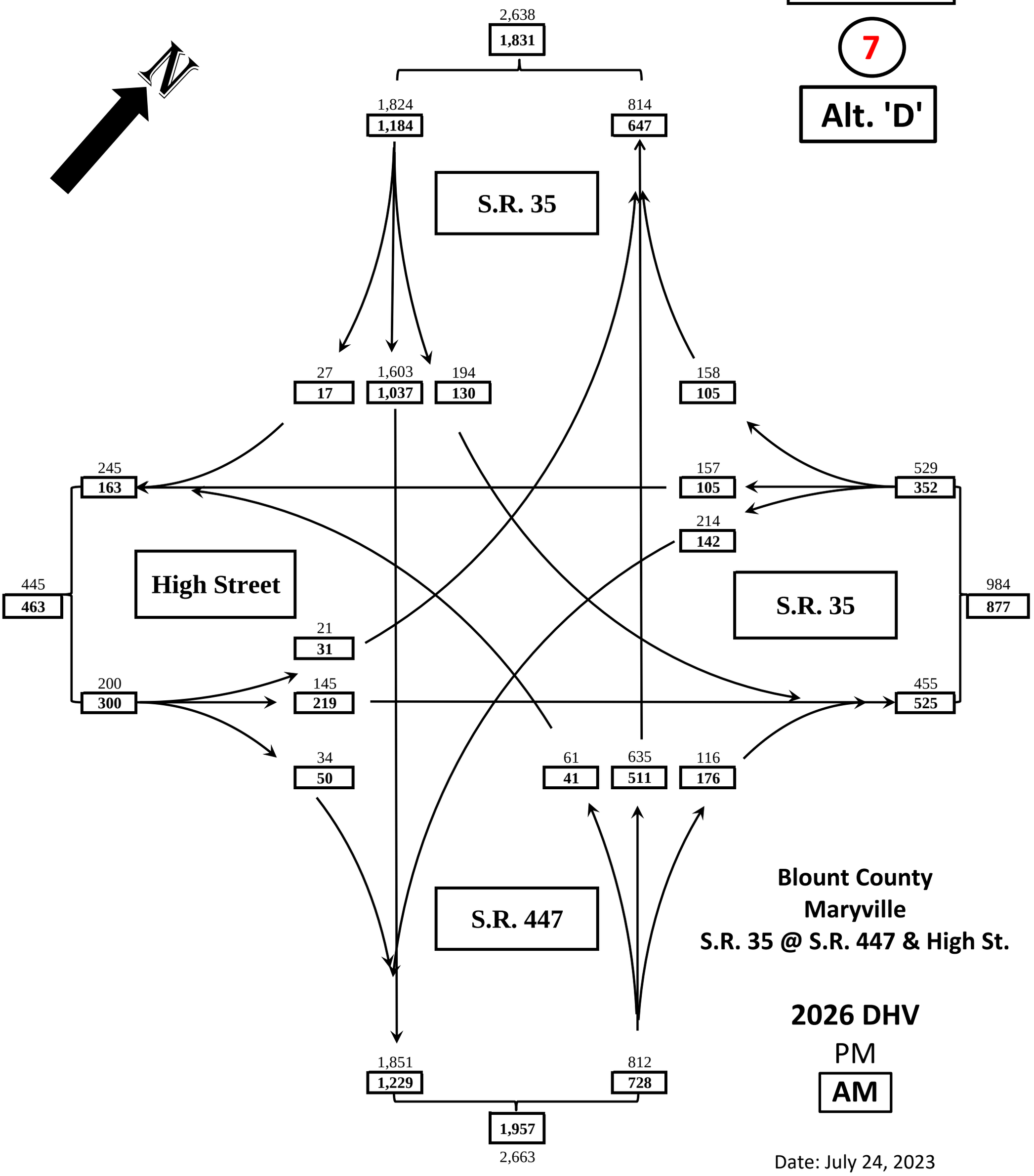
Date: July 24, 2023

TA

2026 DHV

7

Alt. 'D'



Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.

2026 DHV

PM

AM

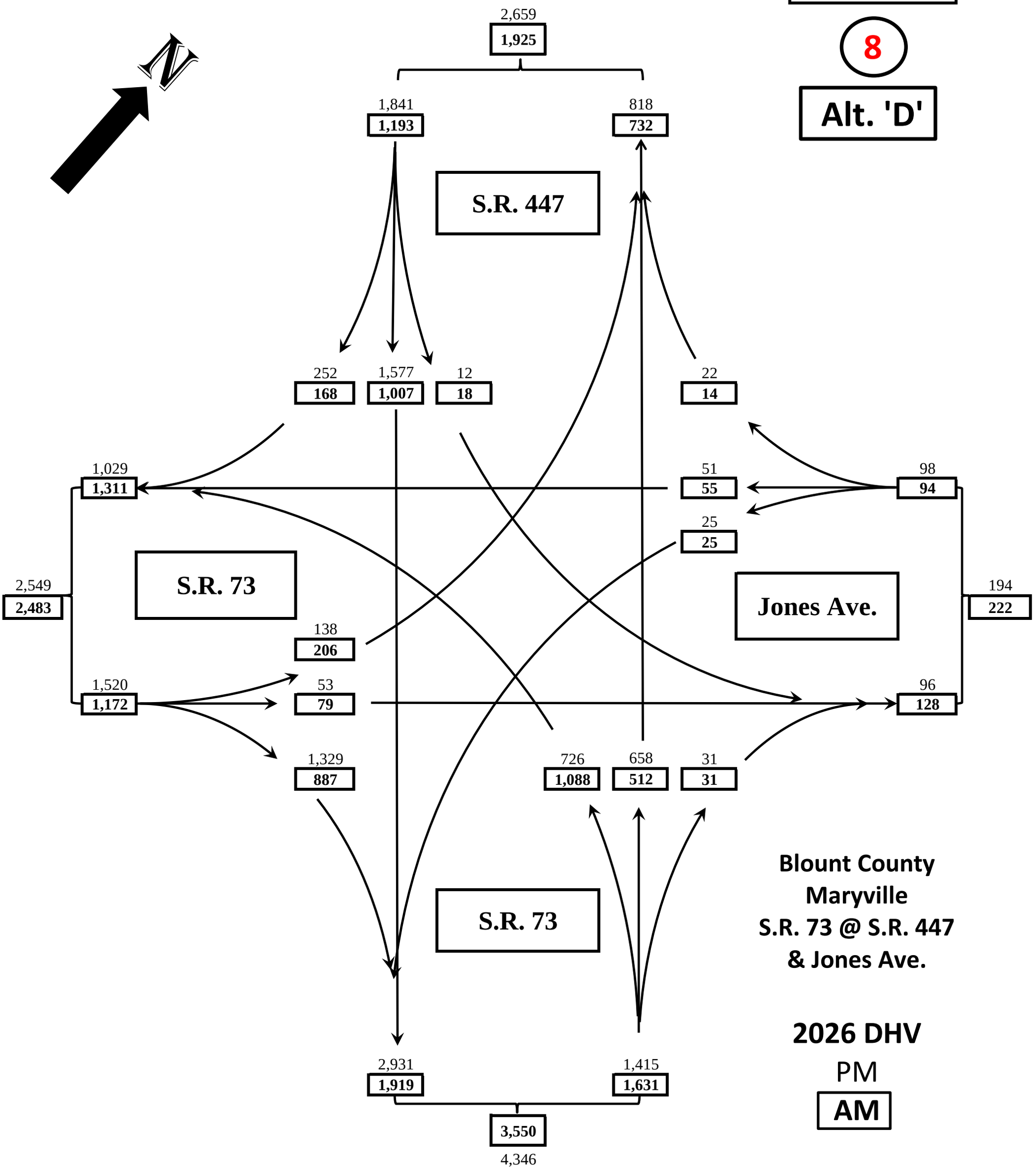
Date: July 24, 2023

TA

2026 DHV

8

Alt. 'D'



Blount County
Maryville
S.R. 73 @ S.R. 447
& Jones Ave.

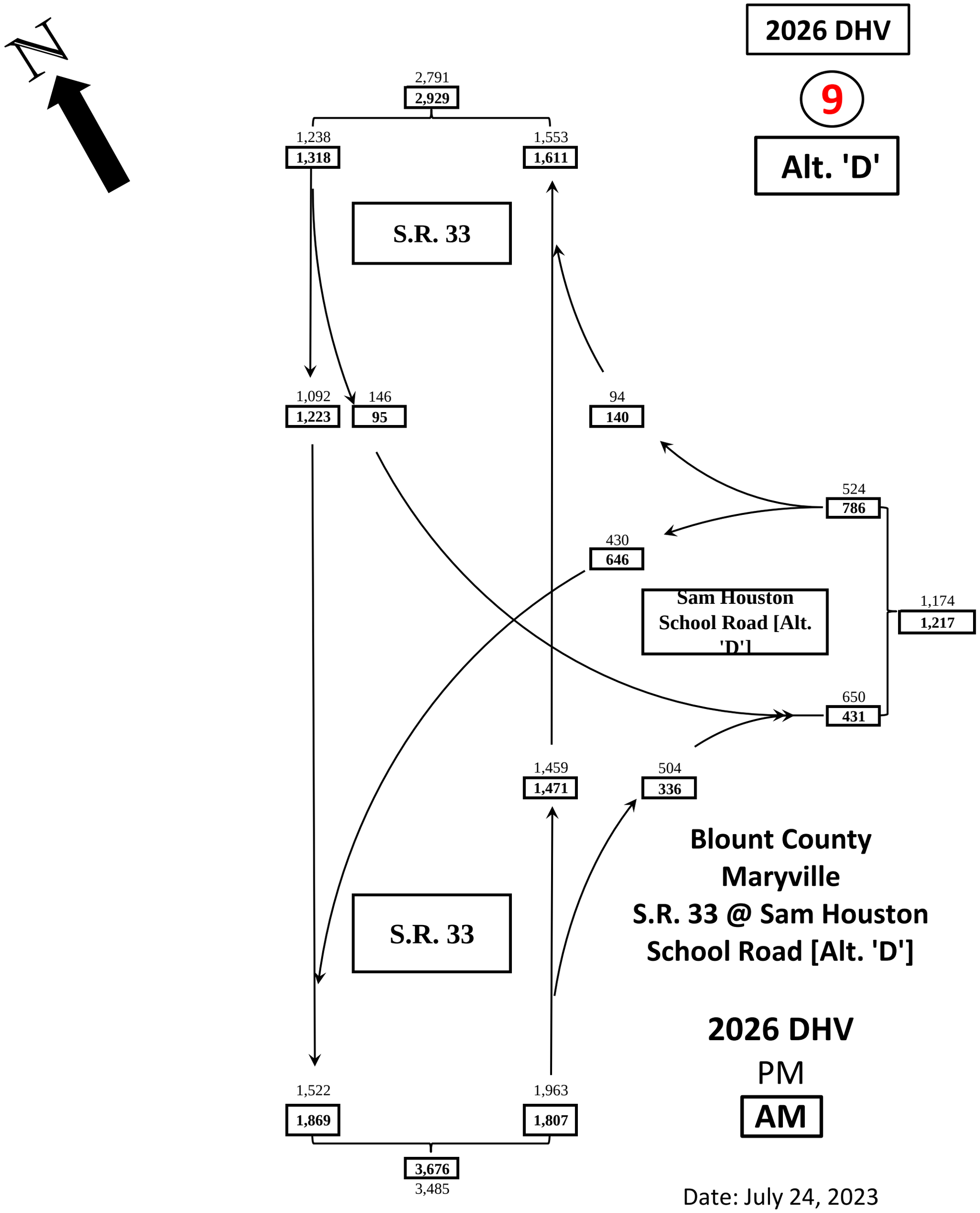
2026 DHV

PM

AM

Date: July 20, 2023

TA



2026 DHV

9

Alt. 'D'

Blount County
Maryville
S.R. 33 @ Sam Houston School Road [Alt. 'D']

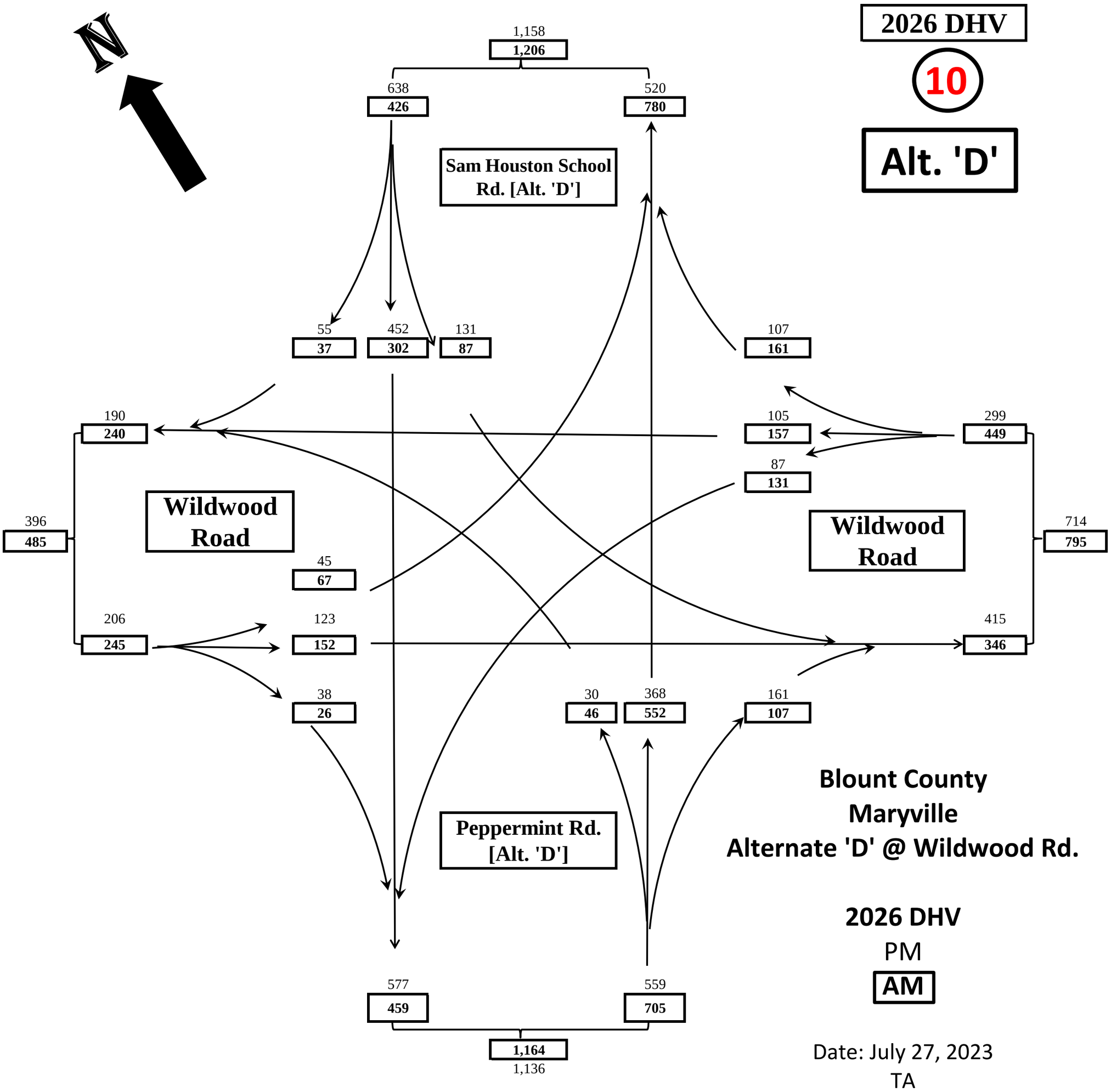
2026 DHV

PM

AM

Date: July 24, 2023

TA



2026 DHV

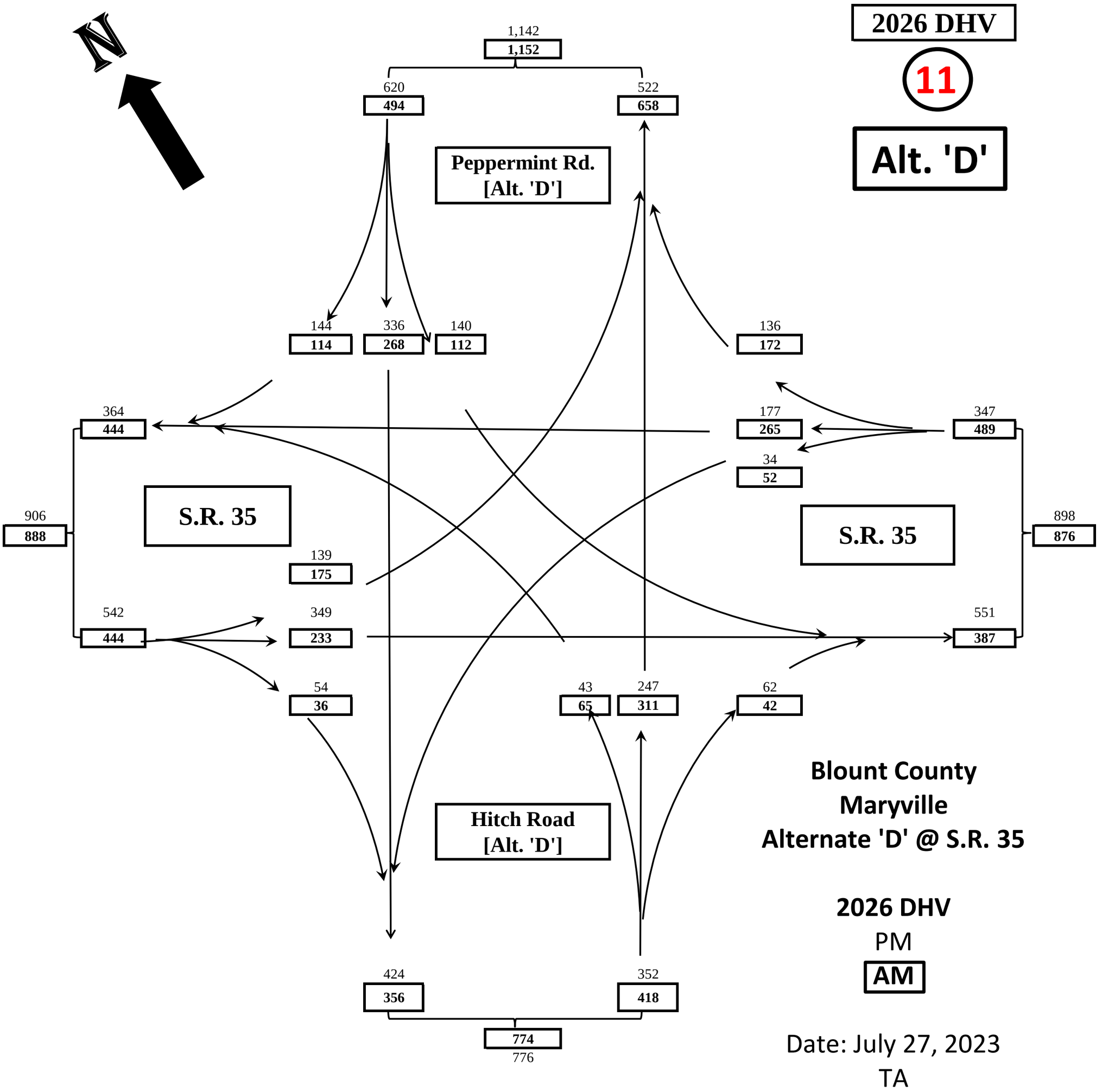
10

Alt. 'D'

Blount County
Maryville
Alternate 'D' @ Wildwood Rd.

2026 DHV
PM
AM

Date: July 27, 2023
TA



2026 DHV

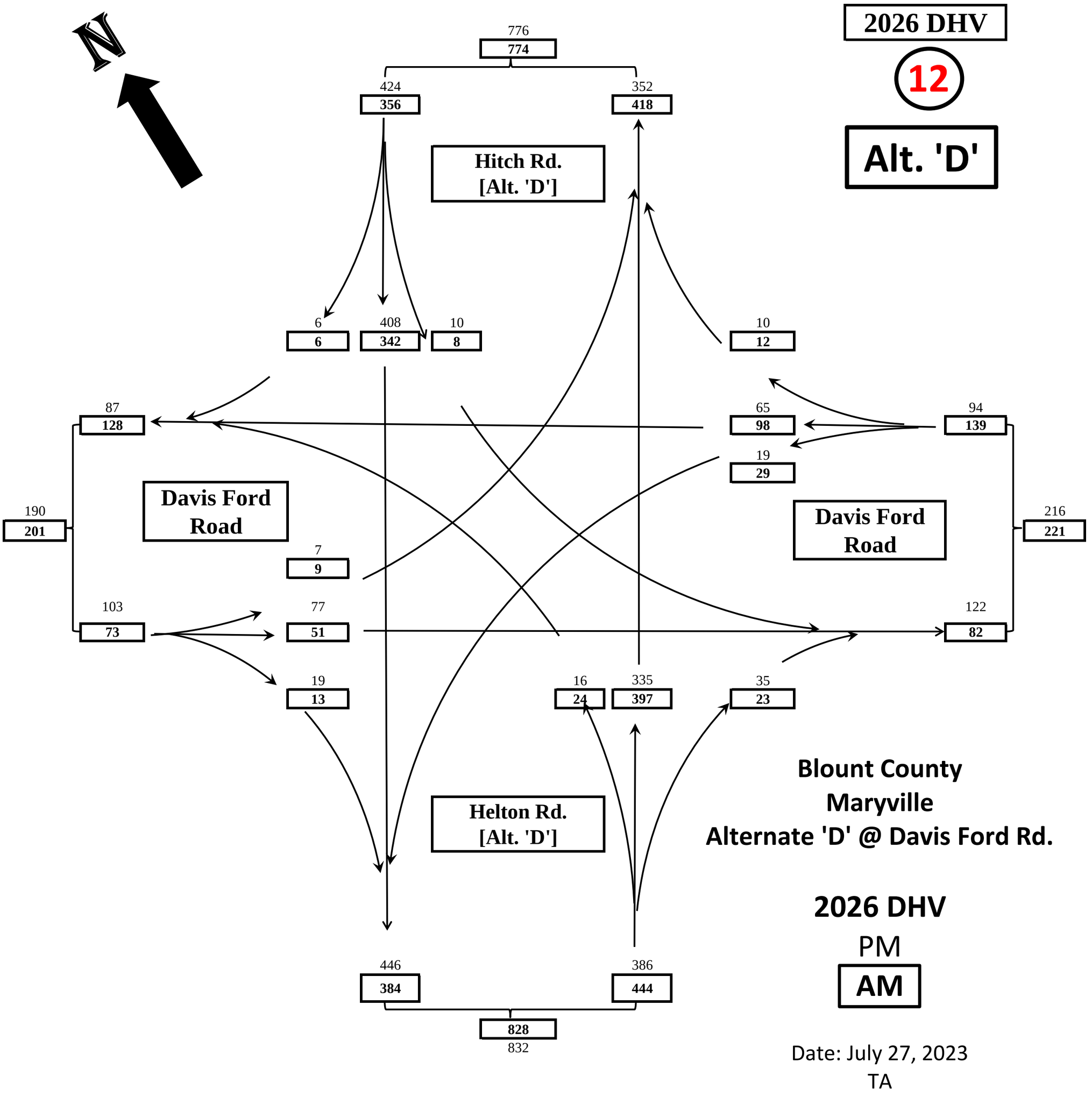
11

Alt. 'D'

Blount County
Maryville
Alternate 'D' @ S.R. 35

2026 DHV
PM
AM

Date: July 27, 2023
TA



2026 DHV

12

Alt. 'D'

Blount County
Maryville
Alternate 'D' @ Davis Ford Rd.

2026 DHV

PM

AM

Date: July 27, 2023

TA

2026 DHV

13

Alt 'D'

N

832
828

446
384

386
444

Helton Road
[Alt. 'D']

48 **42** | 37 **32** | 361 **310**

312 **358**

627 **911**

560 **840**

943 **1,246**

71 **48**

1,370 **1,426**

S.R. 73

S.R. 73

2,038 **2,093**

43 **49**

743 **515**

676 **450**

1,095 **847**

24 **16**

19 **29** | 31 **37** | 58 **87**

Tuckaleechee Pike

132 **96**

108 **153**

249

240

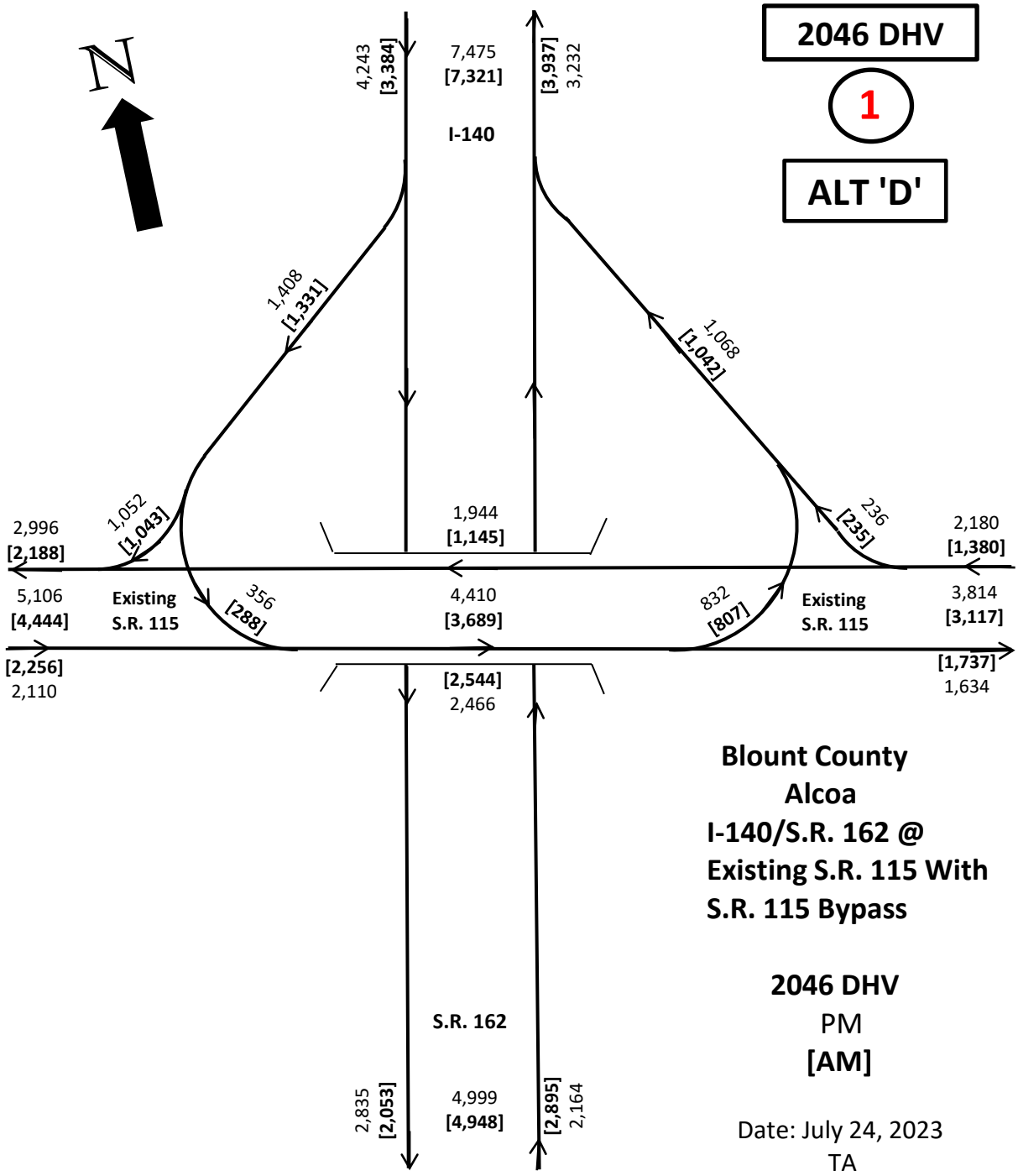
Blount County
Maryville
S.R. 73 @ Alternate 'D'
& Tuckleechee Pike

2026 DHV

PM

AM

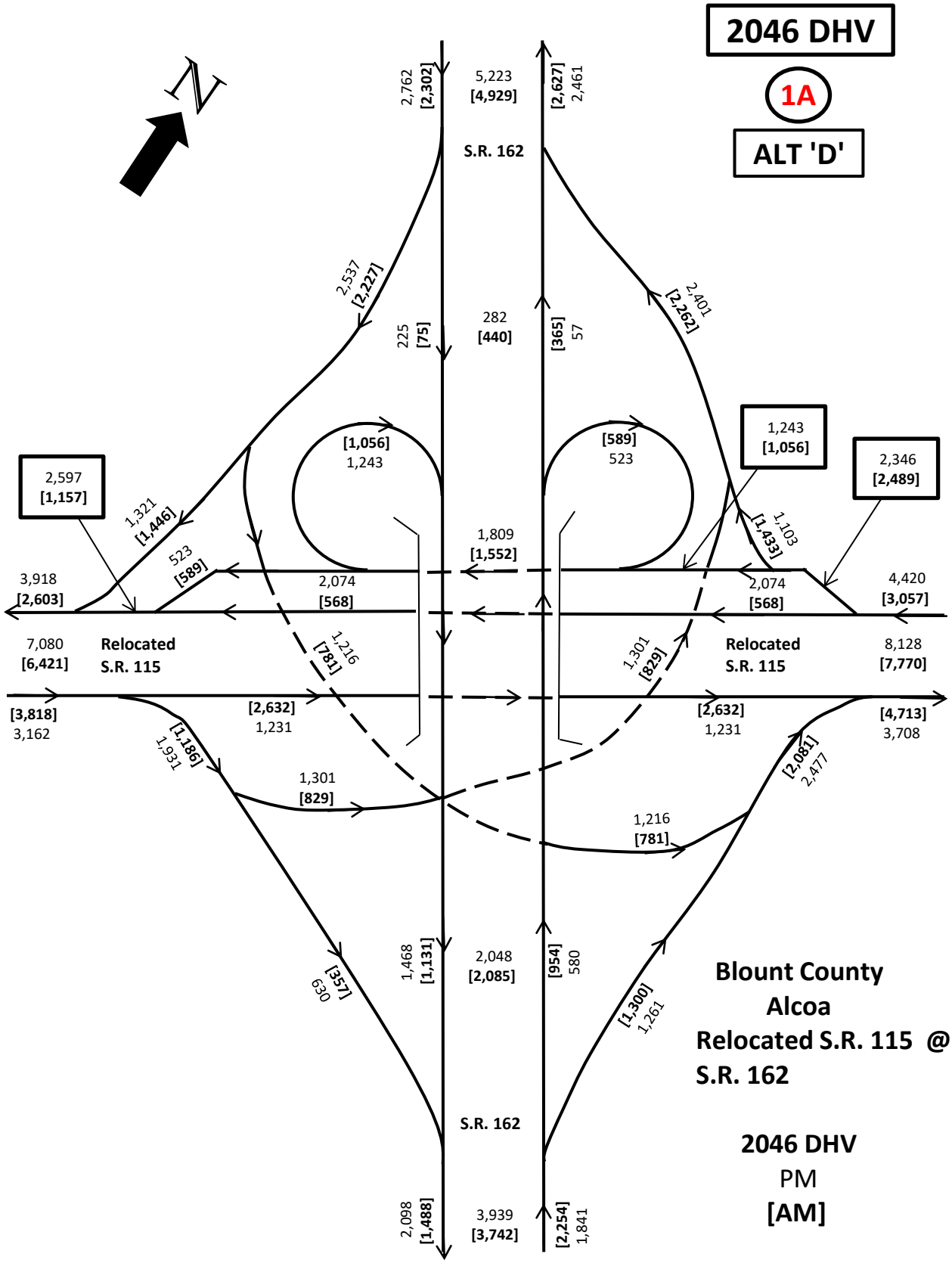
Date: July 27, 2023
TA



Blount County
Alcoa
I-140/S.R. 162 @
Existing S.R. 115 With
S.R. 115 Bypass

2046 DHV
PM
[AM]

Date: July 24, 2023
TA

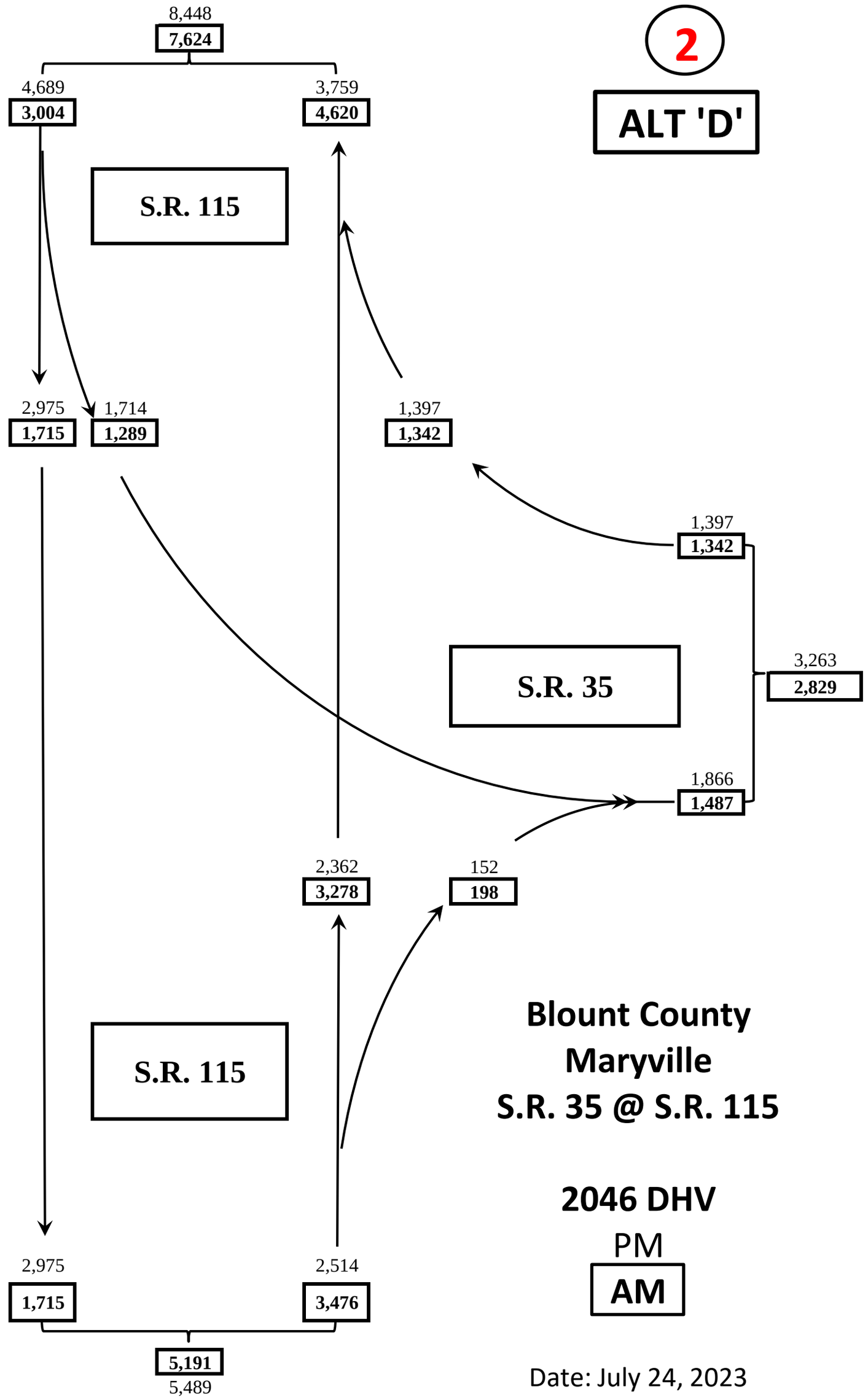


Blount County
Alcoa
Relocated S.R. 115 @ S.R. 162

2046 DHV
PM
[AM]

Date: July 24, 2023
TA

N



2046 DHV

2

ALT 'D'

Blount County
Maryville
S.R. 35 @ S.R. 115

2046 DHV

PM

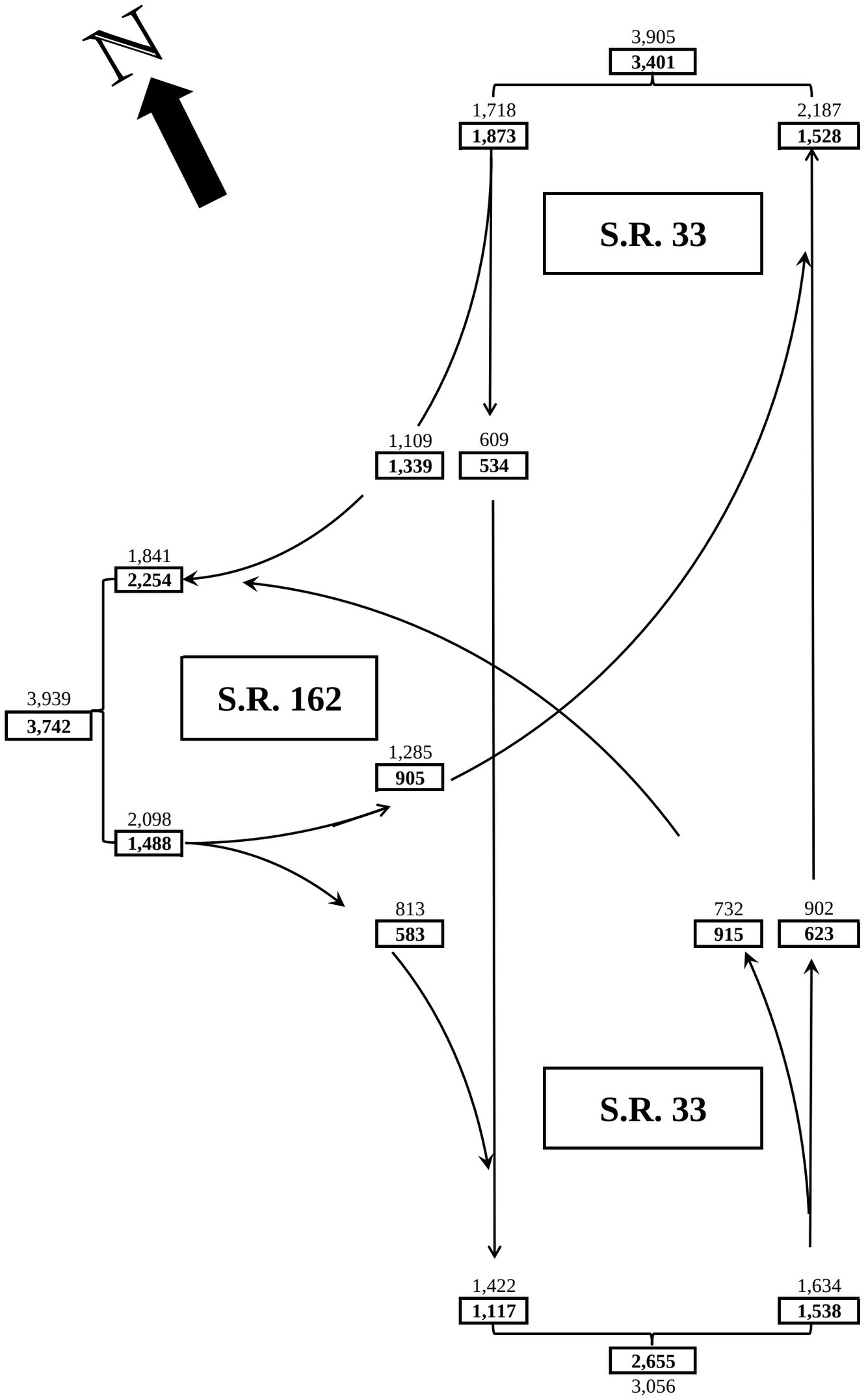
AM

Date: July 24, 2023
TA

2046 DHV

Alt. 'D'

3



Blount County

Maryville

S.R. 33 @ S.R. 162

2046 DHV

PM

AM

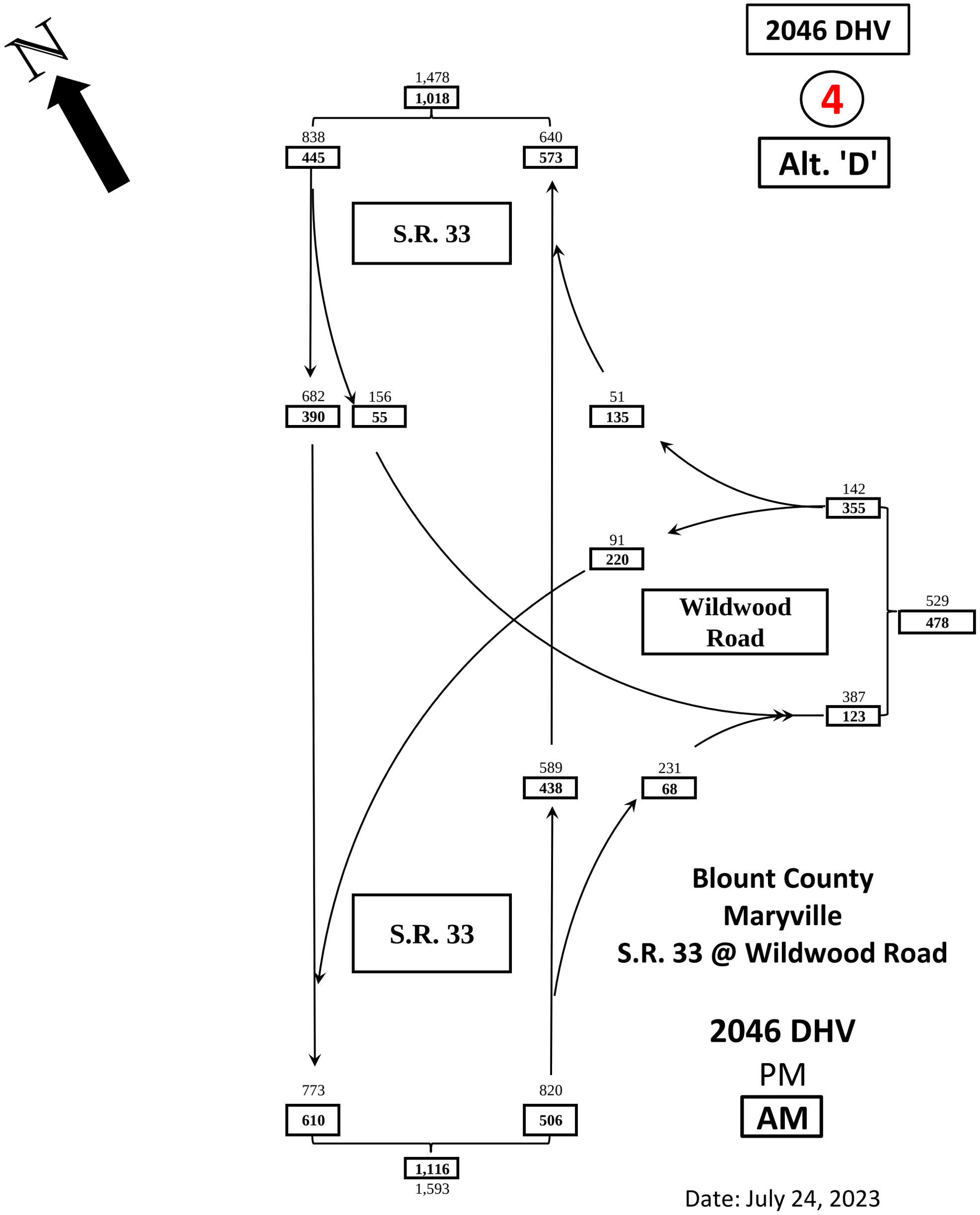
Date: July 24, 2023

TA

2046 DHV

4

Alt. 'D'



Blount County
Maryville
S.R. 33 @ Wildwood Road

2046 DHV

PM

AM

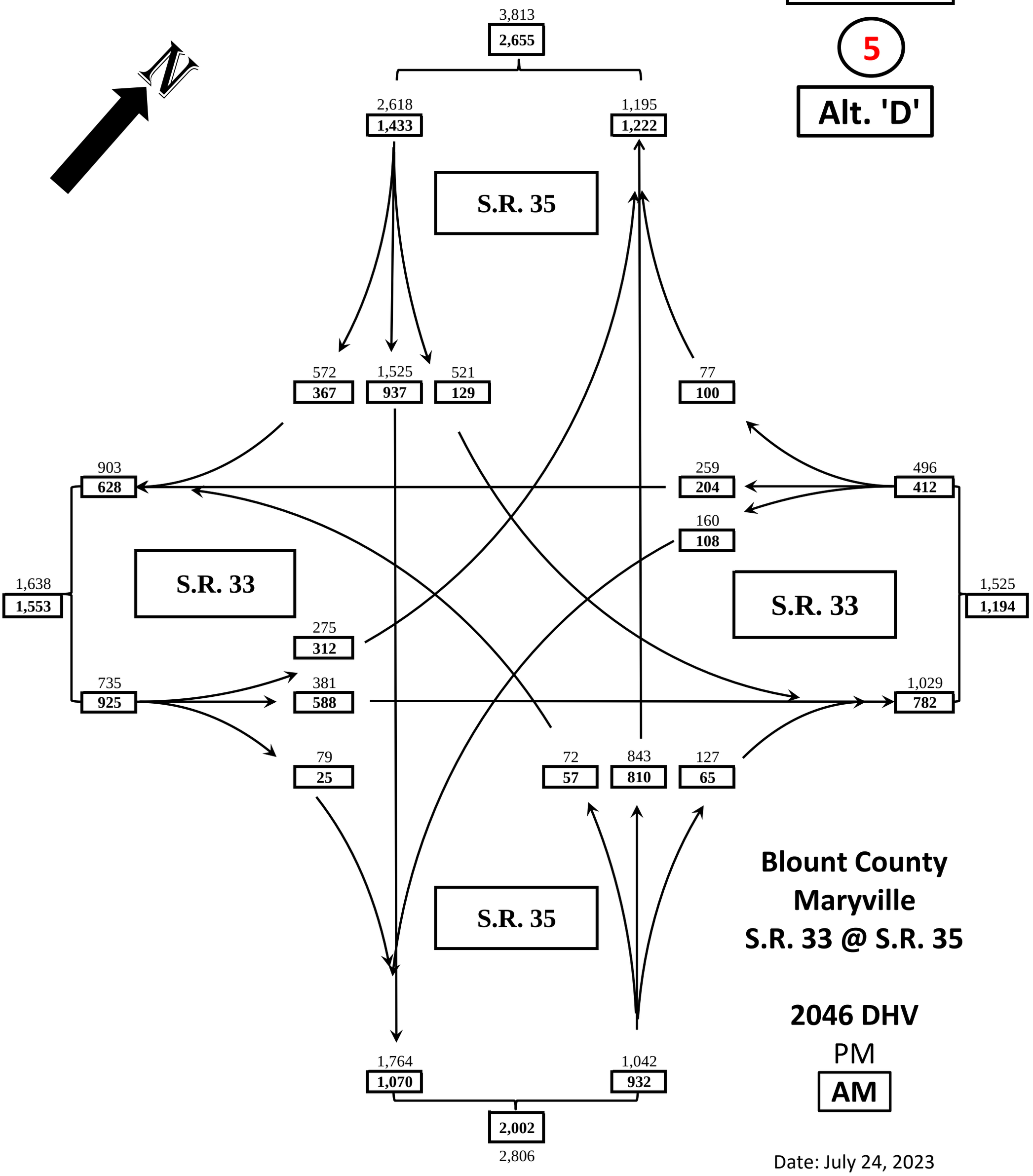
Date: July 24, 2023

TA

2046 DHV

5

Alt. 'D'



Blount County
Maryville
S.R. 33 @ S.R. 35

2046 DHV

PM

AM

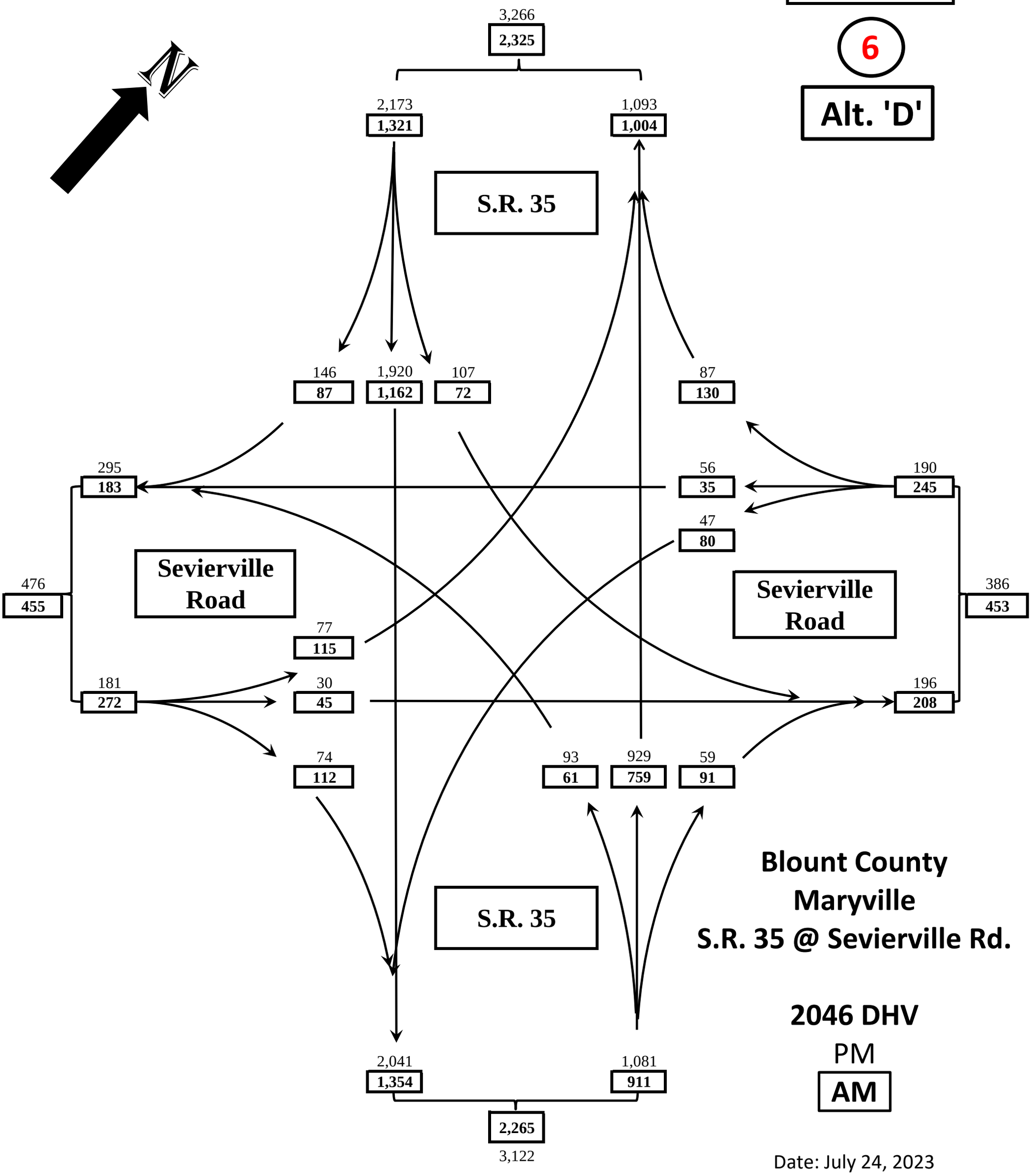
Date: July 24, 2023

TA

2046 DHV

6

Alt. 'D'



Blount County
Maryville
S.R. 35 @ Sevierville Rd.

2046 DHV

PM

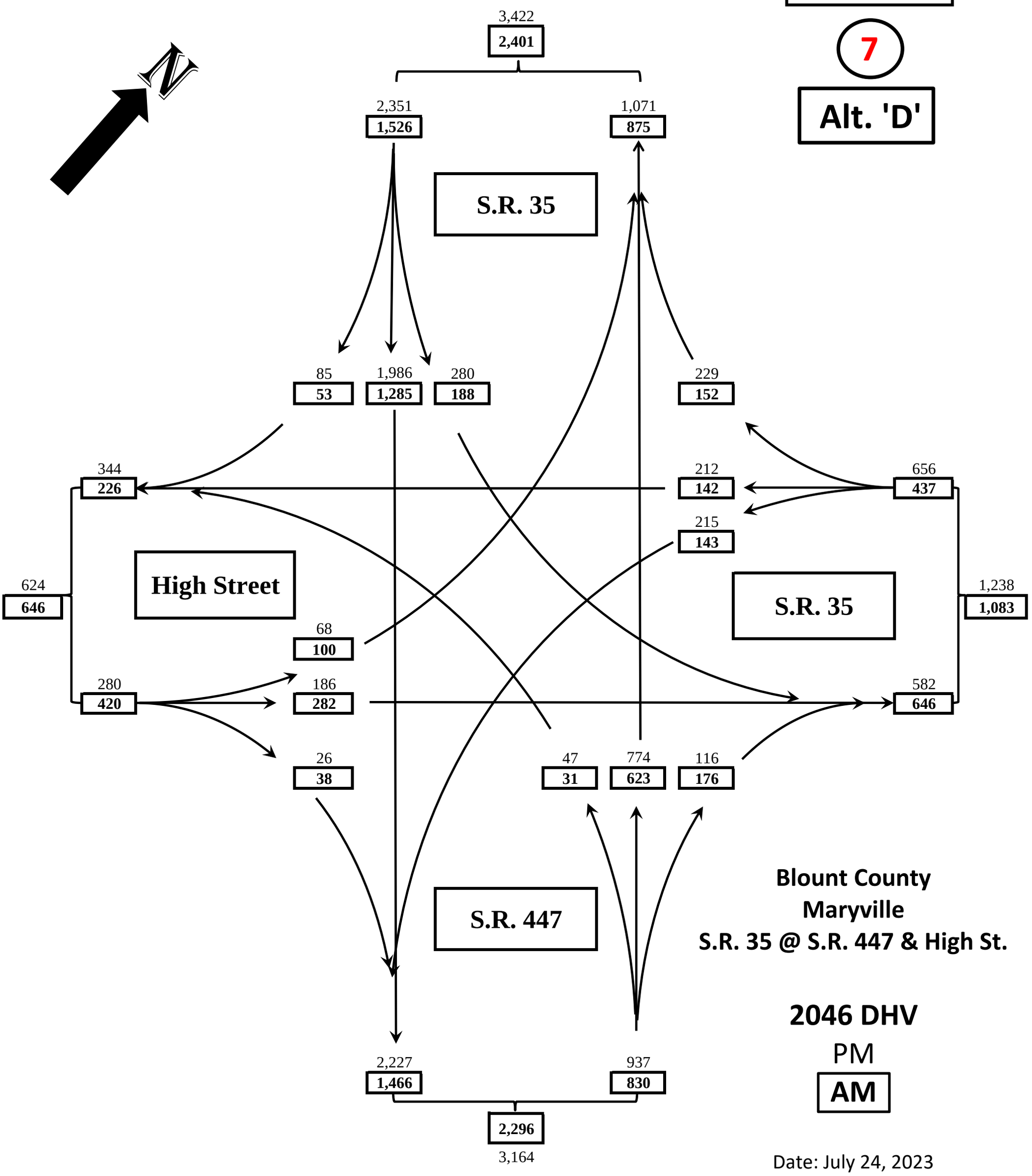
AM

Date: July 24, 2023
TA

2046 DHV

7

Alt. 'D'



Blount County
Maryville
S.R. 35 @ S.R. 447 & High St.

2046 DHV

PM

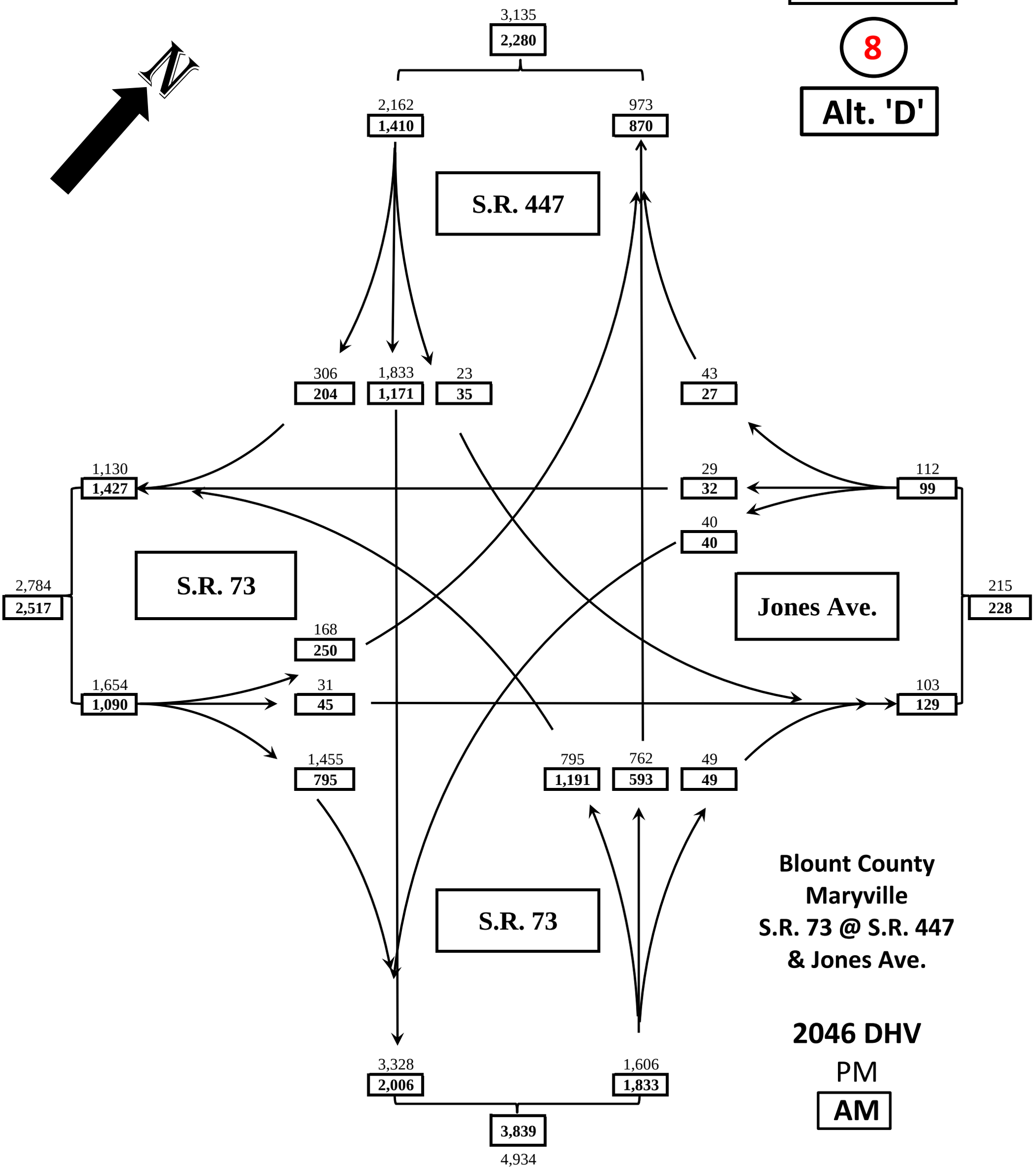
AM

Date: July 24, 2023
TA

2046 DHV

8

Alt. 'D'



Blount County
Maryville
S.R. 73 @ S.R. 447
& Jones Ave.

2046 DHV

PM

AM

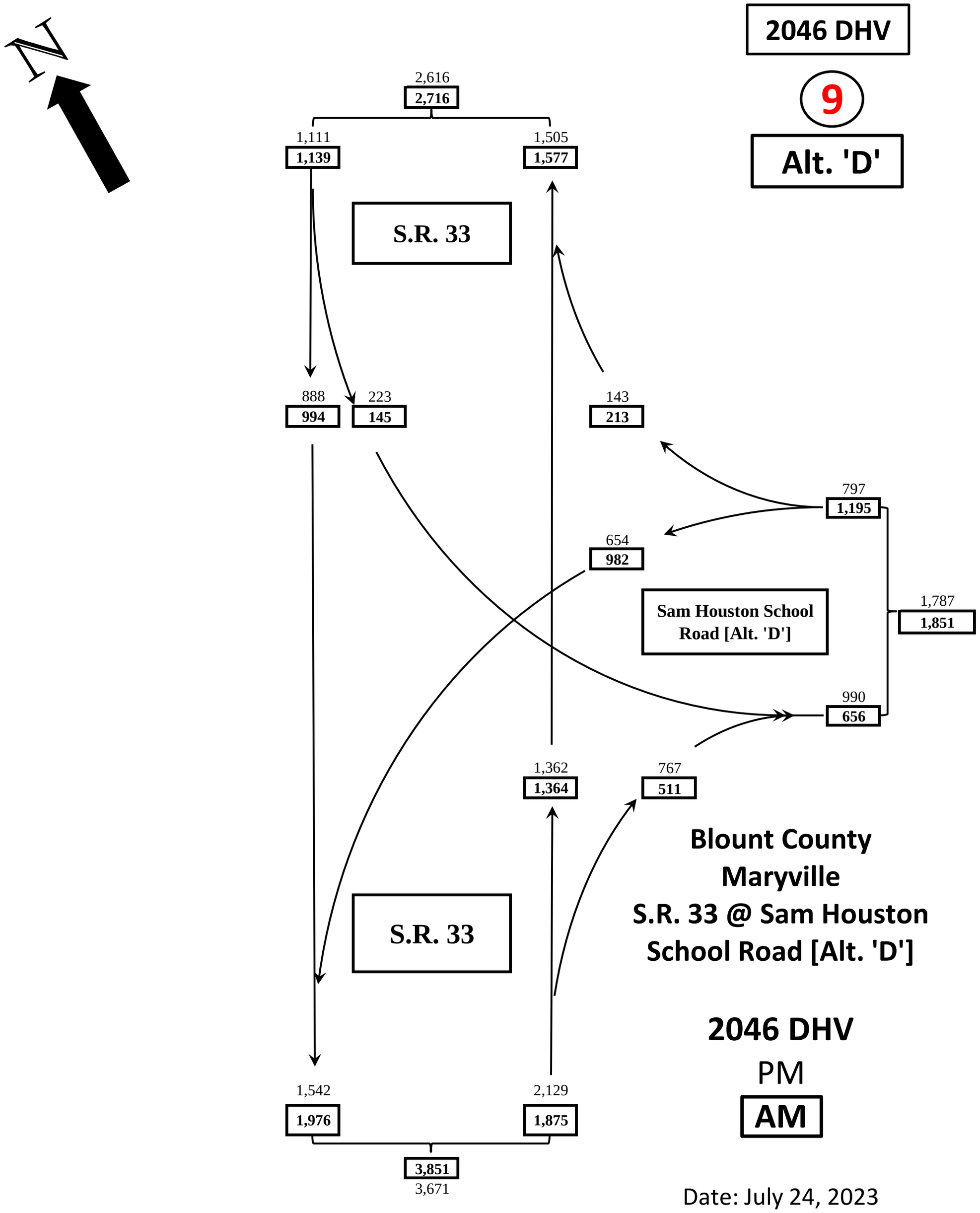
Date: July 24, 2023

TA

2046 DHV

9

Alt. 'D'



Blount County
Maryville
S.R. 33 @ Sam Houston School Road [Alt. 'D']

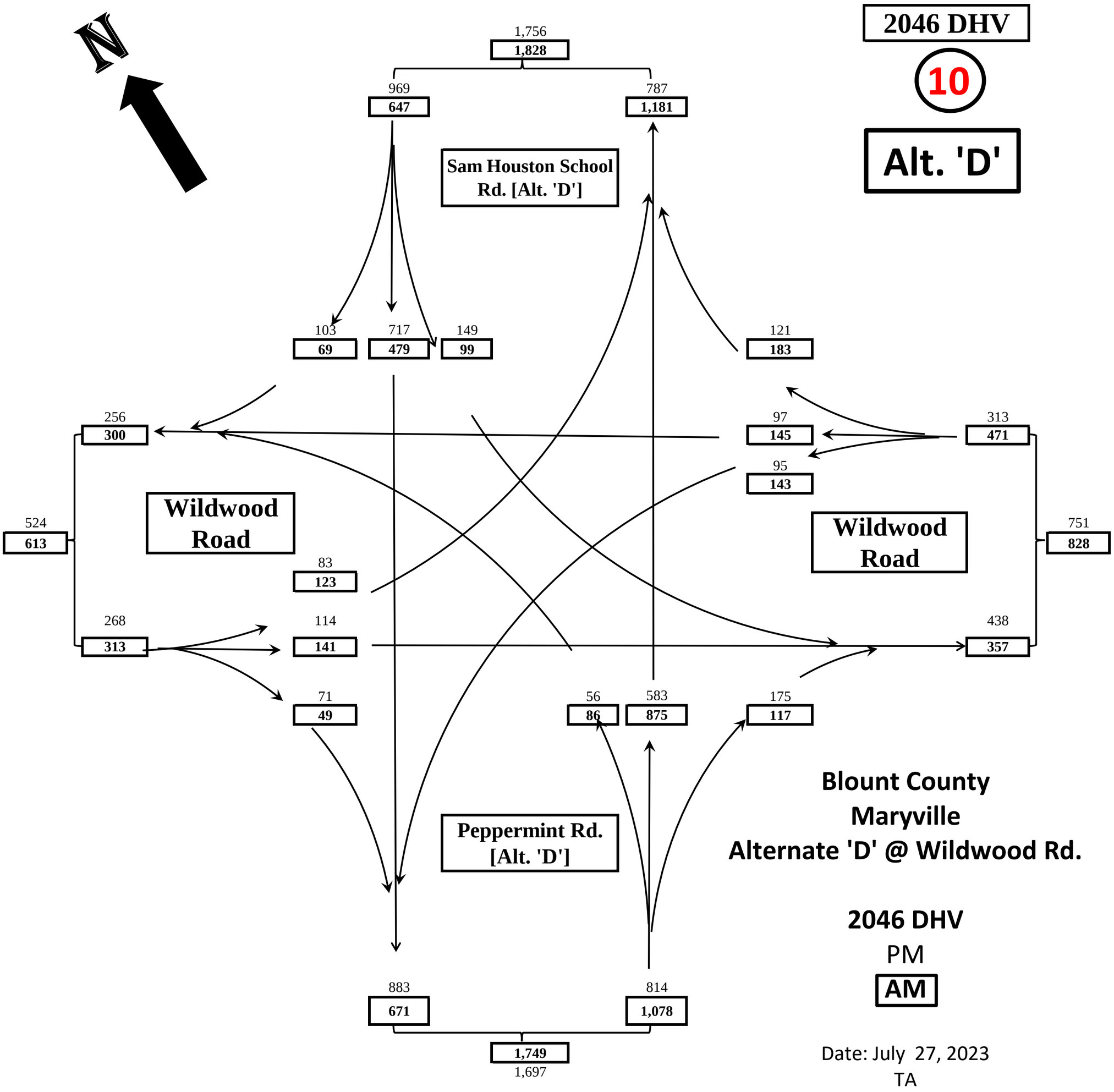
2046 DHV

PM

AM

Date: July 24, 2023

TA



2046 DHV

10

Alt. 'D'

Blount County
Maryville
Alternate 'D' @ Wildwood Rd.

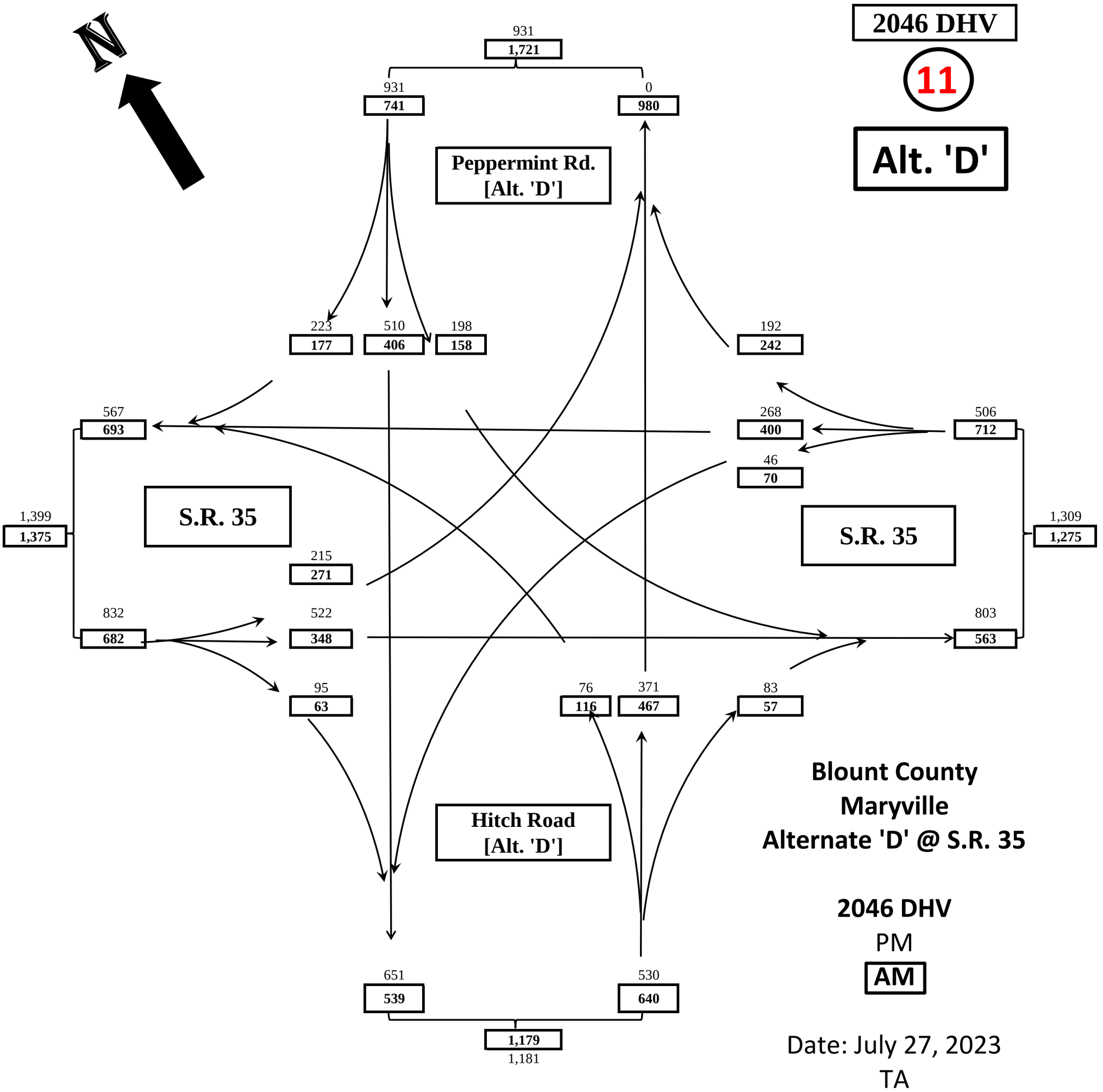
2046 DHV

PM

AM

Date: July 27, 2023

TA



2046 DHV

11

Alt. 'D'

Blount County
Maryville
Alternate 'D' @ S.R. 35

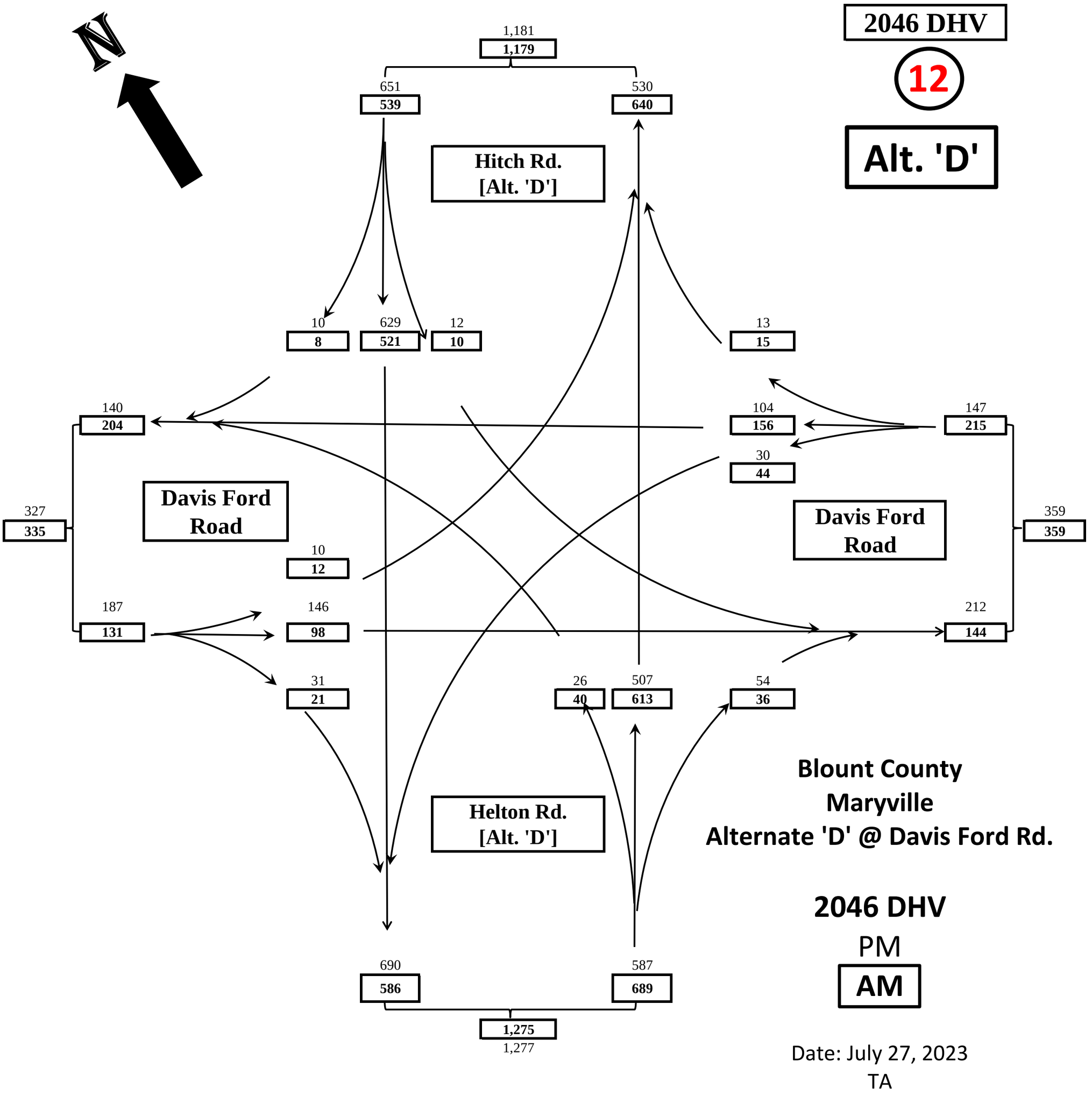
2046 DHV

PM

AM

Date: July 27, 2023

TA



2046 DHV

12

Alt. 'D'

Blount County
Maryville
Alternate 'D' @ Davis Ford Rd.

2046 DHV

PM

AM

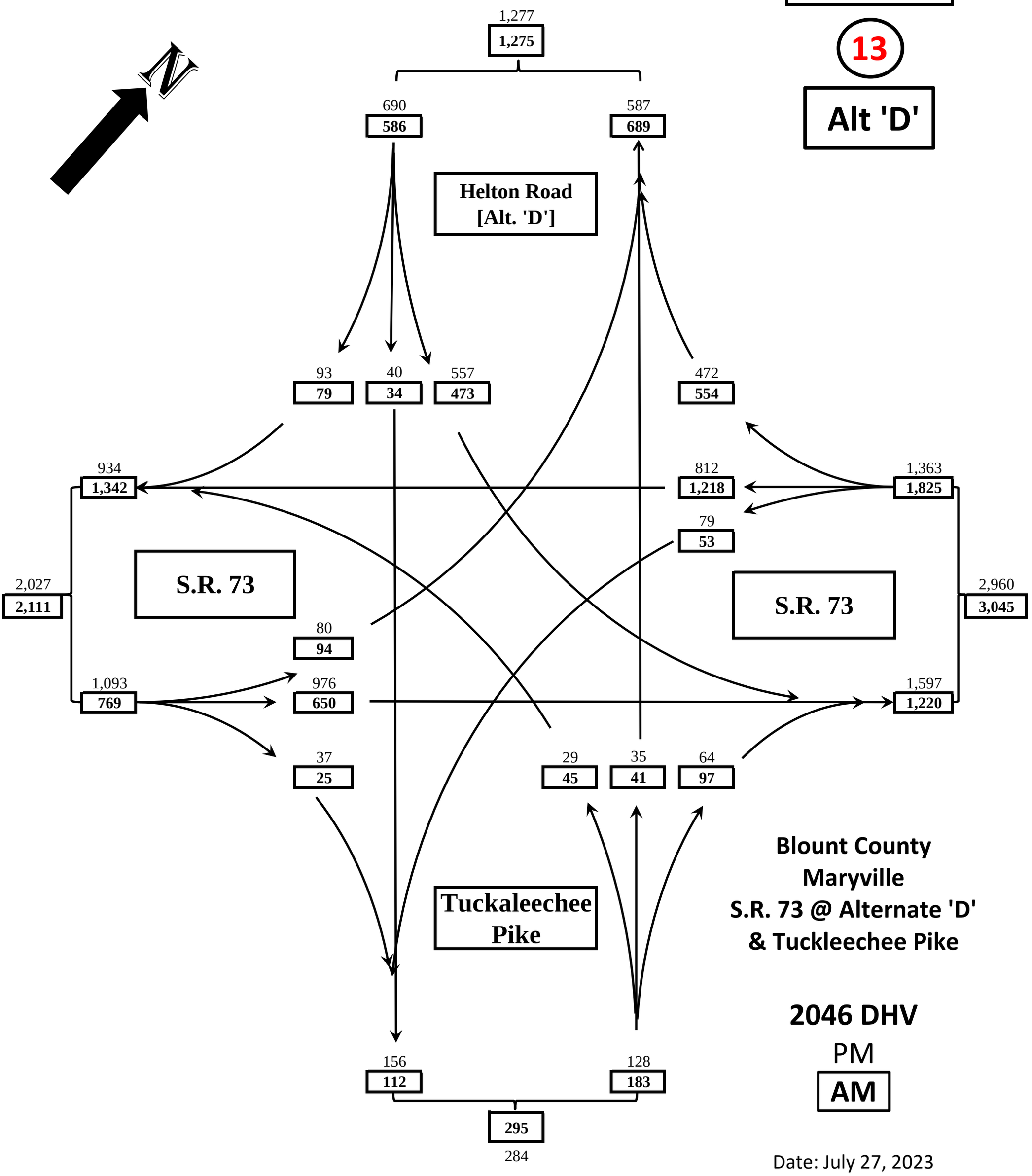
Date: July 27, 2023

TA

2046 DHV

13

Alt 'D'



Blount County
Maryville
S.R. 73 @ Alternate 'D'
& Tuckleechee Pike

2046 DHV

PM

AM

Date: July 27, 2023
TA

Appendix B. HCS Results

Existing Year (2022)				AM				PM			
Roadway	Segment	Length (Mile)	Posted Speed Limit (MPH)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
I-140 East Bound	I-140 west of SR 115	0.38	60	62.7	N/A	17.5	B	62.6	N/A	24.9	C
	I-140 Off Ramp to SR 115 SB	0.28	60	48.9	N/A	22.4	C	48.2	N/A	32.3	D
	I-140 between SR 115 SB Off Ramp and SR 115 SB On Ramp	0.11	60	59.5	N/A	7.6	A	59.3	N/A	11.9	B
	I-140 between SR 115 SB On Ramp and SR 115 NB Off Ramp	0.19	60	49.7	N/A	9.4	A	48.7	N/A	13.3	B
	I-140 between SR 115 NB Off Ramp and SR 115 NB On Ramp	0.06	60	59.1	N/A	5.8	A	58.9	N/A	8.5	A
	SR 115 NB On Ramp to I-140 EB	0.28	60	56.7	N/A	6.7	A	56.6.	N/A	10.1	B
I-140 West Bound	I-140 east of SR 115	0.38	60	62.3	N/A	6.1	A	62.3	N/A	9.2	A
	I-140 east of SR 115	0.38	60	62.7	N/A	14.2	B	62.7	N/A	9.7	A
	I-140 Off Ramp to SR 115 NB	0.28	60	49.7	N/A	17.9	B	50.5	N/A	12.1	B
	I-140 between SR 115 NB Off Ramp and SR 115 NB On Ramp	0.06	60	60.3	N/A	7.7	A	60.5	N/A	6.7	A
	I-140 between SR 115 NB On Ramp and SR 115 SB Off Ramp	0.19	60	45.4	N/A	18.3	B	43.8	N/A	19.5	B
	SR 115 SB On Ramp to I-140 WB	0.11	60	56.7	N/A	18.7	C	56.1	N/A	18.7	C
	SR 115 SB On Ramp to I-140 WB	0.28	60	55.7	N/A	24.0	C	55.6	N/A	65.1	F
	I-140 west of SR 115	0.38	60	62.3	N/A	21.4	C	62.3	N/A	22.3	C
SR 115 NB	SR 115 south of SR 35	0.05	55	25.5	N/A	72.6	F	58.7	N/A	24.7	C
	SR 115 NB Off-Ramp to SR 35 SB	0.28	55	29.6	N/A	61.2	F	49.2	N/A	29.5	D
	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	0.28	55	22.6	N/A	74.8	F	57.9	N/A	23.9	C
	SR 35 NB On Ramp to SR 115 NB	0.28	55	49.7	N/A	42.2	F	51.5	N/A	35.4	F
	SR 115 between SR 35 to SR 335	0.47	55	54.9	N/A	38.2	E	58	N/A	31.7	D
	SR 115 between SR 335 to I-140	2.56	55	57.7	N/A	21.5	C	57.7	N/A	22.4	C
	SR 115 Off Ramp to I-140 EB	0.28	55	48.9	N/A	25.3	C	48.8	N/A	25.9	C
	SR 115 between I-140 EB Off Ramp and I-140 EB On Ramp	0.06	55	55.7	N/A	21.1	C	12.5	N/A	96.5	F
	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	0.21	55	40.8	N/A	25.0	C	39.6	N/A	24.5	C
	SR 115 between I-140 WB Off Ramp and I-140 WB On Ramp	0.08	55	52.7	N/A	16.6	B	52.3	N/A	10.5	A
	I-140 WB On Ramp to SR 115 NB	0.28	55	52.4	N/A	25.9	C	53	N/A	15.0	B
	SR 115 north of I-140	0.05	55	56.4	N/A	23.7	C	56.6	N/A	13.7	B
SR 115 SB	SR 115 north of I-140	0.05	55	57.7	N/A	20.3	C	57.7	N/A	28.2	D
	SR 115 Off Ramp to I-140 WB	0.28	55	48.5	N/A	24.2	C	48.4	N/A	33.6	D
	SR 115 between I-140 WB Off Ramp and I-140 WB On Ramp	0.08	55	55.7	N/A	17.8	B	55.7	N/A	24.6	C
	SR 115 between I-140 WB On Ramp and I-140 EB Off Ramp	0.21	55	49.6	N/A	14.5	B	47.8	N/A	21.1	C
	S.R. 115 between I-140 EB Off-Ramp to I-140 EB On Ramp	0.06	55	55.1	N/A	14.9	B	54.5	N/A	22.4	C
	I-140 EB On Ramp to SR 115 SB	0.28	55	52.1	N/A	28.1	D	49.4	N/A	41.9	F
	SR 115 between I-140 to SR 335	2.56	55	57.7	N/A	25.7	C	54.1	N/A	39	E
	SR 115 between SR 335 to SR 35	0.48	55	59.3	N/A	24.7	C	36.4	N/A	57.5	F
	S.R. 115 SB Off-Ramp to SR 35	0.28	55	48.3	N/A	30.3	D	47.8	N/A	43.8	F
	SR 115 south of SR 35	0.65	55	59.1	N/A	17.0	B	59.1	N/A	25.5	C
SR 33	South of SR 35	0.05	40	43.3	65.5	9.3	C	43.2	68.2	10.8	D
	SR 35 to Wildwood Road	1.9	40	41.2	60.6	8.2	C	40.6	71.8	15.3	E
	Wildwood Road to S.R. 335	1.26	40	41.8	61.7	8.8	C	41.4	70.6	14.3	D
	SR 335 to SR 162	0.44	40	41.9	82	24.8	E	41.8	83.7	27.6	E
	SR 162 to Sam Houston School Road	0.45	40	41.5	80.1	22.6	E	41.5	80.6	23.3	E
	North of Sam Houston School Road	0.05	40	43.4	62.7	7.9	C	43.1	68.8	11.2	D
SR 35/US 411	SR 447 to Peppermint Road	4.32	30	27.4	64.8	13.5	D	27.4	65.9	14.5	D
	Peppermint Road to Hitch Road	0.12	30	28.2	72.2	20.6	E	28.3	70.3	18.3	E
	West of HItch Road	2.09	30	49.7	62.5	7.9	C	49.7	62.1	7.7	C
SR 73 - EB	SR 33 to SR 35/SR 447	0.85	40	44.1	N/A	15.6	B	44.1	N/A	15.5	B
	SR 35/SR 447 to Helton Road	4.5	50	52.1	N/A	16.4	B	52.1	N/A	22.5	C
	East of Helton Road	0.05	55	58	N/A	10.1	A	58	N/A	10.1	A
SR 73 - WB	SR 33 to SR 35/SR 447	0.85	40	44.1	N/A	11.5	B	44.1	N/A	15.1	B
	SR 35/SR 447 to Helton Road	4.5	50	52.1	N/A	16.1	B	52.1	N/A	17.9	B
	East of Helton Road	0.05	55	58	N/A	13.0	B	58	N/A	8.3	A
Sam Houston Road	Between SR 33 and Wildwood Road	2.64	45	44.8	67.8	10.7	D	45.2	56.4	6.2	C
Wildwood Road	SR 33 to Peppermint Road	2.52	45	43.7	48.1	3.4	B	43.8	46.4	3.1	B
	Peppermint Road to Sam Houston School Road	0.11	35	33.6	59.9	8.4	C	33.7	56.5	6.8	C
	East of Sam Houston School Road	1.2	40	38.6	53.8	6.0	C	38.7	52.7	5.6	C
Peppermint Road	Between Wildwood Road and SR 35	1.09	35	33.1	54.2	7.0	C	33.3	48.4	4.9	B
Hitch Rd	Between SR35 and Davis Ford Road	1.19	35	32	37.4	2.3	A	32.2	31.5	1.4	A
Davis Ford Rd	West of Helton Road	0.24	35	34	33	1.3	A	34.4	28.7	0.9	A
	Helton Road to Hitch Road	0.08	35	33.8	36.1	1.7	A	34.1	30.9	1.1	A
	East of Hitch Road	0.19	35	33.4	47.9	4.0	B	33.6	40.9	2.4	A
Helton Road	Between Davis Ford Road and Tuckaleechee Pike	1.3	25	22.8	16	0.3	A	22.8	9.7	0.1	A

Open Year (2026)			No Build							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
I-140 East Bound	I-140 west of SR 115	0.38	62.7	N/A	20.6	C	62.5	N/A	25.9	C
	I-140 Off Ramp to SR 115 SB	0.28	48.3	N/A	26.7	C	47.3	N/A	34.2	D
	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	0.43	62	N/A	7.8	A	62	N/A	9.3	A
	I-140 Off Ramp to Relocated SR 115 SB	0.28	49.5	N/A	9.9	A	49.7	N/A	11.7	B
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	0.19	61	N/A	0.8	A	61	N/A	3.1	A
	SR 115 NB On Ramp to I-140 EB	0.28	56.7	N/A	5.9	A	56.6	N/A	10.0	B
	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	0.19	61.9	N/A	5.5	A	61.9	N/A	9	A
	Relocated SR 115 NB On Ramp to I-140 EB	0.28	57	N/A	7.1	A	56.6	N/A	12.1	B
	I-140 between Relocated SR 115 NB On Ramp and SR 33	1	62.7	N/A	6.5	A	62.7	N/A	10.9	A
	I-140 Off Ramp to SR 33 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 33 SB Off Ramp and SR 33 SB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 33 SB On Ramp to I-140 EB	0.29	-	-	-	-	-	-	-	-
	I-140 between SR 33 and SR 35	1.89	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 35 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 EB Off Ramp to SR 35 EB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 35 On Ramp to I-140 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 and SR 73	0.95	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 73 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 73 WB Off Ramp and SR 73 EB Off Ramp	0.09	-	-	-	-	-	-	-	-
I-140 West Bound	I-140 between SR 73 EB On Ramp and SR 73 WB On Ramp	0.09	-	-	-	-	-	-	-	-
	SR 73 WB On Ramp to I-140 NB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 73 and SR 35	0.95	-	-	-	-	-	-	-	-
	I-140 Off Ramp to Relocated SR 115 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 EB Off ramp to Sr 35 WB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 35 WB On Ramp to I-140 NB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 to SR 33	1.89	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 33 NB	0.29	-	-	-	-	-	-	-	-
	I-140 between SR 33 NB Off Ramp to SR 33 SB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 33 SB On Ramp to I-140 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 33 and Relocated SR 115 NB Off Ramp	1	62.7	N/A	10.4	A	62.7	N/A	7.4	A
	I-140 Off Ramp to SR 115 NB	0.28	49.8	N/A	13.0	B	49.9	N/A	9.3	A
	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	0.19	61	N/A	4.7	A	61	N/A	1.9	A
	I-140 Off Ramp to Relocated SR 115 SB	0.28	50.9	N/A	5.8	A	50.8	N/A	2.4	A
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	0.19	61.1	N/A	3.5	A	61.1	N/A	0.6	A
	Relocated SR 115 SB On Ramp to I-140 WB	0.28	56.6	N/A	10.5	B	56.6	N/A	11.4	B
	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	0.43	62.4	N/A	9.6	A	62.4	N/A	10.5	A
	SR 115 SB On Ramp to I-140 WB	0.28	55.4	N/A	26.6	C	56.3	N/A	21.5	C
	I-140 west of SR 115	0.38	62.3	N/A	23.9	C	62.3	N/A	19.6	C
SR 115 NB	SR 115 south of SR 35	0.05	22.9	N/A	77.4	F	58.7	N/A	22.9	C
	SR 115 NB Off-Ramp to SR 35 SB	0.28	27.5	N/A	62,7	F	49.2	N/A	27.3	C
	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	0.28	19.5	N/A	80.6	F	57.9	N/A	21.8	C
	SR 35 NB On Ramp to SR 115 NB	0.28	49.1	N/A	44	F	51.2	N/A	36.9	F
	SR 115 between SR 35 to SR 335	0.47	54.9	N/A	38.2	E	57.4	N/A	33.3	D
	SR 115 between SR 335 to I-140	3.03	58.7	N/A	20.2	C	58.7	N/A	13.8	B
	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	0.34	41.8	N/A	21.4	C	44.2	N/A	16.0	B
	SR 115 north of I-140	0.33	57.8	N/A	10.7	A	57.9	N/A	10.1	A
Relocated SR 115 NB	SR 115 between SR 335 to I-140	3.16	58.7	N/A	25.0	C	58.7	N/A	23.4	C
	SR 115 Off Ramp to I-140 EB	0.28	48.5	N/A	30.3	D	47.7	N/A	28.8	D
	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.34	58	N/A	20.1	C	57.9	N/A	13.5	B
	I-140 WB On Ramp to SR 115 NB	0.28	52.1	N/A	32.2	D	53.1	N/A	24.8	C
	SR 115 north of I-140	0.05	57.1	N/A	28.8	D	57.3	N/A	22.7	C
SR 115 SB	SR 115 north of I-140	0.05	58.7	N/A	8.5	A	58.7	N/A	13.4	B
	SR 115 Off Ramp to I-140 WB	0.28	49	N/A	10.2	B	49.1	N/A	16.1	B
	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	0.34	58	N/A	6.2	A	58	N/A	12	B
	I-140 EB On Ramp to SR 115	0.28	53.6	N/A	17.7	B	52.7	N/A	28.1	D
	SR 115 between I-140 to SR 335	2.56	58.7	N/A	16.3	B	58.7	N/A	25.5	C
	SR 115 between SR 335 to SR 35	0.47	59.3	N/A	25.7	C	36.4	N/A	57.5	F
	S.R. 115 SB Off-Ramp to SR 35	0.28	47.6	N/A	32.0	D	47	N/A	44.6	F
	SR 115 south of SR 35	0.65	59.1	N/A	14.5	B	59.1	N/A	20.9	C
Relocated SR 115 SB	SR 115 north of I-140	0.05	58.2	N/A	19.1	C	58.2	N/A	28.0	D
	SR 115 Off Ramp to I-140 WB	0.28	47.8	N/A	23.3	C	47.6	N/A	34.2	D
	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.19	56.8	N/A	10.9	A	56.8	N/A	18.7	C
	I-140 WB On Ramp to SR 115	0.28	53.4	N/A	13.3	B	53	N/A	22.1	C
	I-140 EB On Ramp to SR 115	0.28	53.2	N/A	18.6	B	52.7	N/A	26,1	F
	SR 115 between SR 335 to I-140	3.03	58.2	N/A	17.1	B	58.2	N/A	23.7	C
SR 33	South of SR 35	0.05	42.8	75.8	16.4	E	43.1	69	11.3	D
	SR 35 to Wildwood Road	1.9	40.6	72.8	16.2	E	40.5	74.7	18.1	E
	Wildwood Road to S.R. 335	1.26	41.8	62.4	9.2	C	41.4	71	14.6	D
	SR 335 to SR 162	0.44	41.7	84.2	28.4	E	41.6	85.9	31.7	E
	SR 162 to Sam Houston School Road	0.45	41.3	83.9	28.3	E	41.3	83.5	27.6	E
	North of Sam Houston School Road	0.05	42.7	76.7	17.3	E	42.4	81.5	22.8	E
SR 35/US 411	SR 447 to Peppermint Road/SR 447 to SR 162*	4.32	27.4	64.9	13.6	D	27.4	64.7	13.5	D
	SR 162 to Peppermint Road*		-	-	-	-	-	-	-	-
	Peppermint Road to Hitch Road	0.12	28.3	70.6	18.7	E	28.3	68.8	16.8	E
	West of Hitch Road	2.09	49.8	61.7	7.5	C	49.9	59.7	6.7	C
SR 73 - EB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	15.3	B	44.1	N/A	19.8	C
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	20.3	C	50.4	N/A	32.2	D

Open Year (2026)			No Build							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
	SR 162 and Helton Road*	4.5	-	-	-	-	-	-	-	-
	East of Helton Road	0.05	58	N/A	8.4	A	58	N/A	11.3	B
SR 73 - WB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	16.5	B	44.1	N/A	13.7	C
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	18	B	52.4	N/A	16.4	B
	SR 162 and Helton Road*	4.5	-	-	-	-	-	-	-	-
	East of Helton Road	0.05	58	N/A	12.8	B	58	N/A	9.3	A
Sam Houston Road	Between SR 33 and Wildwood Road	2.64	44.9	64.4	8.8	C	45.4	51.4	4.6	B
Wildwood Road	SR 33 to Peppermint Road	2.52	43.7	47.9	3.4	B	43.4	53.8	4.9	B
	Peppermint Road to Sam Houston School Road	0.11	33.7	56.5	6.9	C	33.7	55.4	6.4	C
	East of Sam Houston School Road	1.2	38.7	52.8	5.6	C	38.9	47.7	4.1	B
Peppermint Road	Between Wildwood Road and SR 35	1.09	33.2	51.1	5.8	C	33.3	48.7	4.9	B
Hitch Rd	Between SR35 and Davis Ford Road	1.19	32.2	33.4	1.6	A	32.2	32.5	1.5	A
Davis Ford Rd	West of Helton Road	0.24	34.6	26.6	0.7	A	34.6	28	0.8	A
	Helton Road to Hitch Road	0.08	34.6	28	0.8	A	34.1	30.6	1.0	A
	East of Hitch Road	0.19	33.7	39.2	2.2	A	33.7	38.3	2.0	A
Helton Road	Between Davis Ford Road and Tuckaleechee Pike	1.3	22.8	14.9	0.2	A	22.8	17.5	0.3	A

*Build Segmentation
Demand exceeds capacity

Open Year (2026)			Selected Alternative							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
I-140 East Bound	I-140 west of SR 115	0.38	62.2	N/A	20.7	C	62	N/A	26.1	D
	I-140 Off Ramp to SR 115 SB	0.28	49.1	N/A	26.3	C	49.1	N/A	32.9	D
	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	0.43	61.2	N/A	13.3	B	61.2	N/A	18	C
	I-140 Off Ramp to Relocated SR 115 SB	0.28	47.9	N/A	17.2	B	51	N/A	21.8	C
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	0.19	60	N/A	0.3	A	60.4	N/A	6.7	A
	SR 115 NB On Ramp to I-140 EB	0.28	56.1	N/A	7.6	A	55.8	N/A	15.9	B
	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	0.19	61	N/A	7.1	A	61	N/A	14.6	B
	Relocated SR 115 NB On Ramp to I-140 EB	0.28	56.3	N/A	9.4	A	55.9	N/A	19.1	B
	I-140 between Relocated SR 115 NB On Ramp and SR 33	1	61.2	N/A	8.7	A	61.2	N/A	17.5	B
	I-140 Off Ramp to SR 33 SB	0.28	49.1	N/A	10.8	B	51.2	N/A	21	C
	I-140 between SR 33 SB Off Ramp and SR 33 SB On Ramp	0.19	59.3	N/A	2.5	A	59.6	N/A	9.8	A
	SR 33 SB On Ramp to I-140 EB	0.29	55.4	N/A	6.8	A	55.5	N/A	15.9	B
	I-140 between SR 33 and SR 35	1.89	61.3	N/A	6.2	A	61.3	N/A	14.6	B
	I-140 Off Ramp to SR 35 WB	0.28	50.6	N/A	7.6	A	52.6	N/A	16.9	B
	I-140 between SR 35 EB Off Ramp to SR 35 EB On Ramp	0.19	60.7	N/A	4.5	A	60.9	N/A	10	A
	SR 35 On Ramp to I-140 SB	0.28	56.3	N/A	7	A	56.5	N/A	13.1	B
	I-140 between SR 35 and SR 73	0.95	63.2	N/A	6.2	A	63.2	N/A	11.8	B
	I-140 Off Ramp to SR 73 WB	0.28	50.8	N/A	7.8	A	52.9	N/A	14	B
	I-140 between SR 73 WB Off Ramp and SR 73 EB Off Ramp	0.09	60.7	N/A	3.7	A	61.2	N/A	6.5	A
I-140 West Bound	I-140 between SR 73 EB On Ramp and SR 73 WB On Ramp	0.09	63.2	N/A	5.9	A	63.2	N/A	2.3	A
	SR 73 WB On Ramp to I-140 NB	0.28	56.8	N/A	13	B	57.4	N/A	6.1	A
	I-140 between SR 73 and SR 35	0.95	63.2	N/A	12.7	B	63.2	N/A	5.4	A
	I-140 Off Ramp to Relocated SR 115 SB	0.28	50.5	N/A	16.5	B	53.3	N/A	6.8	A
	I-140 between SR 35 EB Off ramp to Sr 35 WB On Ramp	0.19	60.7	N/A	11.4	B	61	N/A	4.7	A
	SR 35 WB On Ramp to I-140 NB	0.28	56	N/A	16.4	B	56.7	N/A	7	A
	I-140 between SR 35 to SR 33	1.89	61.3	N/A	15	B	61.3	N/A	6.6	A
	I-140 Off Ramp to SR 33 NB	0.29	49.2	N/A	18.8	B	52.2	N/A	7.7	A
	I-140 between SR 33 NB Off Ramp to SR 33 SB On Ramp	0.19	59.4	N/A	9.5	A	59.8	N/A	3.5	A
	SR 33 SB On Ramp to I-140 WB	0.28	54.7	N/A	22.6	C	55.6	N/A	12.6	B
	I-140 between SR 33 and Relocated SR 115 NB Off Ramp	1	61.2	N/A	20.3	C	61.2	N/A	11.7	B
	I-140 Off Ramp to SR 115 NB	0.28	48.9	N/A	25.4	C	49	N/A	14.7	B
	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	0.19	60.1	N/A	11.8	B	60.1	N/A	3.6	A
	I-140 Off Ramp to Relocated SR 115 SB	0.28	50.2	N/A	14.6	B	52.8	N/A	4.2	A
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	0.19	60.3	N/A	9.5	A	60.6	N/A	1	A
	Relocated SR 115 SB On Ramp to I-140 WB	0.28	55.5	N/A	20.1	C	55.8	N/A	14.7	B
	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	0.43	61.5	N/A	18.2	C	61.5	N/A	13.8	B
	SR 115 SB On Ramp to I-140 WB	0.28	55	N/A	27.1	C	55.7	N/A	21.8	C
	I-140 west of SR 115	0.38	61.8	N/A	24.1	C	61.8	N/A	19.8	C
SR 115 NB	SR 115 south of SR 35	0.05	58.5	N/A	30.2	D	58.7	N/A	21.7	C
	SR 115 NB Off-Ramp to SR 35 SB	0.28	49.1	N/A	35.9	F	49.2	N/A	25.9	C
	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	0.28	57.9	N/A	28.6	D	57.9	N/A	20.6	C
	SR 35 NB On Ramp to SR 115 NB	0.28	48.2	N/A	46.6	F	51.6	N/A	34.9	D
	SR 115 between SR 35 to SR 335	0.47	51.1	N/A	44.5	E	58.1	N/A	31.5	D
	SR 115 between SR 335 to I-140	3.03	58.7	N/A	13.6	B	58.7	N/A	12.5	B
	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	0.34	48.5	N/A	12.8	B	47.9	N/A	12.5	B
	SR 115 north of I-140	0.33	58.1	N/A	10.7	A	58.1	N/A	10.1	A
Relocated SR 115 NB	SR 115 between SR 335 to I-140	3.16	58.7	N/A	21.8	C	58.7	N/A	20.5	C
	SR 115 Off Ramp to I-140 EB	0.28	48.4	N/A	26.4	C	47.5	N/A	25.4	C
	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.34	58	N/A	16.1	B	57.9	N/A	9.4	A
	I-140 WB On Ramp to SR 115 NB	0.28	52.2	N/A	31.8	D	53.1	N/A	24.5	C
	SR 115 north of I-140	0.05	57.1	N/A	28.8	D	57.3	N/A	22.7	C
SR 115 SB	SR 115 north of I-140	0.05	58.7	N/A	8.5	A	58.7	N/A	13.4	B
	SR 115 Off Ramp to I-140 WB	0.28	49.2	N/A	10.2	B	49.2	N/A	14.2	B
	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	0.34	58	N/A	7.4	A	58	N/A	12.4	B
	I-140 EB On Ramp to SR 115	0.28	53.7	N/A	13.9	B	53.5	N/A	19.5	B
	SR 115 between I-140 to SR 335	2.56	58.7	N/A	13.0	B	58.7	N/A	18	C
	SR 115 between SR 335 to SR 35	0.47	59.3	N/A	24.6	C	36.4	N/A	57.5	F
	S.R. 115 SB Off-Ramp to SR 35	0.28	50.2	N/A	29.0	D	49.7	N/A	42.2	F
	SR 115 south of SR 35	0.65	59.1	N/A	14.9	B	59.1	N/A	23.4	C
Relocated SR 115 SB	SR 115 north of I-140	0.05	58.2	N/A	19.1	C	58.2	N/A	28	D
	SR 115 Off Ramp to I-140 WB	0.28	47.1	N/A	23.7	C	46.9	N/A	34.7	D
	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.19	56.7	N/A	6.7	A	56.7	N/A	14.2	B
	I-140 WB On Ramp to SR 115	0.28	53.5	N/A	9.6	A	53.2	N/A	17.9	B
	I-140 EB On Ramp to SR 115	0.28	53.1	N/A	20.6	C	52.6	N/A	26.5	C
	SR 115 between SR 335 to I-140	3.03	58.2	N/A	19.2	C	58.2	N/A	24.2	C
SR 33	South of SR 35	0.05	42.8	75.8	16.5	E	43.1	69.9	11.8	D
	SR 35 to Wildwood Road	1.9	40.8	69.6	13.5	D	40.5	75.3	18.6	E
	Wildwood Road to S.R. 335	1.26	42	57.5	7.0	C	41.5	68.1	12.5	D
	SR 335 to SR 162	0.44	42	79	20.9	E	41.7	84.1	28.3	E
	SR 162 to Sam Houston School Road	0.45	41.4	82.5	26.0	E	41.2	85.7	31.7	E
	North of Sam Houston School Road	0.05	42.7	76.9	17.5	E	42.2	84.8	27.9	E
SR 35/US 411	SR 447 to Peppermint Road/SR 447 to SR 162*	4.32	27.4	65.7	14.3	D	27.4	65.7	14.3	D
	SR 162 to Peppermint Road*		28.2	69.6	19.7	E	28.4	64.4	14.5	D
	Peppermint Road to Hitch Road	0.12	28.2	72.2	20.5	E	28.3	68.7	16.7	E
	West of Hitch Road	2.09	49.6	64.4	8.7	D	49.8	61	7.2	C
SR 73 - EB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	15.6	B	44.1	N/A	19.5	C
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	16.8	B	52.1	N/A	25.6	C

Open Year (2026)			Selected Alternative							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
	SR 162 and Helton Road*	4.5	52.1	N/A	7.1	A	52.1	N/A	16.1	B
	East of Helton Road	0.05	58	N/A	8.4	A	58	N/A	11.3	B
SR 73 - WB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	16.7	B	44.1	N/A	13.5	B
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	53.1	N/A	17.7	B	52.1	N/A	14.7	B
	SR 162 and Helton Road*	4.5	52.1	N/A	17.6	B	52.1	N/A	11.4	B
	East of Helton Road	0.05	58	N/A	13.7	B	58	N/A	9.9	A
Sam Houston Road	Between SR 33 and Wildwood Road	2.64	45.5	51.2	4.0	B	46	42.2	2.2	A
Wildwood Road	SR 33 to Peppermint Road	2.52	43.6	50.5	4.0	B	43.2	59.5	6.9	C
	Peppermint Road to Sam Houston School Road	0.11	33.7	55	6.3	C	33.8	52.3	5.3	C
	East of Sam Houston School Road	1.2	38.5	57.7	7.5	C	38.6	54.6	6.3	C
Peppermint Road	Between Wildwood Road and SR 35	1.09	33.3	48.7	4.9	B	33.1	52.5	6.3	C
Hitch Rd	Between SR35 and Davis Ford Road	1.19	32.2	31.6	1.4	A	32.4	28.6	1.1	A
Davis Ford Rd	West of Helton Road	0.24	34	32.4	1.2	A	33.9	34	1.4	A
	Helton Road to Hitch Road	0.08	33.9	33.7	1.4	A	33.8	35.8	1.6	A
	East of Hitch Road	0.19	33.6	40.9	2.4	A	33.6	41.8	2.6	B
Helton Road	Between Davis Ford Road and Tuckaleechee Pike	1.3	22.8	15.2	0.2	A	22.8	16	0.3	A

*Build Segmentation
Demand exceeds capacity

Open Year (2026)			Build Alternative D							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
I-140 East Bound	I-140 west of SR 115	0.38	62.7	N/A	20.8	C	62.4	N/A	26.2	D
	I-140 Off Ramp to SR 115 SB	0.28	49.5	N/A	26.4	C	48.9	N/A	33.5	D
	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	0.43	62.1	N/A	13.2	B	62	N/A	15.9	B
	I-140 Off Ramp to Relocated SR 115 SB	0.28	51	N/A	16.2	B	50.7	N/A	19.6	B
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	0.19	61.2	N/A	0.5	A	61.1	N/A	1.4	A
	SR 115 NB On Ramp to I-140 EB	0.28	56.7	N/A	6.9	A	56.7	N/A	9.1	A
	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	0.19	61.9	N/A	6.4	A	61.9	N/A	8.5	A
	Relocated SR 115 NB On Ramp to I-140 EB	0.28	57	N/A	9.2	A	56.9	N/A	13.1	B
	I-140 between Relocated SR 115 NB On Ramp and SR 33	1	62.7	N/A	8.5	A	62.7	N/A	12.0	B
	I-140 Off Ramp to SR 33 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 33 SB Off Ramp and SR 33 SB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 33 SB On Ramp to I-140 EB	0.29	-	-	-	-	-	-	-	-
	I-140 between SR 33 and SR 35	1.89	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 35 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 EB Off Ramp to SR 35 EB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 35 On Ramp to I-140 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 and SR 73	0.95	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 73 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 73 WB Off Ramp and SR 73 EB Off Ramp	0.09	-	-	-	-	-	-	-	-
I-140 West Bound	I-140 between SR 73 EB On Ramp and SR 73 WB On Ramp	0.09	-	-	-	-	-	-	-	-
	SR 73 WB On Ramp to I-140 NB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 73 and SR 35	0.95	-	-	-	-	-	-	-	-
	I-140 Off Ramp to Relocated SR 115 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 EB Off ramp to Sr 35 WB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 35 WB On Ramp to I-140 NB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 to SR 33	1.89	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 33 NB	0.29	-	-	-	-	-	-	-	-
	I-140 between SR 33 NB Off Ramp to SR 33 SB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 33 SB On Ramp to I-140 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 33 and Relocated SR 115 NB Off Ramp	1	62.7	N/A	12.5	B	62.7	N/A	10.4	A
	I-140 Off Ramp to SR 115 NB	0.28	49.5	N/A	15.9	B	49.5	N/A	13.2	B
	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	0.19	61	N/A	5.2	A	61	N/A	3.3	A
	I-140 Off Ramp to Relocated SR 115 SB	0.28	53.1	N/A	6.1	A	53.2	N/A	3.9	A
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	0.19	61.4	N/A	1.8	A	61.4	N/A	0.3	A
	Relocated SR 115 SB On Ramp to I-140 WB	0.28	56.4	N/A	15.8	B	56.4	N/A	15.0	B
	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	0.43	62.4	N/A	14.8	B	62.4	N/A	14	B
	SR 115 SB On Ramp to I-140 WB	0.28	55.4	N/A	28.0	D	56.2	N/A	22.6	C
	I-140 west of SR 115	0.38	62.3	N/A	25.2	C	62.3	N/A	20.7	C
SR 115 NB	SR 115 south of SR 35	0.05	58.4	N/A	30.5	D	58.7	N/A	22.0	C
	SR 115 NB Off-Ramp to SR 35 SB	0.28	35.7	N/A	48.3	F	49.2	N/A	26.2	C
	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	0.28	21.3	N/A	73.9	F	57.9	N/A	20.8	C
	SR 35 NB On Ramp to SR 115 NB	0.28	48.9	N/A	44.6	F	51.4	N/A	36.1	F
	SR 115 between SR 35 to SR 335	0.47	54.9	N/A	38.2	E	57.6	N/A	32.8	D
	SR 115 between SR 335 to I-140	3.03	58.7	N/A	16.5	B	58.7	N/A	12.2	B
	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	0.34	46.2	N/A	15.8	B	48	N/A	12.4	B
	SR 115 north of I-140	0.33	58	N/A	11	B	58.1	N/A	10.3	A
Relocated SR 115 NB	SR 115 between SR 335 to I-140	3.16	58.7	N/A	23.6	C	58.7	N/A	19.6	C
	SR 115 Off Ramp to I-140 EB	0.28	48.2	N/A	28.8	D	47.4	N/A	24.2	C
	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.34	58	N/A	16.4	B	57.9	N/A	7.8	A
	I-140 WB On Ramp to SR 115 NB	0.28	52.2	N/A	32.1	D	53.1	N/A	24.6	C
	SR 115 north of I-140	0.05	57.1	N/A	29.1	D	57.3	N/A	22.8	C
SR 115 SB	SR 115 north of I-140	0.05	58.7	N/A	8.3	A	58.7	N/A	13.1	B
	SR 115 Off Ramp to I-140 WB	0.28	48.8	N/A	10.0	B	49	N/A	15.7	B
	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	0.34	58	N/A	5.0	A	58	N/A	11.1	B
	I-140 EB On Ramp to SR 115	0.28	53.8	N/A	11.4	B	53.4	N/A	20.2	C
	SR 115 between I-140 to SR 335	2.56	58.7	N/A	10.7	A	58.7	N/A	18.8	C
	SR 115 between SR 335 to SR 35	0.47	59.3	N/A	25.4	C	36.4	N/A	57.5	F
	S.R. 115 SB Off-Ramp to SR 35	0.28	50.1	N/A	30.0	D	49.5	N/A	36.7	F
	SR 115 south of SR 35	0.65	59.1	N/A	15.0	B	59.1	N/A	22.5	C
Relocated SR 115 SB	SR 115 north of I-140	0.05	58.2	N/A	19.0	C	58.2	N/A	27.5	D
	SR 115 Off Ramp to I-140 WB	0.28	46.7	N/A	23.7	C	46.8	N/A	34.1	D
	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.19	56.7	N/A	3.7	A	56.7	N/A	13.1	B
	I-140 WB On Ramp to SR 115	0.28	53.5	N/A	7.7	A	53.3	N/A	17.1	B
	I-140 EB On Ramp to SR 115	0.28	53.2	N/A	17.4	B	52.6	N/A	26.7	C
	SR 115 between SR 335 to I-140	3.03	58.2	N/A	16.3	B	58.2	N/A	24.4	C
SR 33	South of SR 35	0.05	42.8	76.1	16.7	E	42.7	77.3	17.9	E
	SR 35 to Wildwood Road	1.9	40.9	66.8	11.6	D	40.5	74.6	17.9	E
	Wildwood Road to S.R. 335	1.26	41.9	60.9	8.4	C	41.4	70.7	14.4	D
	SR 335 to SR 162	0.44	41.8	82.5	25.6	E	41.6	86	31.9	E
	SR 162 to Sam Houston School Road	0.45	#	#	#	#	#	#	#	#
	North of Sam Houston School Road	0.05	#	#	#	#	#	#	#	#
SR 35/US 411	SR 447 to Peppermint Road/SR 447 to SR 162*	4.32	27.4	64.7	13.5	D	27.4	65.4	14.1	D
	SR 162 to Peppermint Road*		-	-	-	-	-	-	-	-
	Peppermint Road to Hitch Road	0.12	-	-	-	-	-	-	-	-
	West of Hitch Road	2.09	49.9	58.2	6.2	C	49.8	61.3	7.4	C
SR 73 - EB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	15.1	B	44.1	N/A	19.6	C
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	20.4	C	50.4	N/A	32.2	D

Open Year (2026)			Build Alternative D							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
	SR 162 and Helton Road*	4.5	-	-	-	-	-	-	-	-
	East of Helton Road	0.05	58	N/A	8.1	A	58	N/A	10.5	A
SR 73 - WB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	16.9	B	44.1	N/A	13.3	B
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	17.4	B	52.1	N/A	15	B
	SR 162 and Helton Road*	4.5	-	-	-	-	-	-	-	-
	East of Helton Road	0.05	58	N/A	12	B	58	N/A	9.1	A
Sam Houston Road	Between SR 33 and Wildwood Road	2.64	44.5	72.3	13.9	D	44.8	65.7	10.4	D
Wildwood Road	SR 33 to Peppermint Road	2.52	43.6	50.8	4.1	B	43.5	53.1	4.7	B
	Peppermint Road to Sam Houston School Road	0.11	-	-	-	-	-	-	-	-
	East of Sam Houston School Road	1.2	38.5	57	7.2	C	38.6	55	6.4	C
Peppermint Road	Between Wildwood Road and SR 35	1.09	32.5	68.6	16.1	E	32.7	65.4	13.5	D
Hitch Rd	Between SR35 and Davis Ford Road	1.19	31.3	55.8	8.1	C	31.1	30	1.0	A
Davis Ford Rd	West of Helton Road	0.24	33.9	33.8	1.4	A	34.2	30.1	1	A
	Helton Road to Hitch Road	0.08	-	-	-	-	-	-	-	-
	East of Hitch Road	0.19	33.9	35.1	1.6	A	34	32.8	1.3	A
Helton Road	Between Davis Ford Road and Tuckaleechee Pike	1.3	21.5	56.3	12.6	D	21.5	56.4	12.7	D

*Build Segmentation
Demand exceeds capacity

Design Year (2046)			No Build							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
I-140 East Bound	I-140 west of SR 115	0.38	58.1	N/A	35.0	E	37.9	N/A	56.6	F
	I-140 Off Ramp to SR 115 SB	0.28	46.7	N/A	43.5	F	45.1	N/A	47.5	F
	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	0.43	61.9	N/A	13.2	B	61.9	N/A	8.1	A
	I-140 Off Ramp to Relocated SR 115 SB	0.28	48.5	N/A	17.1	B	48	N/A	13.0	B
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	0.19	60.8	N/A	2.1	A	60.9	N/A	0.0	A
	SR 115 NB On Ramp to I-140 EB	0.28	56.6	N/A	10.5	B	56.6	N/A	10.9	B
	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	0.19	61.9	N/A	9.5	A	61.9	N/A	9.8	A
	Relocated SR 115 NB On Ramp to I-140 EB	0.28	56.9	N/A	12.2	B	56.8	N/A	13.9	B
	I-140 between Relocated SR 115 NB On Ramp and SR 33	1	62.7	N/A	11.1	B	62.7	N/A	12.6	B
	I-140 Off Ramp to SR 33 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 33 SB Off Ramp and SR 33 SB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 33 SB On Ramp to I-140 EB	0.29	-	-	-	-	-	-	-	-
	I-140 between SR 33 and SR 35	1.89	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 35 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 EB Off Ramp to SR 35 EB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 35 On Ramp to I-140 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 and SR 73	0.95	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 73 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 73 WB Off Ramp and SR 73 EB Off Ramp	0.09	-	-	-	-	-	-	-	-
I-140 West Bound	I-140 between SR 73 EB On Ramp and SR 73 WB On Ramp	0.09	-	-	-	-	-	-	-	-
	SR 73 WB On Ramp to I-140 NB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 73 and SR 35	0.95	-	-	-	-	-	-	-	-
	I-140 Off Ramp to Relocated SR 115 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 EB Off ramp to Sr 35 WB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 35 WB On Ramp to I-140 NB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 to SR 33	1.89	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 33 NB	0.29	-	-	-	-	-	-	-	-
	I-140 between SR 33 NB Off Ramp to SR 33 SB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 33 SB On Ramp to I-140 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 33 and Relocated SR 115 NB Off Ramp	1	62.7	N/A	16.6	B	62.7	N/A	11.8	B
	I-140 Off Ramp to SR 115 NB	0.28	49	N/A	18.5	B	49.1	N/A	15.1	B
	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	0.19	60.9	N/A	7.4	A	60.9	N/A	2.8	A
	I-140 Off Ramp to Relocated SR 115 SB	0.28	50.7	N/A	9.2	A	50.7	N/A	3.5	A
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	0.19	61.1	N/A	5.6	A	61	N/A	0.9	A
	Relocated SR 115 SB On Ramp to I-140 WB	0.28	56.3	N/A	16.9	B	56.2	N/A	18.4	B
	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	0.43	62.4	N/A	15.2	B	62.4	N/A	16.3	B
	SR 115 SB On Ramp to I-140 WB	0.28	48.9	N/A	47.9	F	53.3	N/A	35.5	F
	I-140 west of SR 115	0.38	60.1	N/A	31.6	D	60	N/A	31.9	D
SR 115 NB	SR 115 south of SR 35	0.05	23.1	N/A	77.1	F	58.7	N/A	25.5	C
	SR 115 NB Off-Ramp to SR 35 SB	0.28	23.3	N/A	74.4	F	49.1	N/A	30.4	D
	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	0.28	18.1	N/A	86.8	F	57.9	N/A	24.1	C
	SR 35 NB On Ramp to SR 115 NB	0.28	47.8	N/A	47.6	F	49.2	N/A	43.7	F
	SR 115 between SR 35 to SR 335	0.47	54.9	N/A	38.2	E	53.4	N/A	40.7	E
	SR 115 between SR 335 to I-140	3.03	25	N/A	54.4	F	58.7	N/A	21.5	C
	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	0.34	39.5	N/A	27.5	C	39.4	N/A	28.0	D
	SR 115 north of I-140	0.33	57.6	N/A	7.7	A	57.6	N/A	15.7	B
	SR 115 between SR 335 to I-140	3.16	41.7	N/A	50.2	F	54.5	N/A	38.8	E
	SR 115 Off Ramp to I-140 EB	0.28	48	N/A	43.6	F	46.7	N/A	45.3	F

Design Year (2046)			No Build							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
Relocated SR 115 NB	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.34	25.2	N/A	62.2	F	57.9	N/A	20.4	C
	I-140 WB On Ramp to SR 115 NB	0.28	47.5	N/A	50.3	F	50	N/A	41.2	F
	SR 115 north of I-140	0.05	54.9	N/A	38.2	E	55.2	N/A	37.6	E
SR 115 SB	SR 115 north of I-140	0.05	58.7	N/A	13.3	B	58.7	N/A	21.0	C
	SR 115 Off Ramp to I-140 WB	0.28	48.7	N/A	16.0	B	49	N/A	25.1	C
	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	0.34	58	N/A	9.6	A	58	N/A	18.7	C
	I-140 EB On Ramp to SR 115	0.28	52.8	N/A	27.8	C	47.5	N/A	49	F
	SR 115 between I-140 to SR 335	2.56	58.7	N/A	25.3	C	55.6	N/A	36.9	E
	SR 115 between SR 335 to SR 35	0.47	59.1	N/A	29.3	D	36.4	N/A	57.5	F
	S.R. 115 SB Off-Ramp to SR 35	0.28	47.2	N/A	36.7	F	46.4	N/A	45.2	F
	SR 115 south of SR 35	0.65	59.1	N/A	15.8	B	59.1	N/A	18.0	C
Relocated SR 115 SB	SR 115 north of I-140	0.05	58.1	N/A	29.9	D	36.8	N/A	56.9	F
	SR 115 Off Ramp to I-140 WB	0.28	47.1	N/A	36.9	D	46.6	N/A	45.0	F
	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.19	56.7	N/A	17.4	B	56.7	N/A	21.1	C
	I-140 WB On Ramp to SR 115	0.28	53	N/A	21.3	B	52.7	N/A	25.6	C
	I-140 EB On Ramp to SR 115	0.28	52.2	N/A	30.3	C	51.8	N/A	32.4	C
	SR 115 between SR 335 to I-140	3.03	58.2	N/A	27.3	D	58.2	N/A	28.8	D
SR 33	South of SR 35	0.05	42.6	78.9	19.6	E	43	72.5	13.7	D
	SR 35 to Wildwood Road	1.9	40.4	76.5	20.0	E	40.3	78.2	22.1	E
	Wildwood Road to S.R. 335	1.26	41.6	65.9	11.1	D	41.3	72.8	16.2	E
	SR 335 to SR 162	0.44				F				F
	SR 162 to Sam Houston School Road	0.45				F				F
	North of Sam Houston School Road	0.05	42.4	82.2	23.9	E	42.1	86.4	31.2	E
SR 35/US 411	SR 447 to Peppermint Road/SR 447 to SR 162*	4.32	27.3	68.8	17.5	E	27.3	68.2	16.9	E
	SR 162 to Peppermint Road*		-	-	-	-	-	-	-	-
	Peppermint Road to Hitch Road	0.12	28.2	73.7	22.4	E	28.2	71.9	20.2	E
	West of Hitch Road	2.09	49.6	64.9	9	D	49.7	63.5	8.3	D
SR 73 - EB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	16.6	B	44.1	N/A	21.6	C
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	23.2	C	47.8	N/A	38.8	E
	SR 162 and Helton Road*	4.5	-	-	-	-	-	-	-	-
	East of Helton Road	0.05	58	N/A	14.3	B	58	N/A	12.7	B
SR 73 - WB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	17.8	B	44.1	N/A	14.6	B
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	20.3	C	52.1	N/A	18.7	C
	SR 162 and Helton Road*	4.5	-	-	-	-	-	-	-	-
	East of Helton Road	0.05	58	N/A	9.4	A	58	N/A	10.4	A
Sam Houston Road	Between SR 33 and Wildwood Road	2.64	44.6	70.7	12.7	D	45.1	58.2	6.9	C
Wildwood Road	SR 33 to Peppermint Road	2.52	43.4	56	5.6	C	43.1	62.1	8.1	C
	Peppermint Road to Sam Houston School Road	0.11	33.4	63.3	10.3	D	33.3	66.9	12.6	D
	East of Sam Houston School Road	1.2	38.4	59.9	8.6	C	38.4	59.5	8.4	C
Peppermint Road	Between Wildwood Road and SR 35	1.09	33	56.5	8.0	C	33.1	53.9	6.9	C
Hitch Rd	Between SR35 and Davis Ford Road	1.19	32	36	2.0	A	32.1	35.6	2.0	A
Davis Ford Rd	West of Helton Road	0.24	34.2	29.6	0.9	A	34.1	31.4	1.1	A
	Helton Road to Hitch Road	0.08	34.1	31.2	1.1	A	33.9	34.1	1.4	A
	East of Hitch Road	0.19	33.6	43	2.9	B	33.6	42	2.7	B
Helton Road	Between Davis Ford Road and Tuckaleechee Pike	1.3	22.8	15.5	0.2	A	22.8	18.2	0.4	A

*Build Segmentation
Demand exceeds capacity

Design Year (2046)			Selected Alternative							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
I-140 East Bound	I-140 west of SR 115	0.38	57.8	N/A	35.2	E	38.1	N/A	56.3	F
	I-140 Off Ramp to SR 115 SB	0.28	48.4	N/A	42.0	F	48.1	N/A	44.5	F
	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	0.43	61.2	N/A	22.3	C	61.1	N/A	22.7	C
	I-140 Off Ramp to Relocated SR 115 SB	0.28	49	N/A	28.1	D	49.7	N/A	28.2	D
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	0.19	60.1	N/A	2.7	A	60.2	N/A	6.1	A
	SR 115 NB On Ramp to I-140 EB	0.28	55.9	N/A	14.2	B	55.5	N/A	20	C
	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	0.19	61	N/A	12.8	B	61	N/A	18	C
	Relocated SR 115 NB On Ramp to I-140 EB	0.28	56	N/A	16.8	B	55.3	N/A	21.7	C
	I-140 between Relocated SR 115 NB On Ramp and SR 33	1	61.2	N/A	15.4	B	61.2	N/A	22.4	C
	I-140 Off Ramp to SR 33 SB	0.28	51.1	N/A	18.4	B	50.7	N/A	27.1	C
	I-140 between SR 33 SB Off Ramp and SR 33 SB On Ramp	0.19	59.6	N/A	7.2	A	59.6	N/A	12.3	B
	SR 33 SB On Ramp to I-140 EB	0.29	55.6	N/A	12.7	B	55.2	N/A	19.7	B
	I-140 between SR 33 and SR 35	1.89	61.3	N/A	11.5	B	61.3	N/A	17.7	B
	I-140 Off Ramp to SR 35 WB	0.28	53	N/A	13.3	B	52	N/A	20.9	C
	I-140 between SR 35 EB Off Ramp to SR 35 EB On Ramp	0.19	61	N/A	8.9	A	60.9	N/A	10.8	A
	SR 35 On Ramp to I-140 SB	0.28	56.5	N/A	12.8	B	56.4	N/A	15	B
	I-140 between SR 35 and SR 73	0.95	63.2	N/A	11.4	B	63.2	N/A	13.4	B
	I-140 Off Ramp to SR 73 WB	0.28	53.2	N/A	13.5	B	52.2	N/A	16.2	B
	I-140 between SR 73 WB Off Ramp and SR 73 EB Off Ramp	0.09	61.2	N/A	7.6	A	61	N/A	5.3	A
I-140 West Bound	I-140 between SR 73 EB On Ramp and SR 73 WB On Ramp	0.09	63.2	N/A	9.5	A	63.2	N/A	3.6	A
	SR 73 WB On Ramp to I-140 NB	0.28	56.5	N/A	23.1	C	57.3	N/A	9.7	A
	I-140 between SR 73 and SR 35	0.95	63.2	N/A	20.7	C	63.2	N/A	8.7	A
	I-140 Off Ramp to Relocated SR 115 SB	0.28	52.9	N/A	24.7	C	53.2	N/A	10.8	B
	I-140 between SR 35 EB Off ramp to Sr 35 WB On Ramp	0.19	61	N/A	18.2	C	61	N/A	7.6	A
	SR 35 WB On Ramp to I-140 NB	0.28	55.4	N/A	26.6	C	56.5	N/A	11.2	B
	I-140 between SR 35 to SR 33	1.89	61.3	N/A	24	C	61.3	N/A	10.5	A
	I-140 Off Ramp to SR 33 NB	0.29	51.6	N/A	28.6	D	52.2	N/A	12.3	B
	I-140 between SR 33 NB Off Ramp to SR 33 SB On Ramp	0.19	59.7	N/A	18.3	C	59.8	N/A	7.4	A
	SR 33 SB On Ramp to I-140 WB	0.28	52.2	N/A	37.4	E	55.2	N/A	20.4	C
	I-140 between SR 33 and Relocated SR 115 NB Off Ramp	1	58.5	N/A	33.4	D	61.2	N/A	18.8	C
	I-140 Off Ramp to SR 115 NB	0.28	48	N/A	40.7	E	48.1	N/A	23.9	C
	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	0.19	60	N/A	19.1	C	60	N/A	6.1	A
	I-140 Off Ramp to Relocated SR 115 SB	0.28	52.6	N/A	22.4	C	52.5	N/A	7.2	A
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	0.19	60.6	N/A	15.6	B	60.6	N/A	2	A
	Relocated SR 115 SB On Ramp to I-140 WB	0.28	53.9	N/A	31.7	D	55.2	N/A	23.7	C
	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	0.43	22.7	N/A	70.9	F	61.5	N/A	18	C
	SR 115 SB On Ramp to I-140 WB	0.28	50.9	N/A	42.2	F	54.4	N/A	30.8	D
	I-140 west of SR 115	0.38	55.8	N/A	38.4	E	61.6	N/A	27.7	D
SR 115 NB	SR 115 south of SR 35	0.05	23.3	N/A	76.7	F	58.7	N/A	23.4	C
	SR 115 NB Off-Ramp to SR 35 SB	0.28	26.5	N/A	65.6	F	49.1	N/A	28	D
	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	0.28	19	N/A	82.7	F	57.9	N/A	22	C
	SR 35 NB On Ramp to SR 115 NB	0.28	47.5	N/A	49.6	F	50.4	N/A	39.7	F
	SR 115 between SR 35 to SR 335	0.47	54.9	N/A	38.2	E	55.8	N/A	36.6	E
	SR 115 between SR 335 to I-140	3.03	58.7	N/A	21.2	C	58.7	N/A	19.5	C
	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	0.34	44.3	N/A	21.8	C	43.7	N/A	21.4	C
	SR 115 north of I-140	0.33	57.9	N/A	16.7	B	57.9	N/A	15.7	B
	SR 115 between SR 335 to I-140	3.16	56.4	N/A	35.4	E	57.7	N/A	32.6	D
	SR 115 Off Ramp to I-140 EB	0.28	47.9	N/A	41.6	F	46.4	N/A	40.6	F

Design Year (2046)			Selected Alternative							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
Relocated SR 115 NB	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.34	58	N/A	25.5	C	57.9	N/A	15.3	B
	I-140 WB On Ramp to SR 115 NB	0.28	47.5	N/A	55.0	F	49.9	N/A	41.4	F
	SR 115 north of I-140	0.05	51.9	N/A	43.2	E	56.6	N/A	31.8	D
SR 115 SB	SR 115 north of I-140	0.05	58.7	N/A	13.3	B	58.7	N/A	21	C
	SR 115 Off Ramp to I-140 WB	0.28	49.1	N/A	15.9	B	49.1	N/A	25.1	C
	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	0.34	58	N/A	11.6	B	58	N/A	19.3	C
	I-140 EB On Ramp to SR 115	0.28	53.4	N/A	17.8	B	53.1	N/A	30.6	D
	SR 115 between I-140 to SR 335	2.56	58.7	N/A	19.7	C	58.7	N/A	28.1	D
	SR 115 between SR 335 to SR 35	0.47	59.2	N/A	28.7	D	36.4	N/A	57.5	F
	S.R. 115 SB Off-Ramp to SR 35	0.28	49.9	N/A	34.1	D	49.2	N/A	42.6	F
	SR 115 south of SR 35	0.65	59.1	N/A	17.0	B	59.1	N/A	21	C
Relocated SR 115 SB	SR 115 north of I-140	0.05	58.1	N/A	29.9	D	36.8	N/A	56.9	F
	SR 115 Off Ramp to I-140 WB	0.28	45.2	N/A	37.8	F	45.4	N/A	45.8	F
	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.19	56.6	N/A	11.3	B	56.5	N/A	15.4	B
	I-140 WB On Ramp to SR 115	0.28	53.4	N/A	16.4	B	53.1	N/A	21.5	B
	I-140 EB On Ramp to SR 115	0.28	52.4	N/A	33.8	C	51.2	N/A	33.7	C
	SR 115 between SR 335 to I-140	3.03	58.2	N/A	30	D	57.7	N/A	30.5	D
SR 33	South of SR 35	0.05	42.4	82.2	23.7	E	42.9	74.7	15.5	E
	SR 35 to Wildwood Road	1.9	40.5	74.3	17.6	E	40.3	78.7	22.7	E
	Wildwood Road to S.R. 335	1.26	41.9	59.4	7.8	C	41.4	70	13.9	D
	SR 335 to SR 162	0.44	41.8	82.7	26.0	E	41.4	87.3	34.3	E
	SR 162 to Sam Houston School Road	0.45	41.2	84.8	29.9	E	41	87.7	36.2	E
	North of Sam Houston School Road	0.05	42.4	81.2	22.4	E	41.9	88	34.6	E
SR 35/US 411	SR 447 to Peppermint Road/SR 447 to SR 162*	4.32	27	74.4	25.1	E	27	74.4	25.2	E
	SR 162 to Peppermint Road*		27.7	79.9	36.4	E	28	74.5	26.2	E
	Peppermint Road to Hitch Road	0.12	27.8	81.4	36.3	E	28	77.2	27.9	E
	West of Hitch Road	2.09	48.9	76.6	17.1	E	49.2	71.5	12.9	E
SR 73 - EB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	16.9	B	44.1	N/A	21.2	C
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	19	C	51.4	N/A	29.5	D
	SR 162 and Helton Road*	4.5	52.1	N/A	10.2	A	52.1	N/A	23.5	C
	East of Helton Road	0.05	58	N/A	12.1	B	58	N/A	16.4	B
SR 73 - WB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	18.2	C	44.1	N/A	14.7	B
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	17.7	B	51.4	N/A	16.7	B
	SR 162 and Helton Road*	4.5	52.1	N/A	26.6	D	52.1	N/A	16.5	B
	East of Helton Road	0.05	58	N/A	20.1	C	58	N/A	14.4	B
Sam Houston Road	Between SR 33 and Wildwood Road	2.64	45.1	61	7.3	C	45.5	51.5	4.1	B
Wildwood Road	SR 33 to Peppermint Road	2.52	43.4	55.2	5.4	C	43.1	62	8	C
	Peppermint Road to Sam Houston School Road	0.11	33.5	62.2	9.6	C	33.6	59.3	8.1	C
	East of Sam Houston School Road	1.2	38.7	51.6	5.2	C	38.8	49.3	4.5	B
Peppermint Road	Between Wildwood Road and SR 35	1.09	33.1	54.1	7.0	C	32.9	57.8	8.7	C
Hitch Rd	Between SR35 and Davis Ford Road	1.19	32.1	34.2	1.8	A	32.3	31.2	1.4	A
Davis Ford Rd	West of Helton Road	0.24	33.6	42.2	2.7	B	33.5	44.2	3.1	B
	Helton Road to Hitch Road	0.08	33.6	43.2	2.9	B	33.5	45.6	3.4	B
	East of Hitch Road	0.19	33.4	47.9	4.0	B	33.3	50.6	4.8	B
Helton Road	Between Davis Ford Road and Tuckaleechee Pike	1.3	22.8	18	0.4	A	22.8	19.1	0.4	A

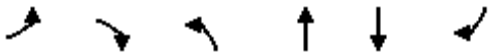
*Build Segmentation
Demand exceeds capacity

Design Year (2046)			Build Alternative D							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
I-140 East Bound	I-140 west of SR 115	0.38	60.7	N/A	31.7	D	37.3	N/A	57.5	F
	I-140 Off Ramp to SR 115 SB	0.28	49	N/A	39.3	F	48.8	N/A	43.9	F
	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	0.43	62.7	N/A	18.0	C	62.6	N/A	21.4	C
	I-140 Off Ramp to Relocated SR 115 SB	0.28	49.6	N/A	26.2	C	49	N/A	31.8	D
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	0.19	61.4	N/A	1.8	A	61.3	N/A	3.3	A
	SR 115 NB On Ramp to I-140 EB	0.28	56.9	N/A	12.1	B	56.8	N/A	15.6	B
	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	0.19	62.4	N/A	10.9	A	62.4	N/A	14	B
	Relocated SR 115 NB On Ramp to I-140 EB	0.28	57.1	N/A	15.5	B	56.6	N/A	21.7	C
	I-140 between Relocated SR 115 NB On Ramp and SR 33	1	63.2	N/A	14	B	63.2	N/A	19.4	C
	I-140 Off Ramp to SR 33 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 33 SB Off Ramp and SR 33 SB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 33 SB On Ramp to I-140 EB	0.29	-	-	-	-	-	-	-	-
	I-140 between SR 33 and SR 35	1.89	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 35 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 EB Off Ramp to SR 35 EB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 35 On Ramp to I-140 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 and SR 73	0.95	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 73 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 73 WB Off Ramp and SR 73 EB Off Ramp	0.09	-	-	-	-	-	-	-	-
I-140 West Bound	I-140 between SR 73 EB On Ramp and SR 73 WB On Ramp	0.09	-	-	-	-	-	-	-	-
	SR 73 WB On Ramp to I-140 NB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 73 and SR 35	0.95	-	-	-	-	-	-	-	-
	I-140 Off Ramp to Relocated SR 115 SB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 EB Off ramp to Sr 35 WB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 35 WB On Ramp to I-140 NB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 35 to SR 33	1.89	-	-	-	-	-	-	-	-
	I-140 Off Ramp to SR 33 NB	0.29	-	-	-	-	-	-	-	-
	I-140 between SR 33 NB Off Ramp to SR 33 SB On Ramp	0.19	-	-	-	-	-	-	-	-
	SR 33 SB On Ramp to I-140 WB	0.28	-	-	-	-	-	-	-	-
	I-140 between SR 33 and Relocated SR 115 NB Off Ramp	1	63.7	N/A	25.7	C	64.3	N/A	19.0	C
	I-140 Off Ramp to SR 115 NB	0.28	51.1	N/A	43.3	F	55.1	N/A	32.9	D
	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	0.19	63.2	N/A	20	C	63.2	N/A	16.4	B
	I-140 Off Ramp to Relocated SR 115 SB	0.28	48.7	N/A	26.0	C	48.8	N/A	21.2	C
	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	0.19	61.3	N/A	8.5	A	61.3	N/A	5.2	A
	Relocated SR 115 SB On Ramp to I-140 WB	0.28	50.1	N/A	10.8	B	53.1	N/A	6.2	A
	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	0.43	61.5	N/A	3.3	A	61.9	N/A	0.5	A
	SR 115 SB On Ramp to I-140 WB	0.28	55.8	N/A	25.8	C	56	N/A	20.2	C
	I-140 west of SR 115	0.38	62.2	N/A	19.0	C	62.2	N/A	16.2	B
SR 115 NB	SR 115 south of SR 35	0.05	23.4	N/A	76.6	F	58.7	N/A	24.5	C
	SR 115 NB Off-Ramp to SR 35 SB	0.28	24.7	N/A	70.6	F	49.1	N/A	29.3	D
	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	0.28	18.4	N/A	85	F	57.9	N/A	23.0	C
	SR 35 NB On Ramp to SR 115 NB	0.28	47.6	N/A	48.3	F	49.6	N/A	49.6	F
	SR 115 between SR 35 to SR 335	0.47	54.9	N/A	38.2	E	53.8	N/A	53.8	F
	SR 115 between SR 335 to I-140	3.03	58.7	N/A	22	C	58.7	N/A	20.6	C
	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	0.34	45.1	N/A	21.3	C	44.6	N/A	20.9	C
	SR 115 north of I-140	0.33	57.9	N/A	16.7	B	57.9	N/A	15.7	B
	SR 115 between SR 335 to I-140	3.16	53.7	N/A	40.2	E	58.3	N/A	30.6	D
	SR 115 Off Ramp to I-140 EB	0.28	47.4	N/A	45.5	F	46.2	N/A	38.7	F

Design Year (2046)			Build Alternative D							
			AM				PM			
Roadway	Segment	Length (Mile)	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS	Estimated Travel Speed (MPH)	% Time Spent Following	Density (pc/mi/ln)	LOS
Relocated SR 115 NB	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.34	57.9	N/A	25.8	C	57.8	N/A	12.6	B
	I-140 WB On Ramp to SR 115 NB	0.28	47.5	N/A	55.7	F	49.8	N/A	41.8	F
	SR 115 north of I-140	0.05	52	N/A	43.1	E	56.5	N/A	28.7	D
SR 115 SB	SR 115 north of I-140	0.05	58.7	N/A	13.3	B	58.7	N/A	21.0	C
	SR 115 Off Ramp to I-140 WB	0.28	49	N/A	15.9	B	49	N/A	25.1	C
	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	0.34	58	N/A	11.2	B	58	N/A	19	C
	I-140 EB On Ramp to SR 115	0.28	53.3	N/A	22.9	C	52.1	N/A	32.3	D
	SR 115 between I-140 to SR 335	2.56	58.7	N/A	21.3	C	58.6	N/A	29.3	D
	SR 115 between SR 335 to SR 35	0.47	59.1	N/A	29.1	D	36.4	N/A	57.5	F
	S.R. 115 SB Off-Ramp to SR 35	0.28	49.8	N/A	34.5	D	49.1	N/A	42.7	F
	SR 115 south of SR 35	0.65	59.1	N/A	16.6	B	59.1	N/A	20.0	C
Relocated SR 115 SB	SR 115 north of I-140	0.05	58.1	N/A	29.7	D	36.8	N/A	56.9	F
	SR 115 Off Ramp to I-140 WB	0.28	45.2	N/A	38.2	F	45.4	N/A	46.1	F
	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	0.19	56.5	N/A	6.4	A	56.5	N/A	14.1	B
	I-140 WB On Ramp to SR 115	0.28	53.4	N/A	13.0	B	53.1	N/A	20.8	C
	I-140 EB On Ramp to SR 115	0.28	52.4	N/A	28.3	D	51.2	N/A	35.6	F
	SR 115 between SR 335 to I-140	3.03	58.2	N/A	25.4	C	57.7	N/A	31.6	D
SR 33	South of SR 35	0.05	42.7	77.7	18.3	E	42.7	77.1	17.7	E
	SR 35 to Wildwood Road	1.9	40.7	71.3	14.9	D	40.3	77.8	21.6	E
	Wildwood Road to S.R. 335	1.26	41.8	62.8	9.4	C	41.3	72.6	16.0	E
	SR 335 to SR 162	0.44	41.4	87.5	35.3	E				F
	SR 162 to Sam Houston School Road	0.45	#	#	#	#	#	#	#	#
	North of Sam Houston School Road	0.05	#	#	#	#	#	#	#	#
SR 35/US 411	SR 447 to Peppermint Road/SR 447 to SR 162*	4.32	27.2	70.5	19.5	E	27	74.2	24.8	E
	SR 162 to Peppermint Road*		-	-	-	-	-	-	-	-
	Peppermint Road to Hitch Road	0.12	-	-	-	-	-	-	-	-
	West of Hitch Road	2.09	49.5	68	10.6	D	49.3	71.1	12.6	E
SR 73 - EB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	14.1	B	44.1	N/A	21.4	C
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	21.3	C	47.9	N/A	38.5	E
	SR 162 and Helton Road*	4.5	-	-	-	-	-	-	-	-
	East of Helton Road	0.05	58	N/A	17.6	B	58	N/A	15.4	B
SR 73 - WB	SR 33 to SR 35/SR 447	0.85	44.1	N/A	18.4	C	44.1	N/A	14.6	B
	SR 35/SR 447 to Helton Road/Jones Avenue to SR 162*	4.5	52.1	N/A	19.5	C	52.1	N/A	17.1	B
	SR 162 and Helton Road*	4.5	-	-	-	-	-	-	-	-
	East of Helton Road	0.05	58	N/A	11.7	B	58	N/A	13.1	B
Sam Houston Road	Between SR 33 and Wildwood Road	2.64	43.9	81.7	24.2	E	44.3	76.5	18.6	E
Wildwood Road	SR 33 to Peppermint Road	2.52	43.5	53.1	4.7	B	43.4	55.1	5.3	C
	Peppermint Road to Sam Houston School Road	0.11	-	-	-	-	-	-	-	-
	East of Sam Houston School Road	1.2	38.5	58.2	7.8	C	38.5	56.4	7.0	C
Peppermint Road	Between Wildwood Road and SR 35	1.09	32.1	78.6	28.7	E	32.3	75.2	23.6	E
Hitch Rd	Between SR35 and Davis Ford Road	1.19	31	66.1	14.9	D	30.9	66.5	15.2	E
Davis Ford Rd	West of Helton Road	0.24	33.6	42.9	2.8	B	33.6	41.1	2.5	A
	Helton Road to Hitch Road	0.08	-	-	-	-	-	-	-	-
	East of Hitch Road	0.19	33.5	43.8	3.1	B	33.5	43.5	3.0	B
Helton Road	Between Davis Ford Road and Tuckaleechee Pike	1.3	21.2	66.1	23.3	E	21.2	66.1	23.2	E

*Build Segmentation
Demand exceeds capacity

Appendix C. Synchro and HCS Reports



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	602	343	0	1195	584	0
Future Volume (vph)	602	343	0	1195	584	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.99	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1747	1490		3505	3574	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1747	1490		3505	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	654	373	0	1299	635	0
RTOR Reduction (vph)	2	97	0	0	0	0
Lane Group Flow (vph)	689	239	0	1299	635	0
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	47.9	47.9		54.4	54.4	
Effective Green, g (s)	47.9	47.9		54.4	54.4	
Actuated g/C Ratio	0.43	0.43		0.49	0.49	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	758	647		1728	1762	
v/s Ratio Prot	c0.39			c0.37	0.18	
v/s Ratio Perm		0.16				
v/c Ratio	0.91	0.37		0.75	0.36	
Uniform Delay, d1	29.2	21.0		22.5	17.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	14.7	0.4		3.1	0.6	
Delay (s)	43.9	21.4		25.6	17.8	
Level of Service	D	C		C	B	
Approach Delay (s)	36.5			25.6	17.8	
Approach LOS	D			C	B	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	110.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	80.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	507	1290	584	893
Future Volume (veh/h)	0	0	507	1290	584	893
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1856	1856	1885	1856
Adj Flow Rate, veh/h			551	1402	635	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			3	3	1	3
Cap, veh/h			829	3408	3140	
Arrive On Green			0.06	0.97	0.88	0.00
Sat Flow, veh/h			1767	3618	3770	0
Grp Volume(v), veh/h			551	1402	635	0
Grp Sat Flow(s),veh/h/ln			1767	1763	1791	0
Q Serve(g_s), s			2.7	2.6	3.2	0.0
Cycle Q Clear(g_c), s			2.7	2.6	3.2	0.0
Prop In Lane			1.00			0.00
Lane Grp Cap(c), veh/h			829	3408	3140	
V/C Ratio(X)			0.66	0.41	0.20	
Avail Cap(c_a), veh/h			1376	3408	3140	
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh			0.6	0.1	1.1	0.0
Incr Delay (d2), s/veh			0.9	0.4	0.1	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.2	0.2	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			1.5	0.5	1.3	0.0
LnGrp LOS			A	A	A	
Approach Vol, veh/h				1953	635	
Approach Delay, s/veh				0.8	1.3	
Approach LOS				A	A	

Timer - Assigned Phs	2			5	6
Phs Duration (G+Y+Rc), s	120.0			10.8	109.2
Change Period (Y+Rc), s	4.0			4.0	4.0
Max Green Setting (Gmax), s	116.0			44.0	68.0
Max Q Clear Time (g_c+I1), s	4.6			4.7	5.2
Green Ext Time (p_c), s	7.7			2.1	2.6

Intersection Summary	
HCM 6th Ctrl Delay	0.9
HCM 6th LOS	A

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

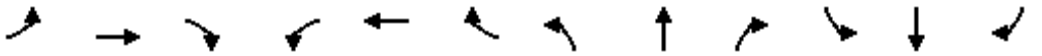
Intersection	
Int Delay, s/veh	26.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	191	132	401	59	54	357
Future Vol, veh/h	191	132	401	59	54	357
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	208	143	436	64	59	388

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	974	468	0	0	500	0
Stage 1	468	-	-	-	-	-
Stage 2	506	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	280	597	-	-	1069	-
Stage 1	632	-	-	-	-	-
Stage 2	608	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	260	597	-	-	1069	-
Mov Cap-2 Maneuver	260	-	-	-	-	-
Stage 1	632	-	-	-	-	-
Stage 2	565	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	95.5	0	1.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	338	1069	-
HCM Lane V/C Ratio	-	-	1.039	0.055	-
HCM Control Delay (s)	-	-	95.5	8.6	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	12.3	0.2	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	350	501	13	35	178	101	30	667	21	131	776	413
Future Volume (veh/h)	350	501	13	35	178	101	30	667	21	131	776	413
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	380	545	14	38	193	110	33	725	23	142	843	449
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	439	641	16	192	217	124	165	1207	38	218	1547	690
Arrive On Green	0.19	0.35	0.35	0.03	0.19	0.19	0.03	0.34	0.34	0.12	0.43	0.43
Sat Flow, veh/h	1795	1830	47	1795	1127	642	1795	3543	112	1795	3582	1598
Grp Volume(v), veh/h	380	0	559	38	0	303	33	366	382	142	843	449
Grp Sat Flow(s),veh/h/ln	1795	0	1877	1795	0	1770	1795	1791	1865	1795	1791	1598
Q Serve(g_s), s	16.5	0.0	28.3	1.7	0.0	17.1	1.3	17.4	17.4	7.8	18.0	22.8
Cycle Q Clear(g_c), s	16.5	0.0	28.3	1.7	0.0	17.1	1.3	17.4	17.4	7.8	18.0	22.8
Prop In Lane	1.00		0.03	1.00		0.36	1.00		0.06	1.00		1.00
Lane Grp Cap(c), veh/h	439	0	658	192	0	341	165	610	635	218	1547	690
V/C Ratio(X)	0.87	0.00	0.85	0.20	0.00	0.89	0.20	0.60	0.60	0.65	0.54	0.65
Avail Cap(c_a), veh/h	587	0	884	232	0	448	210	610	635	262	1547	690
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.5	0.0	30.9	32.3	0.0	40.4	26.2	28.1	28.1	43.1	21.7	23.1
Incr Delay (d2), s/veh	10.1	0.0	6.0	0.5	0.0	15.9	0.6	4.3	4.2	4.3	1.4	4.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	13.6	0.8	0.0	8.9	0.6	8.1	8.4	3.7	7.6	9.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.6	0.0	36.9	32.8	0.0	56.3	26.8	32.4	32.3	47.4	23.1	27.8
LnGrp LOS	D	A	D	C	A	E	C	C	C	D	C	C
Approach Vol, veh/h		939			341			781			1434	
Approach Delay, s/veh		36.4			53.7			32.1			26.9	
Approach LOS		D			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	16.5	39.0	7.3	40.0	7.1	48.4	23.5	23.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	15.0	35.0	5.6	48.4	5.6	44.4	28.0	26.0
Max Q Clear Time (g_c+I1), s	9.8	19.4	3.7	30.3	3.3	24.8	18.5	19.1
Green Ext Time (p_c), s	0.2	2.6	0.0	2.1	0.0	6.1	1.0	0.6

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	167	15	35	17	12	192	19	681	20	106	1044	127
Future Volume (veh/h)	167	15	35	17	12	192	19	681	20	106	1044	127
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	182	16	38	18	13	209	21	740	22	115	1135	138
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	284	464	393	54	36	345	246	2057	61	486	1961	238
Arrive On Green	0.25	0.25	0.25	0.25	0.25	0.25	0.02	0.58	0.58	0.05	0.61	0.61
Sat Flow, veh/h	1168	1885	1598	60	148	1402	1795	3552	106	1795	3216	390
Grp Volume(v), veh/h	182	16	38	240	0	0	21	373	389	115	631	642
Grp Sat Flow(s),veh/h/ln	1168	1885	1598	1610	0	0	1795	1791	1866	1795	1791	1815
Q Serve(g_s), s	8.5	0.6	1.8	0.9	0.0	0.0	0.5	10.9	10.9	0.0	20.9	21.0
Cycle Q Clear(g_c), s	21.3	0.6	1.8	12.8	0.0	0.0	0.5	10.9	10.9	0.0	20.9	21.0
Prop In Lane	1.00		1.00	0.07		0.87	1.00		0.06	1.00		0.21
Lane Grp Cap(c), veh/h	284	464	393	436	0	0	246	1037	1081	486	1092	1107
V/C Ratio(X)	0.64	0.03	0.10	0.55	0.00	0.00	0.09	0.36	0.36	0.24	0.58	0.58
Avail Cap(c_a), veh/h	495	805	682	723	0	0	315	1037	1081	555	1092	1107
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	28.2	28.6	32.8	0.0	0.0	12.5	11.0	11.0	14.6	11.6	11.6
Incr Delay (d2), s/veh	2.4	0.0	0.1	1.1	0.0	0.0	0.1	1.0	0.9	0.2	2.2	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.4	0.3	0.7	5.1	0.0	0.0	0.2	4.3	4.5	1.5	8.3	8.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.2	28.2	28.7	33.9	0.0	0.0	12.7	12.0	11.9	14.9	13.8	13.8
LnGrp LOS	D	C	C	C	A	A	B	B	B	B	B	B
Approach Vol, veh/h		236			240			783			1388	
Approach Delay, s/veh		37.5			33.9			12.0			13.9	
Approach LOS		D			C			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.2	61.0		28.2	6.2	64.0		28.2
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	9.6	57.0		42.0	6.0	60.0		42.0
Max Q Clear Time (g_c+I1), s	12.8	12.9		23.3	2.5	23.0		14.8
Green Ext Time (p_c), s	0.2	3.1		0.9	0.0	6.3		1.0

Intersection Summary	
HCM 6th Ctrl Delay	17.2
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	219	50	142	105	105	41	511	176	130	1037	17
Future Volume (veh/h)	31	219	50	142	105	105	41	511	176	130	1037	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	238	54	154	114	114	45	555	191	141	1127	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	2	2	2
Cap, veh/h	38	266	60	277	133	133	223	1128	387	375	1906	30
Arrive On Green	0.20	0.20	0.20	0.16	0.16	0.16	0.43	0.43	0.43	0.06	0.53	0.53
Sat Flow, veh/h	190	1330	302	1781	858	858	491	2596	891	1781	3580	57
Grp Volume(v), veh/h	326	0	0	154	0	228	45	379	367	141	559	586
Grp Sat Flow(s),veh/h/ln	1821	0	0	1781	0	1716	491	1777	1710	1781	1777	1860
Q Serve(g_s), s	18.7	0.0	0.0	8.6	0.0	13.9	7.4	16.4	16.5	4.5	23.0	23.0
Cycle Q Clear(g_c), s	18.7	0.0	0.0	8.6	0.0	13.9	19.9	16.4	16.5	4.5	23.0	23.0
Prop In Lane	0.10		0.17	1.00		0.50	1.00		0.52	1.00		0.03
Lane Grp Cap(c), veh/h	365	0	0	277	0	267	223	772	743	375	946	990
V/C Ratio(X)	0.89	0.00	0.00	0.56	0.00	0.86	0.20	0.49	0.49	0.38	0.59	0.59
Avail Cap(c_a), veh/h	493	0	0	366	0	353	223	772	743	417	946	990
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	0.0	0.0	41.8	0.0	44.1	27.5	21.8	21.8	15.8	17.1	17.1
Incr Delay (d2), s/veh	14.8	0.0	0.0	1.7	0.0	14.6	2.0	2.2	2.3	0.6	2.7	2.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.8	0.0	0.0	3.9	0.0	6.9	1.0	7.2	7.0	1.8	9.7	10.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	0.0	0.0	43.6	0.0	58.6	29.5	24.0	24.1	16.4	19.8	19.7
LnGrp LOS	E	A	A	D	A	E	C	C	C	B	B	B
Approach Vol, veh/h		326			382			791			1286	
Approach Delay, s/veh		56.5			52.5			24.4			19.4	
Approach LOS		E			D			C			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.5	50.5		25.4		61.0		20.6				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	9.6	44.0		29.0		57.0		22.0				
Max Q Clear Time (g_c+I1), s	6.5	21.9		20.7		25.0		15.9				
Green Ext Time (p_c), s	0.1	3.6		0.8		5.2		0.8				

Intersection Summary	
HCM 6th Ctrl Delay	29.7
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	79	887	25	55	14	1088	512	31	18	1007	168
Future Volume (veh/h)	206	79	887	25	55	14	1088	512	31	18	1007	168
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	224	86	964	27	60	15	1183	557	34	20	1095	183
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	2	2	2	1	1	1
Cap, veh/h	101	39	434	36	81	101	574	1585	97	198	808	135
Arrive On Green	0.36	0.36	0.36	0.06	0.06	0.06	0.17	0.47	0.47	0.26	0.26	0.26
Sat Flow, veh/h	280	108	1207	572	1270	1585	3456	3403	207	832	3072	512
Grp Volume(v), veh/h	1274	0	0	87	0	15	1183	290	301	20	637	641
Grp Sat Flow(s),veh/h/ln	1595	0	0	1842	0	1585	1728	1777	1833	832	1791	1793
Q Serve(g_s), s	39.0	0.0	0.0	5.0	0.0	1.0	18.0	11.3	11.4	2.2	28.5	28.5
Cycle Q Clear(g_c), s	39.0	0.0	0.0	5.0	0.0	1.0	18.0	11.3	11.4	13.6	28.5	28.5
Prop In Lane	0.18		0.76	0.31		1.00	1.00		0.11	1.00		0.29
Lane Grp Cap(c), veh/h	574	0	0	117	0	101	574	828	854	198	471	471
V/C Ratio(X)	2.22	0.00	0.00	0.74	0.00	0.15	2.06	0.35	0.35	0.10	1.35	1.36
Avail Cap(c_a), veh/h	574	0	0	314	0	271	574	828	854	198	471	471
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.7	0.0	0.0	49.9	0.0	48.0	45.2	18.5	18.5	39.4	39.9	39.9
Incr Delay (d2), s/veh	554.8	0.0	0.0	8.9	0.0	0.7	483.7	1.2	1.1	1.0	172.3	175.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	103.1	0.0	0.0	2.6	0.0	0.4	46.2	4.8	5.0	0.5	34.9	35.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	589.5	0.0	0.0	58.8	0.0	48.7	528.9	19.7	19.6	40.4	212.3	215.0
LnGrp LOS	F	A	A	E	A	D	F	B	B	D	F	F
Approach Vol, veh/h		1274			102			1774			1298	
Approach Delay, s/veh		589.5			57.3			359.2			211.0	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	2		4	5	6		8
Phs Duration (G+Y+Rc), s	54.5		43.0	22.0	32.5		10.9
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	50.5		39.0	18.0	28.5		18.5
Max Q Clear Time (g_c+I1), s	13.4		41.0	20.0	30.5		7.0
Green Ext Time (p_c), s	2.3		0.0	0.0	0.0		0.2

Intersection Summary		
HCM 6th Ctrl Delay	375.0	
HCM 6th LOS	F	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	646	140	1471	336	95	1223
Future Volume (veh/h)	646	140	1471	336	95	1223
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	702	0	1599	0	103	1329
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	479		1118		131	1237
Arrive On Green	0.27	0.00	0.59	0.00	0.04	0.67
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	702	0	1599	0	103	1329
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	32.0	0.0	71.2	0.0	2.8	80.0
Cycle Q Clear(g_c), s	32.0	0.0	71.2	0.0	2.8	80.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	479		1118		131	1237
V/C Ratio(X)	1.47		1.43		0.78	1.07
Avail Cap(c_a), veh/h	479		1118		141	1237
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	0.0	24.4	0.0	31.3	20.0
Incr Delay (d2), s/veh	221.0	0.0	198.9	0.0	23.3	48.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	43.0	0.0	89.9	0.0	2.6	45.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	265.0	0.0	223.3	0.0	54.6	68.1
LnGrp LOS	F		F		D	F
Approach Vol, veh/h	702		1599			1432
Approach Delay, s/veh	265.0		223.3			67.1
Approach LOS	F		F			E

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.8	75.2		36.0		84.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	5.5	70.5		32.0		80.0
Max Q Clear Time (g_c+I1), s	4.8	73.2		34.0		82.0
Green Ext Time (p_c), s	0.0	0.0		0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	171.2
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	67	152	26	131	157	161	46	552	107	87	302	37
Future Vol, veh/h	67	152	26	131	157	161	46	552	107	87	302	37
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	73	165	28	142	171	175	50	600	116	95	328	40

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	171	0	0	193	0	0	944	780	179	1138	794	-
Stage 1	-	-	-	-	-	-	325	325	-	455	455	-
Stage 2	-	-	-	-	-	-	619	455	-	683	339	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	-
Pot Cap-1 Maneuver	1412	-	-	1386	-	0	243	~ 328	866	179	~ 322	0
Stage 1	-	-	-	-	-	0	690	651	-	587	570	0
Stage 2	-	-	-	-	-	0	478	~ 570	-	441	642	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1412	-	-	1386	-	-	-	~ 274	866	-	~ 269	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 274	-	-	~ 269	-
Stage 1	-	-	-	-	-	-	650	613	-	553	506	-
Stage 2	-	-	-	-	-	-	149	~ 506	-	~ 8	605	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	3.6		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	1412	-	-	1386	-	-
HCM Lane V/C Ratio	-	0.052	-	-	0.103	-	-
HCM Control Delay (s)	-	7.7	0	-	7.9	0	-
HCM Lane LOS	-	A	A	-	A	A	-
HCM 95th %tile Q(veh)	-	0.2	-	-	0.3	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	175	233	36	52	265	172	65	311	42	112	268	114
Future Vol, veh/h	175	233	36	52	265	172	65	311	42	112	268	114
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	1	1	1
Mvmt Flow	190	253	39	57	288	187	71	338	46	122	291	124

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	475	0	0	292	0	0	1356	1242	273	1341	1168	382
Stage 1	-	-	-	-	-	-	653	653	-	496	496	-
Stage 2	-	-	-	-	-	-	703	589	-	845	672	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1087	-	-	1275	-	-	127	~ 175	768	130	~ 194	667
Stage 1	-	-	-	-	-	-	458	465	-	558	547	-
Stage 2	-	-	-	-	-	-	430	497	-	359	456	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1087	-	-	1275	-	-	-	~ 130	768	-	~ 144	667
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 130	-	-	~ 144	-
Stage 1	-	-	-	-	-	-	362	367	-	441	513	-
Stage 2	-	-	-	-	-	-	142	466	-	~ 21	360	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	0.8		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1087	-	-	1275	-	-	-
HCM Lane V/C Ratio	-	0.175	-	-	0.044	-	-	-
HCM Control Delay (s)	-	9	0	-	8	0	-	-
HCM Lane LOS	-	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	-	0.6	-	-	0.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	22.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	9	51	13	29	98	12	24	397	23	8	342	6
Future Vol, veh/h	9	51	13	29	98	12	24	397	23	8	342	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	10	55	14	32	107	13	26	432	25	9	372	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	120	0	0	69	0	0	449	266	62	489	267	114
Stage 1	-	-	-	-	-	-	82	82	-	178	178	-
Stage 2	-	-	-	-	-	-	367	184	-	311	89	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1474	-	-	1538	-	-	522	641	1006	491	641	941
Stage 1	-	-	-	-	-	-	929	829	-	826	754	-
Stage 2	-	-	-	-	-	-	655	749	-	702	823	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1474	-	-	1538	-	-	266	622	1006	206	622	941
Mov Cap-2 Maneuver	-	-	-	-	-	-	266	622	-	206	622	-
Stage 1	-	-	-	-	-	-	922	823	-	820	737	-
Stage 2	-	-	-	-	-	-	315	733	-	323	817	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	1.5	32.6	21.4
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	591	1474	-	-	1538	-	-	598
HCM Lane V/C Ratio	0.817	0.007	-	-	0.02	-	-	0.647
HCM Control Delay (s)	32.6	7.5	0	-	7.4	0	-	21.4
HCM Lane LOS	D	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	8.3	0	-	-	0.1	-	-	4.7

Intersection	
Int Delay, s/veh	1363.2

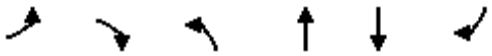
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	49	450	16	48	840	358	29	37	87	310	32	42
Future Vol, veh/h	49	450	16	48	840	358	29	37	87	310	32	42
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	53	489	17	52	913	389	32	40	95	337	35	46

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1302	0	0	506	0	0	1182	2010	253	1583	1824	651
Stage 1	-	-	-	-	-	-	604	604	-	1212	1212	-
Stage 2	-	-	-	-	-	-	578	1406	-	371	612	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	522	-	-	1048	-	-	146	59	750	~ 74	77	414
Stage 1	-	-	-	-	-	-	455	489	-	~ 195	255	-
Stage 2	-	-	-	-	-	-	471	206	-	624	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	522	-	-	1048	-	-	68	50	750	~ 19	66	414
Mov Cap-2 Maneuver	-	-	-	-	-	-	68	50	-	~ 19	66	-
Stage 1	-	-	-	-	-	-	409	439	-	~ 175	242	-
Stage 2	-	-	-	-	-	-	341	196	-	445	435	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	0.3	289.1	$ 8040.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	119	522	-	-	1048	-	-	23
HCM Lane V/C Ratio	1.398	0.102	-	-	0.05	-	-	18.147
HCM Control Delay (s)	289.1	12.7	-	-	8.6	-	-	$ 8040.1
HCM Lane LOS	F	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	11.4	0.3	-	-	0.2	-	-	52.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	855	487	0	1418	666	0
Future Volume (vph)	855	487	0	1418	666	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.99	0.85		1.00	1.00	
Flt Protected	0.95	1.00		1.00	1.00	
Satd. Flow (prot)	1747	1490		3505	3574	
Flt Permitted	0.95	1.00		1.00	1.00	
Satd. Flow (perm)	1747	1490		3505	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	929	529	0	1541	724	0
RTOR Reduction (vph)	1	58	0	0	0	0
Lane Group Flow (vph)	981	418	0	1541	724	0
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	77.0	77.0		65.0	65.0	
Effective Green, g (s)	77.0	77.0		65.0	65.0	
Actuated g/C Ratio	0.51	0.51		0.43	0.43	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	896	764		1518	1548	
v/s Ratio Prot	c0.56			c0.44	0.20	
v/s Ratio Perm		0.28				
v/c Ratio	1.09	0.55		1.02	0.47	
Uniform Delay, d1	36.5	24.7		42.5	30.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	59.2	0.8		26.9	1.0	
Delay (s)	95.7	25.5		69.4	31.2	
Level of Service	F	C		E	C	
Approach Delay (s)	72.8			69.4	31.2	
Approach LOS	E			E	C	

Intersection Summary			
HCM 2000 Control Delay	63.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	103.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	421	1852	666	740
Future Volume (veh/h)	0	0	421	1852	666	740
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1856	1856	1885	1856
Adj Flow Rate, veh/h			458	2013	724	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			3	3	1	3
Cap, veh/h			757	3432	3253	
Arrive On Green			0.04	0.97	0.91	0.00
Sat Flow, veh/h			1767	3618	3770	0
Grp Volume(v), veh/h			458	2013	724	0
Grp Sat Flow(s),veh/h/ln			1767	1763	1791	0
Q Serve(g_s), s			2.1	5.3	3.5	0.0
Cycle Q Clear(g_c), s			2.1	5.3	3.5	0.0
Prop In Lane			1.00			0.00
Lane Grp Cap(c), veh/h			757	3432	3253	
V/C Ratio(X)			0.61	0.59	0.22	
Avail Cap(c_a), veh/h			1289	3432	3253	
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh			0.4	0.1	0.8	0.0
Incr Delay (d2), s/veh			0.8	0.7	0.2	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.2	0.4	0.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			1.2	0.9	0.9	0.0
LnGrp LOS			A	A	A	
Approach Vol, veh/h				2471	724	
Approach Delay, s/veh				0.9	0.9	
Approach LOS				A	A	

Timer - Assigned Phs	2			5	6
Phs Duration (G+Y+Rc), s	150.0			9.8	140.2
Change Period (Y+Rc), s	4.0			4.0	4.0
Max Green Setting (Gmax), s	146.0			51.0	91.0
Max Q Clear Time (g_c+I1), s	7.3			4.1	5.5
Green Ext Time (p_c), s	16.3			1.7	3.0

Intersection Summary	
HCM 6th Ctrl Delay	0.9
HCM 6th LOS	A

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	24.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	79	50	540	201	154	624
Future Vol, veh/h	79	50	540	201	154	624
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	86	54	587	218	167	678

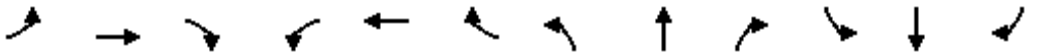
Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1708	696	0	0	805	0
Stage 1	696	-	-	-	-	-
Stage 2	1012	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	101	443	-	-	824	-
Stage 1	496	-	-	-	-	-
Stage 2	353	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 68	443	-	-	824	-
Mov Cap-2 Maneuver	~ 68	-	-	-	-	-
Stage 1	496	-	-	-	-	-
Stage 2	238	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 300.9	0	2.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	101	824	-
HCM Lane V/C Ratio	-	-	1.388	0.203	-
HCM Control Delay (s)	-	-	$ 300.9	10.5	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	10.1	0.8	-

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	308	325	41	52	226	78	40	694	41	529	1263	644
Future Volume (veh/h)	308	325	41	52	226	78	40	694	41	529	1263	644
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	335	353	45	57	246	85	43	754	45	575	1373	700
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	329	485	62	214	234	81	98	808	48	587	1914	853
Arrive On Green	0.16	0.30	0.30	0.04	0.17	0.17	0.03	0.24	0.24	0.33	0.53	0.53
Sat Flow, veh/h	1795	1639	209	1795	1339	463	1795	3434	205	1795	3582	1598
Grp Volume(v), veh/h	335	0	398	57	0	331	43	393	406	575	1373	700
Grp Sat Flow(s),veh/h/ln	1795	0	1848	1795	0	1802	1795	1791	1848	1795	1791	1598
Q Serve(g_s), s	23.5	0.0	29.0	3.9	0.0	26.2	2.9	32.3	32.3	47.6	43.4	54.5
Cycle Q Clear(g_c), s	23.5	0.0	29.0	3.9	0.0	26.2	2.9	32.3	32.3	47.6	43.4	54.5
Prop In Lane	1.00		0.11	1.00		0.26	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	329	0	546	214	0	315	98	421	435	587	1914	853
V/C Ratio(X)	1.02	0.00	0.73	0.27	0.00	1.05	0.44	0.93	0.93	0.98	0.72	0.82
Avail Cap(c_a), veh/h	329	0	546	217	0	315	122	421	435	587	1914	853
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	47.2	0.0	47.4	48.7	0.0	61.9	49.3	56.2	56.2	50.0	26.4	29.0
Incr Delay (d2), s/veh	54.1	0.0	4.9	0.7	0.0	64.9	3.1	29.8	29.3	32.1	2.3	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.8	0.0	14.2	1.8	0.0	17.7	1.4	18.1	18.6	26.5	19.0	22.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	101.3	0.0	52.3	49.4	0.0	126.8	52.4	86.0	85.5	82.1	28.7	37.6
LnGrp LOS	F	A	D	D	A	F	D	F	F	F	C	D
Approach Vol, veh/h		733			388			842			2648	
Approach Delay, s/veh		74.7			115.5			84.0			42.7	
Approach LOS		E			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	53.0	39.3	9.3	48.4	8.2	84.1	27.5	30.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	49.0	35.3	5.6	44.1	6.2	78.1	23.5	26.2
Max Q Clear Time (g_c+I1), s	49.6	34.3	5.9	31.0	4.9	56.5	25.5	28.2
Green Ext Time (p_c), s	0.0	0.4	0.0	1.2	0.0	11.6	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	61.4
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	112	10	23	10	19	128	29	833	13	158	1725	212
Future Volume (veh/h)	112	10	23	10	19	128	29	833	13	158	1725	212
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	122	11	25	11	21	139	32	905	14	172	1875	230
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	192	316	268	36	43	222	137	2414	37	525	2323	279
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.03	0.67	0.67	0.08	0.72	0.72
Sat Flow, veh/h	1236	1885	1598	50	255	1324	1795	3610	56	1795	3220	387
Grp Volume(v), veh/h	122	11	25	171	0	0	32	449	470	172	1026	1079
Grp Sat Flow(s),veh/h/ln	1236	1885	1598	1629	0	0	1795	1791	1875	1795	1791	1816
Q Serve(g_s), s	7.6	0.7	1.9	1.4	0.0	0.0	0.9	15.5	15.5	0.0	52.3	57.3
Cycle Q Clear(g_c), s	21.2	0.7	1.9	13.6	0.0	0.0	0.9	15.5	15.5	0.0	52.3	57.3
Prop In Lane	1.00		1.00	0.06		0.81	1.00		0.03	1.00		0.21
Lane Grp Cap(c), veh/h	192	316	268	300	0	0	137	1198	1254	525	1292	1310
V/C Ratio(X)	0.64	0.03	0.09	0.57	0.00	0.00	0.23	0.37	0.37	0.33	0.79	0.82
Avail Cap(c_a), veh/h	258	417	353	386	0	0	166	1198	1254	553	1292	1310
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	48.9	49.4	54.2	0.0	0.0	23.5	10.3	10.3	13.9	12.7	13.4
Incr Delay (d2), s/veh	3.5	0.0	0.1	1.7	0.0	0.0	0.9	0.9	0.9	0.4	5.1	6.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	0.3	0.8	5.8	0.0	0.0	0.6	6.3	6.6	2.9	20.9	23.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.0	48.9	49.5	55.9	0.0	0.0	24.4	11.2	11.1	14.3	17.8	19.4
LnGrp LOS	E	D	D	E	A	A	C	B	B	B	B	B
Approach Vol, veh/h		158			171			951			2277	
Approach Delay, s/veh		59.9			55.9			11.6			18.3	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	15.0	97.8		27.5	7.6	105.2		27.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	13.2	93.8		31.0	5.8	101.2		31.0
Max Q Clear Time (g_c+I1), s	12.6	17.5		23.2	2.9	59.3		15.6
Green Ext Time (p_c), s	0.4	3.9		0.3	0.0	17.2		0.5

Intersection Summary		
HCM 6th Ctrl Delay	20.2	
HCM 6th LOS	C	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	145	34	214	157	158	61	635	116	194	1603	27
Future Volume (veh/h)	21	145	34	214	157	158	61	635	116	194	1603	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	23	158	37	233	171	172	66	690	126	211	1742	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	2	2	2
Cap, veh/h	24	163	38	309	148	149	119	1665	304	405	2230	37
Arrive On Green	0.12	0.12	0.12	0.17	0.17	0.17	0.55	0.55	0.55	0.04	0.62	0.62
Sat Flow, veh/h	192	1319	309	1781	855	860	269	3001	548	1781	3577	59
Grp Volume(v), veh/h	218	0	0	233	0	343	66	408	408	211	864	907
Grp Sat Flow(s),veh/h/ln	1820	0	0	1781	0	1716	269	1777	1772	1781	1777	1860
Q Serve(g_s), s	17.9	0.0	0.0	18.7	0.0	26.0	35.8	19.9	20.0	6.3	53.4	53.8
Cycle Q Clear(g_c), s	17.9	0.0	0.0	18.7	0.0	26.0	79.4	19.9	20.0	6.3	53.4	53.8
Prop In Lane	0.11		0.17	1.00		0.50	1.00		0.31	1.00		0.03
Lane Grp Cap(c), veh/h	224	0	0	309	0	297	119	986	983	405	1108	1159
V/C Ratio(X)	0.97	0.00	0.00	0.75	0.00	1.15	0.55	0.41	0.41	0.52	0.78	0.78
Avail Cap(c_a), veh/h	224	0	0	309	0	297	119	986	983	405	1108	1159
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.5	0.0	0.0	59.0	0.0	62.0	53.8	19.3	19.3	17.9	20.7	20.8
Incr Delay (d2), s/veh	51.7	0.0	0.0	10.1	0.0	100.4	17.3	1.3	1.3	1.2	5.5	5.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.6	0.0	0.0	9.3	0.0	19.6	3.0	8.7	8.6	2.1	23.2	24.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	117.2	0.0	0.0	69.1	0.0	162.4	71.0	20.6	20.6	19.1	26.2	26.1
LnGrp LOS	F	A	A	E	A	F	E	C	C	B	C	C
Approach Vol, veh/h		218			576			882			1982	
Approach Delay, s/veh		117.2			124.6			24.4			25.4	
Approach LOS		F			F			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	10.3	87.2		22.5		97.5		30.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	6.3	83.2		18.5		93.5		26.0				
Max Q Clear Time (g_c+I1), s	8.3	81.4		19.9		55.8		28.0				
Green Ext Time (p_c), s	0.0	0.9		0.0		11.3		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	46.2
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	53	1329	25	51	22	726	658	31	12	1577	252
Future Volume (veh/h)	138	53	1329	25	51	22	726	658	31	12	1577	252
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	150	58	1445	27	55	24	789	715	34	13	1714	274
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	2	2	2	1	1	1
Cap, veh/h	57	22	551	36	72	93	396	1570	75	173	967	150
Arrive On Green	0.40	0.40	0.40	0.06	0.06	0.06	0.11	0.45	0.45	0.31	0.31	0.31
Sat Flow, veh/h	143	55	1374	606	1234	1585	3456	3454	164	718	3106	483
Grp Volume(v), veh/h	1653	0	0	82	0	24	789	368	381	13	969	1019
Grp Sat Flow(s),veh/h/ln	1571	0	0	1840	0	1585	1728	1777	1841	718	1791	1798
Q Serve(g_s), s	56.0	0.0	0.0	6.1	0.0	2.0	16.0	19.9	19.9	2.1	43.5	43.5
Cycle Q Clear(g_c), s	56.0	0.0	0.0	6.1	0.0	2.0	16.0	19.9	19.9	22.0	43.5	43.5
Prop In Lane	0.09		0.87	0.33		1.00	1.00		0.09	1.00		0.27
Lane Grp Cap(c), veh/h	630	0	0	108	0	93	396	808	837	173	558	560
V/C Ratio(X)	2.62	0.00	0.00	0.76	0.00	0.26	1.99	0.46	0.46	0.08	1.74	1.82
Avail Cap(c_a), veh/h	630	0	0	244	0	210	396	808	837	173	558	560
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.8	0.0	0.0	64.8	0.0	62.8	61.8	26.2	26.2	49.1	48.1	48.1
Incr Delay (d2), s/veh	735.3	0.0	0.0	10.4	0.0	1.4	456.0	1.8	1.8	0.8	338.9	376.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	50.1	0.0	0.0	3.2	0.0	0.9	32.1	8.9	9.2	0.4	71.8	77.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	777.2	0.0	0.0	75.2	0.0	64.3	517.8	28.0	28.0	50.0	387.0	424.4
LnGrp LOS	F	A	A	E	A	E	F	C	C	D	F	F
Approach Vol, veh/h		1653			106			1538			2001	
Approach Delay, s/veh		777.2			72.7			279.3			403.9	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	67.5	60.0	20.0	47.5	12.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	63.5	56.0	16.0	43.5	18.5
Max Q Clear Time (g_c+I1), s	21.9	58.0	18.0	45.5	8.1
Green Ext Time (p_c), s	3.0	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	477.6
HCM 6th LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	430	94	1459	504	146	1092
Future Volume (veh/h)	430	94	1459	504	146	1092
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	467	0	1586	0	159	1187
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	371		1269		119	1373
Arrive On Green	0.21	0.00	0.67	0.00	0.04	0.74
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	467	0	1586	0	159	1187
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	31.0	0.0	101.0	0.0	6.0	69.2
Cycle Q Clear(g_c), s	31.0	0.0	101.0	0.0	6.0	69.2
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	371		1269		119	1373
V/C Ratio(X)	1.26		1.25		1.34	0.86
Avail Cap(c_a), veh/h	371		1269		119	1373
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	59.5	0.0	24.5	0.0	54.2	14.1
Incr Delay (d2), s/veh	136.5	0.0	119.0	0.0	198.8	7.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	27.9	0.0	81.8	0.0	9.6	27.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	196.0	0.0	143.5	0.0	253.0	21.5
LnGrp LOS	F		F		F	C
Approach Vol, veh/h	467		1586			1346
Approach Delay, s/veh	196.0		143.5			48.9
Approach LOS	F		F			D

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	40.0	105.0		35.0		115.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	6.0	101.0		31.0		111.0
Max Q Clear Time (g_c+I1), s	8.0	103.0		33.0		71.2
Green Ext Time (p_c), s	0.0	0.0		0.0		7.9

Intersection Summary	
HCM 6th Ctrl Delay	113.2
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	45	123	38	87	105	107	30	368	161	131	452	55
Future Vol, veh/h	45	123	38	87	105	107	30	368	161	131	452	55
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	49	134	41	95	114	116	33	400	175	142	491	60

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	114	0	0	175	0	0	803	557	155	844	577	-
Stage 1	-	-	-	-	-	-	253	253	-	304	304	-
Stage 2	-	-	-	-	-	-	550	304	-	540	273	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	-
Pot Cap-1 Maneuver	1481	-	-	1407	-	0	303	440	893	284	~ 429	0
Stage 1	-	-	-	-	-	0	754	700	-	708	665	0
Stage 2	-	-	-	-	-	0	521	665	-	528	686	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1481	-	-	1407	-	-	-	~ 393	893	-	~ 384	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 393	-	-	~ 384	-
Stage 1	-	-	-	-	-	-	726	674	-	682	617	-
Stage 2	-	-	-	-	-	-	98	617	-	166	661	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	3.5		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	1481	-	-	1407	-	-
HCM Lane V/C Ratio	-	0.033	-	-	0.067	-	-
HCM Control Delay (s)	-	7.5	0	-	7.7	0	-
HCM Lane LOS	-	A	A	-	A	A	-
HCM 95th %tile Q(veh)	-	0.1	-	-	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	139	349	54	34	177	136	43	247	62	140	336	144
Future Vol, veh/h	139	349	54	34	177	136	43	247	62	140	336	144
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	1	1	1
Mvmt Flow	151	379	59	37	192	148	47	268	67	152	365	157

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	340	0	0	438	0	0	1312	1125	409	1218	1080	266
Stage 1	-	-	-	-	-	-	711	711	-	340	340	-
Stage 2	-	-	-	-	-	-	601	414	-	878	740	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1219	-	-	1127	-	-	136	~ 206	645	158	~ 219	775
Stage 1	-	-	-	-	-	-	425	438	-	677	641	-
Stage 2	-	-	-	-	-	-	489	595	-	344	425	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1219	-	-	1127	-	-	-	~ 165	645	-	~ 175	775
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 165	-	-	~ 175	-
Stage 1	-	-	-	-	-	-	355	366	-	565	615	-
Stage 2	-	-	-	-	-	-	152	571	-	~ 69	~ 355	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.1	0.8		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1219	-	-	1127	-	-	-
HCM Lane V/C Ratio	-	0.124	-	-	0.033	-	-	-
HCM Control Delay (s)	-	8.4	0	-	8.3	0	-	-
HCM Lane LOS	-	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	-	0.4	-	-	0.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	18.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	7	77	19	19	65	10	16	335	35	10	408	6
Future Vol, veh/h	7	77	19	19	65	10	16	335	35	10	408	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	8	84	21	21	71	11	17	364	38	11	443	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	82	0	0	105	0	0	455	235	95	431	240	77
Stage 1	-	-	-	-	-	-	111	111	-	119	119	-
Stage 2	-	-	-	-	-	-	344	124	-	312	121	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1522	-	-	1493	-	-	517	667	964	536	663	987
Stage 1	-	-	-	-	-	-	897	805	-	888	799	-
Stage 2	-	-	-	-	-	-	673	795	-	701	798	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1522	-	-	1493	-	-	227	653	964	284	649	987
Mov Cap-2 Maneuver	-	-	-	-	-	-	227	653	-	284	649	-
Stage 1	-	-	-	-	-	-	892	800	-	883	787	-
Stage 2	-	-	-	-	-	-	287	783	-	365	793	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.5	1.5	21.9	24.4
HCM LOS			C	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	623	1522	-	-	1493	-	-	633
HCM Lane V/C Ratio	0.673	0.005	-	-	0.014	-	-	0.728
HCM Control Delay (s)	21.9	7.4	0	-	7.4	0	-	24.4
HCM Lane LOS	C	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	5.1	0	-	-	0	-	-	6.2

Intersection	
Int Delay, s/veh	877.7

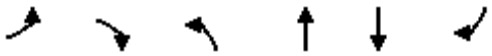
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	676	24	71	560	312	19	31	58	361	37	48
Future Vol, veh/h	43	676	24	71	560	312	19	31	58	361	37	48
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	47	735	26	77	609	339	21	34	63	392	40	52

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	948	0	0	761	0	0	1321	1944	381	1412	1788	474
Stage 1	-	-	-	-	-	-	842	842	-	933	933	-
Stage 2	-	-	-	-	-	-	479	1102	-	479	855	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	714	-	-	840	-	-	116	65	620	~ 99	81	539
Stage 1	-	-	-	-	-	-	327	380	-	~ 288	345	-
Stage 2	-	-	-	-	-	-	539	288	-	539	375	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	714	-	-	840	-	-	50	55	620	~ 41	69	539
Mov Cap-2 Maneuver	-	-	-	-	-	-	50	55	-	~ 41	69	-
Stage 1	-	-	-	-	-	-	305	355	-	~ 269	313	-
Stage 2	-	-	-	-	-	-	385	262	-	409	350	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.6	0.7	204.3	$ 4356.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	104	714	-	-	840	-	-	47
HCM Lane V/C Ratio	1.129	0.065	-	-	0.092	-	-	10.315
HCM Control Delay (s)	204.3	10.4	-	-	9.7	-	-	$ 4356.3
HCM Lane LOS	F	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	7.5	0.2	-	-	0.3	-	-	57.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	905	583	0	1538	534	0
Future Volume (vph)	905	583	0	1538	534	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.99	0.85		1.00	1.00	
Flt Protected	0.96	1.00		1.00	1.00	
Satd. Flow (prot)	1746	1490		3505	3574	
Flt Permitted	0.96	1.00		1.00	1.00	
Satd. Flow (perm)	1746	1490		3505	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	984	634	0	1672	580	0
RTOR Reduction (vph)	2	122	0	0	0	0
Lane Group Flow (vph)	1045	449	0	1672	580	0
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	3			2	6	
Permitted Phases		4				
Actuated Green, G (s)	41.5	25.0		41.0	41.0	
Effective Green, g (s)	41.5	25.0		41.0	41.0	
Actuated g/C Ratio	0.35	0.21		0.34	0.34	
Clearance Time (s)	4.5	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	603	310		1197	1221	
v/s Ratio Prot	c0.60			c0.48	0.16	
v/s Ratio Perm		c0.30				
v/c Ratio	1.73	1.45		1.40	0.48	
Uniform Delay, d1	39.2	47.5		39.5	31.0	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	336.8	219.2		183.7	1.3	
Delay (s)	376.0	266.7		223.2	32.4	
Level of Service	F	F		F	C	
Approach Delay (s)	337.4			223.2	32.4	
Approach LOS	F			F	C	

Intersection Summary			
HCM 2000 Control Delay	242.4	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	115.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	915	1528	534	1339
Future Volume (veh/h)	0	0	915	1528	534	1339
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1856	1856	1885	1856
Adj Flow Rate, veh/h			995	1661	580	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			3	3	1	3
Cap, veh/h			1038	3408	2349	
Arrive On Green			0.28	0.97	0.66	0.00
Sat Flow, veh/h			1767	3618	3770	0
Grp Volume(v), veh/h			995	1661	580	0
Grp Sat Flow(s),veh/h/ln			1767	1763	1791	0
Q Serve(g_s), s			26.6	3.6	8.0	0.0
Cycle Q Clear(g_c), s			26.6	3.6	8.0	0.0
Prop In Lane			1.00			0.00
Lane Grp Cap(c), veh/h			1038	3408	2349	
V/C Ratio(X)			0.96	0.49	0.25	
Avail Cap(c_a), veh/h			1269	3408	2349	
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh			13.0	0.1	8.5	0.0
Incr Delay (d2), s/veh			14.8	0.5	0.3	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			20.4	0.2	2.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			27.8	0.6	8.7	0.0
LnGrp LOS			C	A	A	
Approach Vol, veh/h				2656	580	
Approach Delay, s/veh				10.8	8.7	
Approach LOS				B	A	

Timer - Assigned Phs	2		5	6
Phs Duration (G+Y+Rc), s	120.0		37.3	82.7
Change Period (Y+Rc), s	4.0		4.0	4.0
Max Green Setting (Gmax), s	116.0		49.0	63.0
Max Q Clear Time (g_c+I1), s	5.6		28.6	10.0
Green Ext Time (p_c), s	10.5		4.7	2.3

Intersection Summary	
HCM 6th Ctrl Delay	10.4
HCM 6th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	52.1

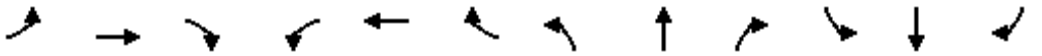
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	220	135	438	68	55	390
Future Vol, veh/h	220	135	438	68	55	390
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	239	147	476	74	60	424

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1057	513	0	0	550	0
Stage 1	513	-	-	-	-	-
Stage 2	544	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	250	563	-	-	1025	-
Stage 1	603	-	-	-	-	-
Stage 2	584	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 231	563	-	-	1025	-
Mov Cap-2 Maneuver	~ 231	-	-	-	-	-
Stage 1	603	-	-	-	-	-
Stage 2	539	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	190.4	0	1.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	298	1025	-
HCM Lane V/C Ratio	-	-	1.295	0.058	-
HCM Control Delay (s)	-	-	190.4	8.7	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	18.7	0.2	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	312	588	25	108	204	100	57	810	65	129	937	367
Future Volume (veh/h)	312	588	25	108	204	100	57	810	65	129	937	367
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	339	639	27	117	222	109	62	880	71	140	1018	399
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	462	674	28	196	342	168	136	1111	90	168	1386	618
Arrive On Green	0.15	0.38	0.38	0.06	0.29	0.29	0.04	0.33	0.33	0.09	0.39	0.39
Sat Flow, veh/h	1795	1796	76	1795	1194	586	1795	3357	271	1795	3582	1598
Grp Volume(v), veh/h	339	0	666	117	0	331	62	470	481	140	1018	399
Grp Sat Flow(s),veh/h/ln	1795	0	1872	1795	0	1780	1795	1791	1836	1795	1791	1598
Q Serve(g_s), s	14.6	0.0	39.6	5.2	0.0	18.7	2.8	27.3	27.3	8.8	27.9	23.4
Cycle Q Clear(g_c), s	14.6	0.0	39.6	5.2	0.0	18.7	2.8	27.3	27.3	8.8	27.9	23.4
Prop In Lane	1.00		0.04	1.00		0.33	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	462	0	702	196	0	510	136	593	608	168	1386	618
V/C Ratio(X)	0.73	0.00	0.95	0.60	0.00	0.65	0.46	0.79	0.79	0.83	0.73	0.65
Avail Cap(c_a), veh/h	525	0	766	196	0	510	156	593	608	188	1386	618
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.9	0.0	34.8	30.5	0.0	35.9	32.3	34.8	34.8	51.2	30.1	28.8
Incr Delay (d2), s/veh	4.6	0.0	20.1	4.9	0.0	2.9	2.4	10.4	10.2	24.5	3.5	5.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.6	0.0	21.5	2.5	0.0	8.5	1.3	13.4	13.7	5.1	12.5	9.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	28.5	0.0	54.9	35.4	0.0	38.7	34.7	45.2	45.0	75.7	33.6	33.9
LnGrp LOS	C	A	D	D	A	D	C	D	D	E	C	C
Approach Vol, veh/h		1005			448			1013			1557	
Approach Delay, s/veh		46.0			37.9			44.5			37.5	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	42.0	11.0	47.1	8.3	48.4	21.2	36.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	12.0	38.0	7.0	47.0	5.6	44.4	21.2	32.8
Max Q Clear Time (g_c+I1), s	10.8	29.3	7.2	41.6	4.8	29.9	16.6	20.7
Green Ext Time (p_c), s	0.0	2.7	0.0	1.4	0.0	5.9	0.6	1.0

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	115	45	112	80	35	130	61	759	91	72	1162	87
Future Volume (veh/h)	115	45	112	80	35	130	61	759	91	72	1162	87
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	125	49	122	87	38	141	66	825	99	78	1263	95
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	224	374	317	130	56	159	285	2075	249	452	2183	164
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.04	0.64	0.64	0.04	0.65	0.65
Sat Flow, veh/h	1215	1885	1598	428	282	800	1795	3220	386	1795	3377	253
Grp Volume(v), veh/h	125	49	122	266	0	0	66	459	465	78	669	689
Grp Sat Flow(s),veh/h/ln	1215	1885	1598	1510	0	0	1795	1791	1816	1795	1791	1840
Q Serve(g_s), s	0.0	2.2	7.0	15.5	0.0	0.0	1.5	12.8	12.8	0.0	22.1	22.2
Cycle Q Clear(g_c), s	17.8	2.2	7.0	17.9	0.0	0.0	1.5	12.8	12.8	0.0	22.1	22.2
Prop In Lane	1.00		1.00	0.33		0.53	1.00		0.21	1.00		0.14
Lane Grp Cap(c), veh/h	224	374	317	345	0	0	285	1154	1170	452	1158	1189
V/C Ratio(X)	0.56	0.13	0.39	0.77	0.00	0.00	0.23	0.40	0.40	0.17	0.58	0.58
Avail Cap(c_a), veh/h	377	611	518	531	0	0	383	1154	1170	485	1158	1189
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	34.6	36.5	40.7	0.0	0.0	11.0	8.9	8.9	12.4	10.5	10.5
Incr Delay (d2), s/veh	2.2	0.2	0.8	3.7	0.0	0.0	0.4	1.0	1.0	0.2	2.1	2.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	1.0	2.8	7.0	0.0	0.0	0.6	4.9	5.0	0.9	8.6	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	43.0	34.8	37.3	44.4	0.0	0.0	11.4	9.9	9.9	12.6	12.6	12.5
LnGrp LOS	D	C	D	D	A	A	B	A	A	B	B	B
Approach Vol, veh/h		296			266			990			1436	
Approach Delay, s/veh		39.3			44.4			10.0			12.6	
Approach LOS		D			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	71.6		24.8	8.3	71.8		24.8
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.4	67.6		34.0	10.0	64.0		34.0
Max Q Clear Time (g_c+I1), s	2.0	14.8		19.8	3.5	24.2		19.9
Green Ext Time (p_c), s	0.1	4.0		1.0	0.1	7.0		0.9

Intersection Summary		
HCM 6th Ctrl Delay	17.2	
HCM 6th LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	282	38	143	142	152	31	623	176	188	1285	53
Future Volume (veh/h)	100	282	38	143	142	152	31	623	176	188	1285	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	109	307	41	155	154	165	34	677	191	204	1397	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	2	2	2
Cap, veh/h	113	318	42	312	145	155	99	943	266	300	1623	67
Arrive On Green	0.26	0.26	0.26	0.17	0.17	0.17	0.34	0.34	0.34	0.09	0.47	0.47
Sat Flow, veh/h	437	1232	165	1781	826	885	365	2737	772	1781	3477	144
Grp Volume(v), veh/h	457	0	0	155	0	319	34	439	429	204	713	742
Grp Sat Flow(s),veh/h/ln	1834	0	0	1781	0	1711	365	1777	1731	1781	1777	1844
Q Serve(g_s), s	29.5	0.0	0.0	9.4	0.0	21.0	11.0	25.8	25.9	8.5	42.9	43.1
Cycle Q Clear(g_c), s	29.5	0.0	0.0	9.4	0.0	21.0	39.4	25.8	25.9	8.5	42.9	43.1
Prop In Lane	0.24		0.09	1.00		0.52	1.00		0.45	1.00		0.08
Lane Grp Cap(c), veh/h	474	0	0	312	0	299	99	612	597	300	829	861
V/C Ratio(X)	0.96	0.00	0.00	0.50	0.00	1.07	0.34	0.72	0.72	0.68	0.86	0.86
Avail Cap(c_a), veh/h	474	0	0	312	0	299	99	612	597	328	829	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.0	0.0	0.0	44.7	0.0	49.5	52.7	34.2	34.3	25.3	28.5	28.6
Incr Delay (d2), s/veh	32.3	0.0	0.0	1.2	0.0	70.4	9.2	7.1	7.3	5.0	11.3	11.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.5	0.0	0.0	4.3	0.0	14.8	1.3	12.3	12.0	4.0	20.3	21.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.3	0.0	0.0	46.0	0.0	119.9	61.9	41.3	41.5	30.3	39.8	39.7
LnGrp LOS	E	A	A	D	A	F	E	D	D	C	D	D
Approach Vol, veh/h		457			474			902			1659	
Approach Delay, s/veh		76.3			95.7			42.2			38.6	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	14.7	45.3		35.0		60.0		25.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	12.5	39.5		31.0		56.0		21.0				
Max Q Clear Time (g_c+I1), s	10.5	41.4		31.5		45.1		23.0				
Green Ext Time (p_c), s	0.1	0.0		0.0		5.0		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	52.2	
HCM 6th LOS	D	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	250	45	795	40	32	27	1191	593	49	35	1171	204
Future Volume (veh/h)	250	45	795	40	32	27	1191	593	49	35	1171	204
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	272	49	864	43	35	29	1295	645	53	38	1273	222
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	2	2	2	1	1	1
Cap, veh/h	275	50	1210	60	49	95	896	2140	176	264	1060	183
Arrive On Green	0.19	0.19	0.19	0.06	0.06	0.06	0.26	0.64	0.64	0.35	0.35	0.35
Sat Flow, veh/h	1484	267	2723	1003	817	1585	3456	3325	273	753	3053	528
Grp Volume(v), veh/h	321	0	864	78	0	29	1295	344	354	38	742	753
Grp Sat Flow(s),veh/h/ln	1752	0	1362	1820	0	1585	1728	1777	1821	753	1791	1790
Q Serve(g_s), s	19.7	0.0	0.0	4.5	0.0	1.9	28.0	9.3	9.3	4.2	37.5	37.5
Cycle Q Clear(g_c), s	19.7	0.0	0.0	4.5	0.0	1.9	28.0	9.3	9.3	13.5	37.5	37.5
Prop In Lane	0.85		1.00	0.55		1.00	1.00		0.15	1.00		0.29
Lane Grp Cap(c), veh/h	324	0	1210	109	0	95	896	1144	1172	264	622	622
V/C Ratio(X)	0.99	0.00	0.71	0.71	0.00	0.30	1.45	0.30	0.30	0.14	1.19	1.21
Avail Cap(c_a), veh/h	324	0	1210	312	0	272	896	1144	1172	264	622	622
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	0.0	24.4	49.8	0.0	48.6	40.0	8.5	8.5	31.0	35.2	35.2
Incr Delay (d2), s/veh	47.0	0.0	2.0	8.3	0.0	1.8	206.7	0.7	0.7	1.1	102.3	109.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	0.0	9.1	2.3	0.0	0.8	37.4	3.5	3.6	0.9	33.6	34.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.9	0.0	26.4	58.1	0.0	50.4	246.7	9.2	9.2	32.2	137.5	144.6
LnGrp LOS	F	A	C	E	A	D	F	A	A	C	F	F
Approach Vol, veh/h		1185			107			1993			1533	
Approach Delay, s/veh		43.9			56.0			163.5			138.4	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	73.5	24.0	32.0	41.5	10.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	69.5	20.0	28.0	37.5	18.5
Max Q Clear Time (g_c+I1), s	11.3	21.7	30.0	39.5	6.5
Green Ext Time (p_c), s	2.8	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	123.7
HCM 6th LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	982	213	1364	511	145	994
Future Volume (veh/h)	982	213	1364	511	145	994
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	1067	0	1483	0	158	1080
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	898		666		142	804
Arrive On Green	0.50	0.00	0.35	0.00	0.05	0.43
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	1067	0	1483	0	158	1080
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	60.0	0.0	42.4	0.0	5.6	52.0
Cycle Q Clear(g_c), s	60.0	0.0	42.4	0.0	5.6	52.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	898		666		142	804
V/C Ratio(X)	1.19		2.23		1.11	1.34
Avail Cap(c_a), veh/h	898		666		142	804
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	0.0	38.8	0.0	32.7	34.0
Incr Delay (d2), s/veh	96.0	0.0	556.7	0.0	107.6	162.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	47.5	0.0	121.8	0.0	6.7	58.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	126.0	0.0	595.5	0.0	140.3	196.7
LnGrp LOS	F		F		F	F
Approach Vol, veh/h	1067		1483			1238
Approach Delay, s/veh	126.0		595.5			189.5
Approach LOS	F		F			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.6	46.4		64.0		56.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	5.6	42.4		60.0		52.0
Max Q Clear Time (g_c+I1), s	7.6	44.4		62.0		54.0
Green Ext Time (p_c), s	0.0	0.0		0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	330.6
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	123	141	49	143	145	183	86	875	117	99	479	69
Future Vol, veh/h	123	141	49	143	145	183	86	875	117	99	479	69
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	134	153	53	155	158	199	93	951	127	108	521	75

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	158	0	0	206	0	0	1177	916	180	1455	942	-
Stage 1	-	-	-	-	-	-	448	448	-	468	468	-
Stage 2	-	-	-	-	-	-	729	468	-	987	474	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	-
Pot Cap-1 Maneuver	1428	-	-	1371	-	0	169	~ 273	865	108	~ 264	0
Stage 1	-	-	-	-	-	0	592	~ 575	-	577	563	0
Stage 2	-	-	-	-	-	0	416	~ 563	-	299	559	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1428	-	-	1371	-	-	-	~ 213	865	-	~ 206	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 213	-	-	~ 206	-
Stage 1	-	-	-	-	-	-	529	~ 513	-	515	~ 493	-
Stage 2	-	-	-	-	-	-	-	~ 493	-	-	~ 499	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.1	4		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	1428	-	-	1371	-	-
HCM Lane V/C Ratio	-	0.094	-	-	0.113	-	-
HCM Control Delay (s)	-	7.8	0	-	8	0	-
HCM Lane LOS	-	A	A	-	A	A	-
HCM 95th %tile Q(veh)	-	0.3	-	-	0.4	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	271	348	63	70	400	242	116	467	57	158	406	177
Future Vol, veh/h	271	348	63	70	400	242	116	467	57	158	406	177
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	1	1	1
Mvmt Flow	295	378	68	76	435	263	126	508	62	172	441	192

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	698	0	0	446	0	0	2037	1852	412	2006	1755	567
Stage 1	-	-	-	-	-	-	1002	1002	-	719	719	-
Stage 2	-	-	-	-	-	-	1035	850	-	1287	1036	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	898	-	-	1120	-	-	~ 42	~ 75	642	~ 44	~ 86	525
Stage 1	-	-	-	-	-	-	293	~ 322	-	421	~ 434	-
Stage 2	-	-	-	-	-	-	281	~ 378	-	203	~ 310	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	898	-	-	1120	-	-	-	~ 37	642	-	~ 42	525
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 37	-	-	~ 42	-
Stage 1	-	-	-	-	-	-	164	~ 180	-	235	~ 384	-
Stage 2	-	-	-	-	-	-	-	~ 334	-	-	~ 173	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.4	0.8		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	898	-	-	1120	-	-	-
HCM Lane V/C Ratio	-	0.328	-	-	0.068	-	-	-
HCM Control Delay (s)	-	11	0	-	8.4	0	-	-
HCM Lane LOS	-	B	A	-	A	A	-	-
HCM 95th %tile Q(veh)	-	1.4	-	-	0.2	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	12	98	21	44	156	15	40	613	36	10	521	8
Future Vol, veh/h	12	98	21	44	156	15	40	613	36	10	521	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	13	107	23	48	170	16	43	666	39	11	566	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	186	0	0	130	0	0	707	427	119	771	430	178
Stage 1	-	-	-	-	-	-	145	145	-	274	274	-
Stage 2	-	-	-	-	-	-	562	282	-	497	156	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1395	-	-	1462	-	-	351	~ 521	935	318	~ 519	868
Stage 1	-	-	-	-	-	-	860	779	-	734	685	-
Stage 2	-	-	-	-	-	-	513	680	-	557	770	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1395	-	-	1462	-	-	-	~ 497	935	-	~ 495	868
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 497	-	-	~ 495	-
Stage 1	-	-	-	-	-	-	851	771	-	727	660	-
Stage 2	-	-	-	-	-	-	69	~ 655	-	72	762	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.7	1.5		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1395	-	-	1462	-	-	-
HCM Lane V/C Ratio	-	0.009	-	-	0.033	-	-	-
HCM Control Delay (s)	-	7.6	0	-	7.5	0	-	-
HCM Lane LOS	-	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.8

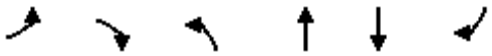
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	94	650	25	53	1218	554	45	41	97	473	34	79
Future Vol, veh/h	94	650	25	53	1218	554	45	41	97	473	34	79
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	102	707	27	58	1324	602	49	45	105	514	37	86

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1926	0	0	734	0	0	1722	2967	367	2321	2679	963
Stage 1	-	-	-	-	-	-	925	925	-	1741	1741	-
Stage 2	-	-	-	-	-	-	797	2042	-	580	938	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	299	-	-	860	-	-	58	~ 14	633	~ 20	~ 22	257
Stage 1	-	-	-	-	-	-	292	348	-	~ 91	141	-
Stage 2	-	-	-	-	-	-	348	99	-	~ 470	343	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	299	-	-	860	-	-	-	~ 9	633	-	~ 14	257
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 9	-	-	~ 14	-
Stage 1	-	-	-	-	-	-	192	229	-	~ 60	132	-
Stage 2	-	-	-	-	-	-	156	92	-	~ 208	226	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	0.3		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	299	-	-	860	-	-	-
HCM Lane V/C Ratio	-	0.342	-	-	0.067	-	-	-
HCM Control Delay (s)	-	23.2	-	-	9.5	-	-	-
HCM Lane LOS	-	C	-	-	A	-	-	-
HCM 95th %tile Q(veh)	-	1.5	-	-	0.2	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	1285	813	0	1634	609	0
Future Volume (vph)	1285	813	0	1634	609	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.99	0.85		1.00	1.00	
Flt Protected	0.96	1.00		1.00	1.00	
Satd. Flow (prot)	1746	1490		3505	3574	
Flt Permitted	0.96	1.00		1.00	1.00	
Satd. Flow (perm)	1746	1490		3505	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	1397	884	0	1776	662	0
RTOR Reduction (vph)	1	96	0	0	0	0
Lane Group Flow (vph)	1484	700	0	1776	662	0
Heavy Vehicles (%)	3%	3%	3%	3%	1%	1%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	3			2	6	
Permitted Phases		4				
Actuated Green, G (s)	56.5	36.0		45.0	45.0	
Effective Green, g (s)	56.5	36.0		45.0	45.0	
Actuated g/C Ratio	0.38	0.24		0.30	0.30	
Clearance Time (s)	4.5	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	657	357		1051	1072	
v/s Ratio Prot	c0.85			c0.51	0.19	
v/s Ratio Perm		c0.47				
v/c Ratio	2.26	1.96		1.69	0.62	
Uniform Delay, d1	46.8	57.0		52.5	45.1	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	571.1	442.7		314.6	2.7	
Delay (s)	617.9	499.7		367.1	47.8	
Level of Service	F	F		F	D	
Approach Delay (s)	576.7			367.1	47.8	
Approach LOS	F			F	D	

Intersection Summary			
HCM 2000 Control Delay	423.6	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.99		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	195.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	732	2187	609	1109
Future Volume (veh/h)	0	0	732	2187	609	1109
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1856	1856	1885	1856
Adj Flow Rate, veh/h			796	2377	662	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			3	3	1	3
Cap, veh/h			832	3432	3099	
Arrive On Green			0.08	0.97	0.87	0.00
Sat Flow, veh/h			1767	3618	3770	0
Grp Volume(v), veh/h			796	2377	662	0
Grp Sat Flow(s),veh/h/ln			1767	1763	1791	0
Q Serve(g_s), s			6.7	8.3	4.6	0.0
Cycle Q Clear(g_c), s			6.7	8.3	4.6	0.0
Prop In Lane			1.00			0.00
Lane Grp Cap(c), veh/h			832	3432	3099	
V/C Ratio(X)			0.96	0.69	0.21	
Avail Cap(c_a), veh/h			1395	3432	3099	
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh			7.9	0.2	1.7	0.0
Incr Delay (d2), s/veh			10.2	1.2	0.2	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			2.4	0.6	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			18.2	1.3	1.8	0.0
LnGrp LOS			B	A	A	
Approach Vol, veh/h				3173	662	
Approach Delay, s/veh				5.6	1.8	
Approach LOS				A	A	

Timer - Assigned Phs	2			5	6
Phs Duration (G+Y+Rc), s	150.0			16.2	133.8
Change Period (Y+Rc), s	4.0			4.0	4.0
Max Green Setting (Gmax), s	146.0			60.0	82.0
Max Q Clear Time (g_c+I1), s	10.3			8.7	6.6
Green Ext Time (p_c), s	26.1			3.6	2.7

Intersection Summary	
HCM 6th Ctrl Delay	4.9
HCM 6th LOS	A

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	48

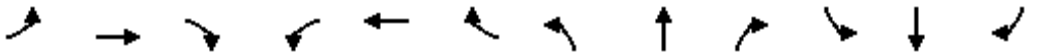
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	91	51	589	231	156	682
Future Vol, veh/h	91	51	589	231	156	682
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	99	55	640	251	170	741

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1847	766	0	0	891	0
Stage 1	766	-	-	-	-	-
Stage 2	1081	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.11	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.209	-
Pot Cap-1 Maneuver	~ 83	404	-	-	765	-
Stage 1	461	-	-	-	-	-
Stage 2	327	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 52	404	-	-	765	-
Mov Cap-2 Maneuver	~ 52	-	-	-	-	-
Stage 1	461	-	-	-	-	-
Stage 2	203	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 595.9	0	2.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	76	765	-
HCM Lane V/C Ratio	-	-	2.031	0.222	-
HCM Control Delay (s)	-	-	$ 595.9	11	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	13.9	0.8	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	275	381	79	160	259	77	72	843	127	521	1525	572
Future Volume (veh/h)	275	381	79	160	259	77	72	843	127	521	1525	572
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	299	414	86	174	282	84	78	916	138	566	1658	622
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	280	371	77	176	261	78	129	864	130	539	1904	849
Arrive On Green	0.13	0.25	0.25	0.07	0.19	0.19	0.04	0.28	0.28	0.30	0.53	0.53
Sat Flow, veh/h	1795	1514	315	1795	1395	415	1795	3121	470	1795	3582	1598
Grp Volume(v), veh/h	299	0	500	174	0	366	78	526	528	566	1658	622
Grp Sat Flow(s),veh/h/ln	1795	0	1829	1795	0	1810	1795	1791	1801	1795	1791	1598
Q Serve(g_s), s	19.4	0.0	36.8	10.7	0.0	28.1	5.0	41.5	41.5	45.0	60.5	44.8
Cycle Q Clear(g_c), s	19.4	0.0	36.8	10.7	0.0	28.1	5.0	41.5	41.5	45.0	60.5	44.8
Prop In Lane	1.00		0.17	1.00		0.23	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	280	0	449	176	0	339	129	495	498	539	1904	849
V/C Ratio(X)	1.07	0.00	1.11	0.99	0.00	1.08	0.61	1.06	1.06	1.05	0.87	0.73
Avail Cap(c_a), veh/h	280	0	449	176	0	339	129	495	498	539	1904	849
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.4	0.0	56.6	50.4	0.0	61.0	46.1	54.3	54.3	52.5	30.6	26.9
Incr Delay (d2), s/veh	72.6	0.0	77.5	64.2	0.0	71.6	7.8	57.4	57.4	52.8	5.8	5.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.4	0.0	26.6	4.6	0.0	19.7	2.5	26.6	26.7	28.1	27.2	18.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	119.1	0.0	134.1	114.6	0.0	132.6	53.9	111.7	111.7	105.3	36.4	32.5
LnGrp LOS	F	A	F	F	A	F	D	F	F	F	D	C
Approach Vol, veh/h		799			540			1132			2846	
Approach Delay, s/veh		128.5			126.8			107.7			49.3	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	49.0	45.5	14.7	40.8	10.7	83.8	23.4	32.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	45.0	41.5	10.7	36.8	6.8	79.7	19.4	28.1
Max Q Clear Time (g_c+I1), s	47.0	43.5	12.7	38.8	7.0	62.5	21.4	30.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	11.2	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	81.5
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	77	30	74	47	56	87	93	929	59	107	1920	146
Future Volume (veh/h)	77	30	74	47	56	87	93	929	59	107	1920	146
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	84	33	80	51	61	95	101	1010	64	116	2087	159
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	153	276	234	79	80	108	151	2513	159	436	2482	187
Arrive On Green	0.15	0.15	0.15	0.15	0.15	0.15	0.03	0.73	0.73	0.03	0.73	0.73
Sat Flow, veh/h	1240	1885	1598	324	544	736	1795	3420	217	1795	3376	254
Grp Volume(v), veh/h	84	33	80	207	0	0	101	529	545	116	1094	1152
Grp Sat Flow(s),veh/h/ln	1240	1885	1598	1603	0	0	1795	1791	1846	1795	1791	1839
Q Serve(g_s), s	0.6	2.2	6.4	14.5	0.0	0.0	2.4	15.8	15.8	0.0	59.3	63.2
Cycle Q Clear(g_c), s	18.6	2.2	6.4	18.0	0.0	0.0	2.4	15.8	15.8	0.0	59.3	63.2
Prop In Lane	1.00		1.00	0.25		0.46	1.00		0.12	1.00		0.14
Lane Grp Cap(c), veh/h	153	276	234	266	0	0	151	1316	1356	436	1316	1352
V/C Ratio(X)	0.55	0.12	0.34	0.78	0.00	0.00	0.67	0.40	0.40	0.27	0.83	0.85
Avail Cap(c_a), veh/h	189	331	281	312	0	0	210	1316	1356	479	1316	1352
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	60.1	52.8	54.6	59.4	0.0	0.0	33.2	7.1	7.1	11.5	12.9	13.4
Incr Delay (d2), s/veh	3.0	0.2	0.9	10.2	0.0	0.0	5.0	0.9	0.9	0.3	6.2	6.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.1	1.1	2.7	8.1	0.0	0.0	2.7	6.0	6.2	1.7	23.7	26.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	63.1	53.0	55.5	69.6	0.0	0.0	38.1	8.0	8.0	11.9	19.1	20.3
LnGrp LOS	E	D	E	E	A	A	D	A	A	B	B	C
Approach Vol, veh/h		197			207			1175			2362	
Approach Delay, s/veh		58.3			69.6			10.6			19.3	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	108.6		24.8	8.9	108.6		24.8
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	8.4	104.6		25.0	9.6	103.4		25.0
Max Q Clear Time (g_c+I1), s	2.6	17.8		20.6	4.4	65.2		20.0
Green Ext Time (p_c), s	0.2	4.9		0.3	0.1	19.0		0.3

Intersection Summary		
HCM 6th Ctrl Delay		21.3
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	186	26	215	212	229	47	774	116	280	1986	85
Future Volume (veh/h)	68	186	26	215	212	229	47	774	116	280	1986	85
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	74	202	28	234	230	249	51	841	126	304	2159	92
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	2	2	2
Cap, veh/h	62	170	24	392	181	196	48	1343	201	355	1945	82
Arrive On Green	0.14	0.14	0.14	0.22	0.22	0.22	0.43	0.43	0.43	0.10	0.56	0.56
Sat Flow, veh/h	446	1218	169	1781	821	889	168	3099	464	1781	3474	147
Grp Volume(v), veh/h	304	0	0	234	0	479	51	482	485	304	1097	1154
Grp Sat Flow(s),veh/h/ln	1832	0	0	1781	0	1710	168	1777	1787	1781	1777	1844
Q Serve(g_s), s	21.0	0.0	0.0	17.7	0.0	33.0	0.0	31.7	31.7	14.0	84.0	84.0
Cycle Q Clear(g_c), s	21.0	0.0	0.0	17.7	0.0	33.0	65.0	31.7	31.7	14.0	84.0	84.0
Prop In Lane	0.24		0.09	1.00		0.52	1.00		0.26	1.00		0.08
Lane Grp Cap(c), veh/h	257	0	0	392	0	376	48	770	774	355	995	1033
V/C Ratio(X)	1.18	0.00	0.00	0.60	0.00	1.27	1.06	0.63	0.63	0.86	1.10	1.12
Avail Cap(c_a), veh/h	257	0	0	392	0	376	48	770	774	355	995	1033
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	64.5	0.0	0.0	52.5	0.0	58.5	75.0	33.1	33.1	26.5	33.0	33.0
Incr Delay (d2), s/veh	115.6	0.0	0.0	2.5	0.0	142.1	148.7	3.8	3.8	18.1	60.7	66.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.1	0.0	0.0	8.2	0.0	29.1	3.8	14.5	14.6	7.6	51.7	55.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	180.1	0.0	0.0	55.0	0.0	200.6	223.7	36.9	36.9	44.6	93.7	99.3
LnGrp LOS	F	A	A	E	A	F	F	D	D	D	F	F
Approach Vol, veh/h		304			713			1018			2555	
Approach Delay, s/veh		180.1			152.8			46.2			90.4	
Approach LOS		F			F			D			F	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	19.0	69.0		25.0		88.0		37.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	15.0	65.0		21.0		84.0		33.0				
Max Q Clear Time (g_c+I1), s	16.0	67.0		23.0		86.0		35.0				
Green Ext Time (p_c), s	0.0	0.0		0.0		0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	96.2
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	168	31	1455	40	29	43	795	762	49	23	1833	306
Future Volume (veh/h)	168	31	1455	40	29	43	795	762	49	23	1833	306
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	183	34	1582	43	32	47	864	828	53	25	1992	333
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	2	2	2	1	1	1
Cap, veh/h	196	36	928	59	44	89	719	2458	157	305	1505	245
Arrive On Green	0.13	0.13	0.13	0.06	0.06	0.06	0.21	0.72	0.72	0.49	0.49	0.49
Sat Flow, veh/h	1478	275	2723	1042	776	1585	3456	3391	217	635	3085	501
Grp Volume(v), veh/h	217	0	1582	75	0	47	864	434	447	25	1133	1192
Grp Sat Flow(s),veh/h/ln	1752	0	1362	1818	0	1585	1728	1777	1831	635	1791	1795
Q Serve(g_s), s	17.1	0.0	18.5	5.7	0.0	4.0	29.0	12.4	12.4	3.4	68.0	68.0
Cycle Q Clear(g_c), s	17.1	0.0	18.5	5.7	0.0	4.0	29.0	12.4	12.4	15.8	68.0	68.0
Prop In Lane	0.84		1.00	0.57		1.00	1.00		0.12	1.00		0.28
Lane Grp Cap(c), veh/h	233	0	928	102	0	89	719	1288	1327	305	874	876
V/C Ratio(X)	0.93	0.00	1.70	0.73	0.00	0.53	1.20	0.34	0.34	0.08	1.30	1.36
Avail Cap(c_a), veh/h	233	0	928	241	0	210	719	1288	1327	305	874	876
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	59.8	0.0	45.9	64.7	0.0	63.9	55.2	7.0	7.0	26.2	35.7	35.7
Incr Delay (d2), s/veh	40.9	0.0	321.4	9.7	0.0	4.8	103.6	0.7	0.7	0.5	141.7	169.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	46.4	2.9	0.0	1.7	23.0	4.7	4.8	0.6	63.3	70.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	100.7	0.0	367.4	74.4	0.0	68.7	158.8	7.7	7.7	26.7	177.3	205.6
LnGrp LOS	F	A	F	E	A	E	F	A	A	C	F	F
Approach Vol, veh/h		1799			122			1745			2350	
Approach Delay, s/veh		335.2			72.2			82.5			190.1	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	105.0	22.5	33.0	72.0	11.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	101.0	18.5	29.0	68.0	18.5
Max Q Clear Time (g_c+I1), s	14.4	20.5	31.0	70.0	7.7
Green Ext Time (p_c), s	3.7	0.0	0.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	199.9
HCM 6th LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	654	143	1362	767	223	888
Future Volume (veh/h)	654	143	1362	767	223	888
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	711	0	1480	0	242	965
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	761		767		164	926
Arrive On Green	0.42	0.00	0.41	0.00	0.05	0.50
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	711	0	1480	0	242	965
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	39.3	0.0	42.4	0.0	5.6	52.0
Cycle Q Clear(g_c), s	39.3	0.0	42.4	0.0	5.6	52.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	761		767		164	926
V/C Ratio(X)	0.93		1.93		1.47	1.04
Avail Cap(c_a), veh/h	1034		767		164	926
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	0.0	30.9	0.0	25.3	26.1
Incr Delay (d2), s/veh	12.1	0.0	422.8	0.0	243.5	41.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.0	0.0	108.0	0.0	13.2	31.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	40.7	0.0	453.7	0.0	268.8	67.1
LnGrp LOS	D		F		F	F
Approach Vol, veh/h	711		1480			1207
Approach Delay, s/veh	40.7		453.7			107.6
Approach LOS	D		F			F

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.6	46.4		48.2		56.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	5.6	42.4		60.0		52.0
Max Q Clear Time (g_c+I1), s	7.6	44.4		41.3		54.0
Green Ext Time (p_c), s	0.0	0.0		2.8		0.0

Intersection Summary	
HCM 6th Ctrl Delay	244.3
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	83	114	71	95	97	121	56	583	175	149	717	103
Future Vol, veh/h	83	114	71	95	97	121	56	583	175	149	717	103
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	Free
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	90	124	77	103	105	132	61	634	190	162	779	112

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	105	0	0	201	0	0	1044	654	163	1066	692	-
Stage 1	-	-	-	-	-	-	343	343	-	311	311	-
Stage 2	-	-	-	-	-	-	701	311	-	755	381	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	-
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	-
Pot Cap-1 Maneuver	1493	-	-	1377	-	0	208	~ 387	884	201	~ 369	0
Stage 1	-	-	-	-	-	0	674	639	-	702	~ 660	0
Stage 2	-	-	-	-	-	0	431	660	-	402	~ 615	0
Platoon blocked, %		-	-		-							
Mov Cap-1 Maneuver	1493	-	-	1377	-	-	-	~ 332	884	-	~ 316	-
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 332	-	-	~ 316	-
Stage 1	-	-	-	-	-	-	627	~ 595	-	654	~ 608	-
Stage 2	-	-	-	-	-	-	-	~ 608	-	-	~ 573	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.3	3.9		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	SBLn1
Capacity (veh/h)	-	1493	-	-	1377	-	-
HCM Lane V/C Ratio	-	0.06	-	-	0.075	-	-
HCM Control Delay (s)	-	7.6	0	-	7.8	0	-
HCM Lane LOS	-	A	A	-	A	A	-
HCM 95th %tile Q(veh)	-	0.2	-	-	0.2	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	215	522	95	46	268	192	76	371	83	198	510	223
Future Vol, veh/h	215	522	95	46	268	192	76	371	83	198	510	223
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	1	1	1	1	1	1	1	1	1
Mvmt Flow	234	567	103	50	291	209	83	403	90	215	554	242

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	500	0	0	670	0	0	1981	1687	619	1829	1634	396
Stage 1	-	-	-	-	-	-	1087	1087	-	496	496	-
Stage 2	-	-	-	-	-	-	894	600	-	1333	1138	-
Critical Hdwy	4.12	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.218	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1064	-	-	925	-	-	~ 46	~ 94	490	~ 59	~ 102	656
Stage 1	-	-	-	-	-	-	263	~ 293	-	558	~ 547	-
Stage 2	-	-	-	-	-	-	337	491	-	~ 191	~ 278	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1064	-	-	925	-	-	-	~ 56	490	-	~ 60	656
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 56	-	-	~ 60	-
Stage 1	-	-	-	-	-	-	169	~ 188	-	359	~ 505	-
Stage 2	-	-	-	-	-	-	-	453	-	-	~ 179	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.4	0.8		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1064	-	-	925	-	-	-
HCM Lane V/C Ratio	-	0.22	-	-	0.054	-	-	-
HCM Control Delay (s)	-	9.3	0	-	9.1	0	-	-
HCM Lane LOS	-	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	-	0.8	-	-	0.2	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	10	146	31	30	104	13	26	507	54	12	629	10
Future Vol, veh/h	10	146	31	30	104	13	26	507	54	12	629	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	1	1	1
Mvmt Flow	11	159	34	33	113	14	28	551	59	13	684	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	127	0	0	193	0	0	732	391	176	689	401	120
Stage 1	-	-	-	-	-	-	198	198	-	186	186	-
Stage 2	-	-	-	-	-	-	534	193	-	503	215	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.11	6.51	6.21
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.11	5.51	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.509	4.009	3.309
Pot Cap-1 Maneuver	1465	-	-	1386	-	-	338	~ 546	870	361	~ 539	934
Stage 1	-	-	-	-	-	-	806	739	-	818	748	-
Stage 2	-	-	-	-	-	-	532	743	-	553	727	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1465	-	-	1386	-	-	-	~ 527	870	-	~ 521	934
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 527	-	-	~ 521	-
Stage 1	-	-	-	-	-	-	800	733	-	811	729	-
Stage 2	-	-	-	-	-	-	32	724	-	127	721	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.4	1.6		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	1465	-	-	1386	-	-	-
HCM Lane V/C Ratio	-	0.007	-	-	0.024	-	-	-
HCM Control Delay (s)	-	7.5	0	-	7.7	0	-	-
HCM Lane LOS	-	A	A	-	A	A	-	-
HCM 95th %tile Q(veh)	-	0	-	-	0.1	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	0.6

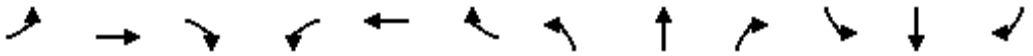
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	80	976	37	79	812	472	29	35	64	557	40	93
Future Vol, veh/h	80	976	37	79	812	472	29	35	64	557	40	93
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	87	1061	40	86	883	513	32	38	70	605	43	101

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1396	0	0	1101	0	0	1890	2823	551	2036	2587	698
Stage 1	-	-	-	-	-	-	1255	1255	-	1312	1312	-
Stage 2	-	-	-	-	-	-	635	1568	-	724	1275	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	481	-	-	624	-	-	43	~ 18	481	~ 34	~ 25	385
Stage 1	-	-	-	-	-	-	183	243	-	~ 169	228	-
Stage 2	-	-	-	-	-	-	436	172	-	~ 385	238	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	481	-	-	624	-	-	-	~ 13	481	-	~ 18	385
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 13	-	-	~ 18	-
Stage 1	-	-	-	-	-	-	150	199	-	~ 138	197	-
Stage 2	-	-	-	-	-	-	216	148	-	~ 218	195	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1	0.7		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	481	-	-	624	-	-	-
HCM Lane V/C Ratio	-	0.181	-	-	0.138	-	-	-
HCM Control Delay (s)	-	14.1	-	-	11.7	-	-	-
HCM Lane LOS	-	B	-	-	B	-	-	-
HCM 95th %tile Q(veh)	-	0.7	-	-	0.5	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	143	0	534	0	0	0	0	702	308	100	491	0
Future Volume (vph)	143	0	534	0	0	0	0	702	308	100	491	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0		4.0	4.0	
Lane Util. Factor	1.00		1.00					0.95		1.00	0.95	
Frt	1.00		0.85					0.95		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1752		1568					3344		1787	3574	
Flt Permitted	0.95		1.00					1.00		0.17	1.00	
Satd. Flow (perm)	1752		1568					3344		317	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	155	0	580	0	0	0	0	763	335	109	534	0
RTOR Reduction (vph)	0	0	216	0	0	0	0	31	0	0	0	0
Lane Group Flow (vph)	155	0	364	0	0	0	0	1067	0	109	534	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Turn Type	Prot		Prot					NA		pm+pt	NA	
Protected Phases	4		4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	32.8		32.8					67.1		79.2	79.2	
Effective Green, g (s)	32.8		32.8					67.1		79.2	79.2	
Actuated g/C Ratio	0.27		0.27					0.56		0.66	0.66	
Clearance Time (s)	4.0		4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	478		428					1869		308	2358	
v/s Ratio Prot	0.09		c0.23					c0.32		c0.02	0.15	
v/s Ratio Perm										0.21		
v/c Ratio	0.32		0.85					0.57		0.35	0.23	
Uniform Delay, d1	34.8		41.3					17.1		10.7	8.2	
Progression Factor	1.00		1.00					1.00		0.20	0.15	
Incremental Delay, d2	0.4		14.9					1.3		0.4	0.1	
Delay (s)	35.2		56.2					18.4		2.6	1.4	
Level of Service	D		E					B		A	A	
Approach Delay (s)		51.8			0.0			18.4			1.6	
Approach LOS		D			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	23.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	90.4%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	260	0	380	799	46	0	0	331	391
Future Volume (veh/h)	0	0	0	260	0	380	799	46	0	0	331	391
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1856	1856	0	0	1885	1885
Adj Flow Rate, veh/h				283	0	0	868	50	0	0	360	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	3	3	0	0	1	1
Cap, veh/h				313	0		1066	2671	0	0	806	
Arrive On Green				0.18	0.00	0.00	0.50	0.76	0.00	0.00	0.22	0.00
Sat Flow, veh/h				1781	0	1585	1767	3618	0	0	3770	0
Grp Volume(v), veh/h				283	0	0	868	50	0	0	360	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1767	1763	0	0	1791	0
Q Serve(g_s), s				18.7	0.0	0.0	33.5	0.4	0.0	0.0	10.4	0.0
Cycle Q Clear(g_c), s				18.7	0.0	0.0	33.5	0.4	0.0	0.0	10.4	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				313	0		1066	2671	0	0	806	
V/C Ratio(X)				0.90	0.00		0.81	0.02	0.00	0.00	0.45	
Avail Cap(c_a), veh/h				371	0		1066	2671	0	0	806	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.82	0.82	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				48.5	0.0	0.0	18.9	3.6	0.0	0.0	40.1	0.0
Incr Delay (d2), s/veh				22.4	0.0	0.0	4.1	0.0	0.0	0.0	1.8	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				10.2	0.0	0.0	16.9	0.1	0.0	0.0	4.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				70.8	0.0	0.0	23.0	3.6	0.0	0.0	41.9	0.0
LnGrp LOS				E	A		C	A	A	A	D	
Approach Vol, veh/h					283			918			360	
Approach Delay, s/veh					70.8			21.9			41.9	
Approach LOS					E			C			D	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	94.9		63.9	31.0		25.1
Change Period (Y+Rc), s	4.0		4.0	4.0		4.0
Max Green Setting (Gmax), s	87.0		56.0	27.0		25.0
Max Q Clear Time (g_c+I1), s	2.4		35.5	12.4		20.7
Green Ext Time (p_c), s	0.2		3.7	1.1		0.4

Intersection Summary		
HCM 6th Ctrl Delay		35.4
HCM 6th LOS		D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

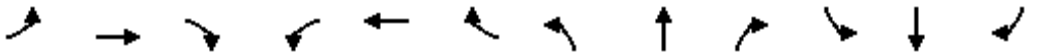
Intersection	
Int Delay, s/veh	8.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	150	82	385	101	35	345
Future Vol, veh/h	150	82	385	101	35	345
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	163	89	418	110	38	375

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	924	473	0	0	528	0
Stage 1	473	-	-	-	-	-
Stage 2	451	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	300	593	-	-	1039	-
Stage 1	629	-	-	-	-	-
Stage 2	644	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	286	593	-	-	1039	-
Mov Cap-2 Maneuver	286	-	-	-	-	-
Stage 1	629	-	-	-	-	-
Stage 2	614	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	37.8	0	0.8
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	350	1039	-
HCM Lane V/C Ratio	-	-	0.72	0.037	-
HCM Control Delay (s)	-	-	37.8	8.6	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	5.4	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	273	561	21	99	159	86	51	705	58	111	763	445
Future Volume (veh/h)	273	561	21	99	159	86	51	705	58	111	763	445
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	297	610	23	108	173	93	55	766	63	121	829	484
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	491	656	25	204	330	178	168	1131	93	162	1398	623
Arrive On Green	0.14	0.36	0.36	0.06	0.29	0.29	0.04	0.34	0.34	0.09	0.39	0.39
Sat Flow, veh/h	1795	1805	68	1795	1153	620	1795	3351	276	1795	3582	1598
Grp Volume(v), veh/h	297	0	633	108	0	266	55	409	420	121	829	484
Grp Sat Flow(s),veh/h/ln	1795	0	1873	1795	0	1774	1795	1791	1836	1795	1791	1598
Q Serve(g_s), s	11.8	0.0	34.6	4.5	0.0	13.4	2.3	20.9	20.9	7.0	19.6	28.3
Cycle Q Clear(g_c), s	11.8	0.0	34.6	4.5	0.0	13.4	2.3	20.9	20.9	7.0	19.6	28.3
Prop In Lane	1.00		0.04	1.00		0.35	1.00		0.15	1.00		1.00
Lane Grp Cap(c), veh/h	491	0	681	204	0	508	168	605	620	162	1398	623
V/C Ratio(X)	0.60	0.00	0.93	0.53	0.00	0.52	0.33	0.68	0.68	0.75	0.59	0.78
Avail Cap(c_a), veh/h	608	0	843	233	0	576	209	605	620	202	1398	623
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.5	0.0	32.6	28.1	0.0	31.9	28.0	30.3	30.3	47.3	25.8	28.4
Incr Delay (d2), s/veh	1.2	0.0	14.6	2.1	0.0	0.8	1.1	6.0	5.9	11.1	1.9	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	18.0	2.0	0.0	5.8	1.0	9.9	10.1	3.6	8.5	12.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.7	0.0	47.2	30.3	0.0	32.8	29.1	36.3	36.2	58.4	27.7	37.6
LnGrp LOS	C	A	D	C	A	C	C	D	D	E	C	D
Approach Vol, veh/h		930			374			884			1434	
Approach Delay, s/veh		39.4			32.1			35.8			33.6	
Approach LOS		D			C			D			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	13.6	40.0	10.2	42.8	8.0	45.6	18.5	34.5
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	12.0	36.0	8.0	48.0	6.4	41.6	21.4	34.6
Max Q Clear Time (g_c+I1), s	9.0	22.9	6.5	36.6	4.3	30.3	13.8	15.4
Green Ext Time (p_c), s	0.1	2.8	0.0	2.1	0.0	4.8	0.7	0.9

Intersection Summary	
HCM 6th Ctrl Delay	35.5
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	19	51	101	20	61	130	56	611	22	65	877	26
Future Volume (veh/h)	19	51	101	20	61	130	56	611	22	65	877	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	21	55	110	22	66	141	61	664	24	71	953	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	192	309	262	57	89	167	417	2345	85	582	2371	70
Arrive On Green	0.16	0.16	0.16	0.16	0.16	0.16	0.04	0.66	0.66	0.04	0.67	0.67
Sat Flow, veh/h	1184	1885	1598	91	544	1018	1795	3526	127	1795	3553	104
Grp Volume(v), veh/h	21	55	110	229	0	0	61	337	351	71	480	501
Grp Sat Flow(s),veh/h/ln	1184	1885	1598	1653	0	0	1795	1791	1862	1795	1791	1866
Q Serve(g_s), s	0.0	2.4	5.9	6.2	0.0	0.0	1.2	7.4	7.4	0.0	11.5	11.5
Cycle Q Clear(g_c), s	2.8	2.4	5.9	12.7	0.0	0.0	1.2	7.4	7.4	0.0	11.5	11.5
Prop In Lane	1.00		1.00	0.10		0.62	1.00		0.07	1.00		0.06
Lane Grp Cap(c), veh/h	192	309	262	312	0	0	417	1191	1238	582	1195	1246
V/C Ratio(X)	0.11	0.18	0.42	0.73	0.00	0.00	0.15	0.28	0.28	0.12	0.40	0.40
Avail Cap(c_a), veh/h	449	716	607	663	0	0	531	1191	1238	672	1195	1246
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	34.3	34.1	35.6	38.4	0.0	0.0	7.3	6.5	6.6	8.2	7.2	7.2
Incr Delay (d2), s/veh	0.2	0.3	1.1	3.3	0.0	0.0	0.2	0.6	0.6	0.1	1.0	1.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.1	2.3	5.4	0.0	0.0	0.4	2.7	2.8	0.6	4.2	4.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	34.6	34.4	36.7	41.7	0.0	0.0	7.5	7.1	7.1	8.3	8.2	8.1
LnGrp LOS	C	C	D	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		186			229			749			1052	
Approach Delay, s/veh		35.8			41.7			7.2			8.2	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.2	67.0		19.5	8.0	67.2		19.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	9.6	63.0		36.0	10.0	62.0		36.0
Max Q Clear Time (g_c+I1), s	2.0	9.4		7.9	3.2	13.5		14.7
Green Ext Time (p_c), s	0.1	2.7		0.7	0.1	4.3		0.8

Intersection Summary		
HCM 6th Ctrl Delay	13.6	
HCM 6th LOS	B	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	292	11	104	114	76	9	546	192	94	859	17
Future Volume (veh/h)	33	292	11	104	114	76	9	546	192	94	859	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	36	317	12	113	124	83	10	593	209	102	934	18
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	41	357	14	254	149	100	276	1104	388	334	1855	36
Arrive On Green	0.22	0.22	0.22	0.14	0.14	0.14	0.43	0.43	0.43	0.05	0.52	0.52
Sat Flow, veh/h	182	1607	61	1781	1045	699	589	2577	907	1795	3594	69
Grp Volume(v), veh/h	365	0	0	113	0	207	10	408	394	102	465	487
Grp Sat Flow(s),veh/h/ln	1850	0	0	1781	0	1744	589	1777	1707	1795	1791	1873
Q Serve(g_s), s	19.3	0.0	0.0	5.8	0.0	11.6	1.1	17.2	17.3	3.1	17.1	17.1
Cycle Q Clear(g_c), s	19.3	0.0	0.0	5.8	0.0	11.6	9.4	17.2	17.3	3.1	17.1	17.1
Prop In Lane	0.10		0.03	1.00		0.40	1.00		0.53	1.00		0.04
Lane Grp Cap(c), veh/h	411	0	0	254	0	249	276	761	731	334	924	967
V/C Ratio(X)	0.89	0.00	0.00	0.44	0.00	0.83	0.04	0.54	0.54	0.31	0.50	0.50
Avail Cap(c_a), veh/h	624	0	0	389	0	381	276	761	731	408	924	967
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.0	0.0	0.0	39.5	0.0	42.0	21.9	21.4	21.4	15.7	15.9	15.9
Incr Delay (d2), s/veh	10.1	0.0	0.0	1.2	0.0	9.0	0.2	2.7	2.8	0.5	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.7	0.0	0.0	2.6	0.0	5.6	0.2	7.5	7.3	1.3	7.2	7.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	48.1	0.0	0.0	40.7	0.0	51.0	22.1	24.1	24.2	16.2	17.9	17.8
LnGrp LOS	D	A	A	D	A	D	C	C	C	B	B	B
Approach Vol, veh/h		365			320			812			1054	
Approach Delay, s/veh		48.1			47.4			24.1			17.7	
Approach LOS		D			D			C			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.8	47.2		26.4		56.0		18.4				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	9.6	39.0		34.0		52.0		22.0				
Max Q Clear Time (g_c+I1), s	5.1	19.3		21.3		19.1		13.6				
Green Ext Time (p_c), s	0.1	3.3		1.1		4.0		0.8				

Intersection Summary												
HCM 6th Ctrl Delay			27.8									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	227	134	849	1	36	28	1083	573	4	34	725	178
Future Volume (veh/h)	227	134	849	1	36	28	1083	573	4	34	725	178
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	247	146	923	1	39	30	1177	623	4	37	788	193
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	5	5	5	2	2	2
Cap, veh/h	250	148	1487	2	75	65	1052	2220	14	227	788	193
Arrive On Green	0.22	0.22	0.22	0.04	0.04	0.04	0.31	0.63	0.63	0.28	0.28	0.28
Sat Flow, veh/h	1149	679	2812	47	1821	1585	3374	3534	23	799	2829	693
Grp Volume(v), veh/h	393	0	923	40	0	30	1177	306	321	37	495	486
Grp Sat Flow(s),veh/h/ln	1828	0	1406	1868	0	1585	1687	1735	1822	799	1777	1746
Q Serve(g_s), s	22.7	0.0	0.0	2.2	0.0	2.0	33.0	8.4	8.4	4.1	29.5	29.5
Cycle Q Clear(g_c), s	22.7	0.0	0.0	2.2	0.0	2.0	33.0	8.4	8.4	12.5	29.5	29.5
Prop In Lane	0.63		1.00	0.02		1.00	1.00		0.01	1.00		0.40
Lane Grp Cap(c), veh/h	397	0	1487	77	0	65	1052	1090	1144	227	495	486
V/C Ratio(X)	0.99	0.00	0.62	0.52	0.00	0.46	1.12	0.28	0.28	0.16	1.00	1.00
Avail Cap(c_a), veh/h	397	0	1487	326	0	277	1052	1090	1144	227	495	486
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.3	0.0	17.5	49.7	0.0	49.6	36.4	8.9	8.9	35.6	38.2	38.2
Incr Delay (d2), s/veh	42.3	0.0	0.8	5.3	0.0	5.0	66.6	0.6	0.6	1.5	40.3	40.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.7	0.0	7.7	1.1	0.0	0.9	23.0	3.2	3.3	0.9	18.1	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	83.6	0.0	18.3	55.1	0.0	54.6	103.0	9.5	9.5	37.1	78.5	78.8
LnGrp LOS	F	A	B	E	A	D	F	A	A	D	E	E
Approach Vol, veh/h		1316			70			1804			1018	
Approach Delay, s/veh		37.8			54.8			70.5			77.1	
Approach LOS		D			D			E			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		70.5		27.0	37.0	33.5		8.4				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		66.5		23.0	33.0	29.5		18.5				
Max Q Clear Time (g_c+I1), s		10.4		24.7	35.0	31.5		4.2				
Green Ext Time (p_c), s		2.4		0.0	0.0	0.0		0.1				

Intersection Summary												
HCM 6th Ctrl Delay			61.6									
HCM 6th LOS			E									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	315	13	688	86	8	886
Future Volume (veh/h)	315	13	688	86	8	886
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	342	0	748	0	9	963
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	380		1261		404	1328
Arrive On Green	0.21	0.00	0.67	0.00	0.01	0.72
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	342	0	748	0	9	963
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	20.5	0.0	24.0	0.0	0.2	33.8
Cycle Q Clear(g_c), s	20.5	0.0	24.0	0.0	0.2	33.8
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	380		1261		404	1328
V/C Ratio(X)	0.90		0.59		0.02	0.72
Avail Cap(c_a), veh/h	537		1261		472	1328
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	42.4	0.0	10.0	0.0	8.2	9.3
Incr Delay (d2), s/veh	14.0	0.0	2.1	0.0	0.0	3.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.2	0.0	9.2	0.0	0.1	12.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	56.4	0.0	12.1	0.0	8.2	12.7
LnGrp LOS	E		B		A	B
Approach Vol, veh/h	342		748			972
Approach Delay, s/veh	56.4		12.1			12.7
Approach LOS	E		B			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	5.2	77.8		27.4		83.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	5.5	69.5		33.0		79.0
Max Q Clear Time (g_c+I1), s	2.2	26.0		22.5		35.8
Green Ext Time (p_c), s	0.0	3.3		0.9		5.1

Intersection Summary	
HCM 6th Ctrl Delay	19.7
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	2.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	49	187	324	138	84	29
Future Vol, veh/h	49	187	324	138	84	29
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	53	203	352	150	91	32

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	352	0	-	0	661	-
Stage 1	-	-	-	-	352	-
Stage 2	-	-	-	-	309	-
Critical Hdwy	4.11	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	-
Pot Cap-1 Maneuver	1212	-	-	0	429	0
Stage 1	-	-	-	0	714	0
Stage 2	-	-	-	0	747	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1212	-	-	-	408	-
Mov Cap-2 Maneuver	-	-	-	-	408	-
Stage 1	-	-	-	-	679	-
Stage 2	-	-	-	-	747	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	16.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1212	-	-	408
HCM Lane V/C Ratio	0.044	-	-	0.224
HCM Control Delay (s)	8.1	0	-	16.3
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.1	-	-	0.8

Intersection	
Int Delay, s/veh	7.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	87	69	101	191	127	184
Future Vol, veh/h	87	69	101	191	127	184
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	95	75	110	208	138	200

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	170	0	561	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	428	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1413	-	491	919
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	660	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1413	-	448	919
Mov Cap-2 Maneuver	-	-	-	-	448	-
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	602	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	16.6
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	643	-	-	1413	-
HCM Lane V/C Ratio	0.526	-	-	0.078	-
HCM Control Delay (s)	16.6	-	-	7.8	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3.1	-	-	0.3	-

Intersection	
Int Delay, s/veh	42.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	151	339	602	136	109	132
Future Vol, veh/h	151	339	602	136	109	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	164	368	654	148	118	143

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	802	0	-	0	1424	728
Stage 1	-	-	-	-	728	-
Stage 2	-	-	-	-	696	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	822	-	-	-	150	425
Stage 1	-	-	-	-	480	-
Stage 2	-	-	-	-	496	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	822	-	-	-	~ 112	425
Mov Cap-2 Maneuver	-	-	-	-	~ 112	-
Stage 1	-	-	-	-	360	-
Stage 2	-	-	-	-	496	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	253.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	822	-	-	-	188
HCM Lane V/C Ratio	0.2	-	-	-	1.393
HCM Control Delay (s)	10.5	0	-	-	253.5
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	15.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	10

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	4	420	64	14	605	0	119	0	13	5	0	14
Future Vol, veh/h	4	420	64	14	605	0	119	0	13	5	0	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	3	3	3
Mvmt Flow	4	457	70	15	658	0	129	0	14	5	0	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	658	0	0	527	0	0	1196	1188	492	1195	1223	658
Stage 1	-	-	-	-	-	-	500	500	-	688	688	-
Stage 2	-	-	-	-	-	-	696	688	-	507	535	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.527	4.027	3.327
Pot Cap-1 Maneuver	935	-	-	1045	-	-	164	189	579	162	178	462
Stage 1	-	-	-	-	-	-	555	545	-	435	445	-
Stage 2	-	-	-	-	-	-	434	448	-	546	522	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	935	-	-	1045	-	-	155	184	579	155	173	462
Mov Cap-2 Maneuver	-	-	-	-	-	-	155	184	-	155	173	-
Stage 1	-	-	-	-	-	-	552	542	-	432	435	-
Stage 2	-	-	-	-	-	-	410	438	-	529	519	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	91.5	17.7
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	167	935	-	-	1045	-	-	304
HCM Lane V/C Ratio	0.859	0.005	-	-	0.015	-	-	0.068
HCM Control Delay (s)	91.5	8.9	0	-	8.5	0	-	17.7
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	6	0	-	-	0	-	-	0.2

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	83	114	57	102	13
Future Vol, veh/h	11	83	114	57	102	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	12	90	124	62	111	14

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	186	0	-	0	269	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	114	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1395	-	-	-	722	893
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	913	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1395	-	-	-	716	893
Mov Cap-2 Maneuver	-	-	-	-	716	-
Stage 1	-	-	-	-	868	-
Stage 2	-	-	-	-	913	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	10.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1395	-	-	-	732
HCM Lane V/C Ratio	0.009	-	-	-	0.171
HCM Control Delay (s)	7.6	0	-	-	10.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	1.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	73	1	9	118	0	21
Future Vol, veh/h	73	1	9	118	0	21
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	79	1	10	128	0	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	80	0	228	80
Stage 1	-	-	-	-	80	-
Stage 2	-	-	-	-	148	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1524	-	762	983
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	882	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1524	-	757	983
Mov Cap-2 Maneuver	-	-	-	-	757	-
Stage 1	-	-	-	-	946	-
Stage 2	-	-	-	-	876	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.5	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	983	-	-	1524	-
HCM Lane V/C Ratio	0.023	-	-	0.006	-
HCM Control Delay (s)	8.7	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	15.7

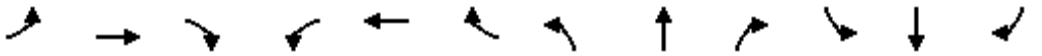
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	702	14	84	1327	15	26	4	153	22	3	6
Future Vol, veh/h	4	702	14	84	1327	15	26	4	153	22	3	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	4	763	15	91	1442	16	28	4	166	24	3	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1458	0	0	778	0	0	1684	2419	389	2024	2418	729
Stage 1	-	-	-	-	-	-	779	779	-	1632	1632	-
Stage 2	-	-	-	-	-	-	905	1640	-	392	786	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	455	-	-	828	-	-	62	32	612	34	33	368
Stage 1	-	-	-	-	-	-	357	407	-	107	160	-
Stage 2	-	-	-	-	-	-	300	158	-	607	404	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	455	-	-	828	-	-	51	28	612	~ 20	29	368
Mov Cap-2 Maneuver	-	-	-	-	-	-	51	28	-	~ 20	29	-
Stage 1	-	-	-	-	-	-	354	403	-	106	142	-
Stage 2	-	-	-	-	-	-	256	141	-	433	400	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.6	106.7	$ 533
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	203	455	-	-	828	-	-	25
HCM Lane V/C Ratio	0.98	0.01	-	-	0.11	-	-	1.348
HCM Control Delay (s)	106.7	13	-	-	9.9	-	-	$ 533
HCM Lane LOS	F	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	8.4	0	-	-	0.4	-	-	4.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

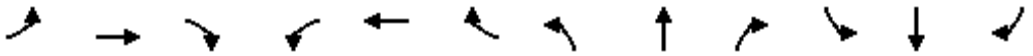


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	206	331	0	0	565	169	54	0	159	0	0	0
Future Volume (veh/h)	206	331	0	0	565	169	54	0	159	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1826	1826	1826			
Adj Flow Rate, veh/h	224	360	0	0	614	184	59	0	173			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	5	5	5			
Cap, veh/h	553	2701	0	0	1777	532	67	0	196			
Arrive On Green	0.13	1.00	0.00	0.00	0.66	0.66	0.16	0.00	0.16			
Sat Flow, veh/h	1781	3647	0	0	2789	806	405	0	1187			
Grp Volume(v), veh/h	224	360	0	0	404	394	232	0	0			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1725	1592	0	0			
Q Serve(g_s), s	4.9	0.0	0.0	0.0	12.0	12.1	17.1	0.0	0.0			
Cycle Q Clear(g_c), s	4.9	0.0	0.0	0.0	12.0	12.1	17.1	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.47	0.25		0.75			
Lane Grp Cap(c), veh/h	553	2701	0	0	1171	1137	262	0	0			
V/C Ratio(X)	0.40	0.13	0.00	0.00	0.35	0.35	0.88	0.00	0.00			
Avail Cap(c_a), veh/h	819	2701	0	0	1171	1137	418	0	0			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.98	0.98	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	5.5	0.0	0.0	0.0	9.0	9.0	49.0	0.0	0.0			
Incr Delay (d2), s/veh	0.5	0.1	0.0	0.0	0.8	0.8	12.7	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.4	0.0	0.0	0.0	4.7	4.6	7.7	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	6.0	0.1	0.0	0.0	9.8	9.9	61.7	0.0	0.0			
LnGrp LOS	A	A	A	A	A	A	E	A	A			
Approach Vol, veh/h		584			798			232				
Approach Delay, s/veh		2.4			9.8			61.7				
Approach LOS		A			A			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		95.7			12.1	83.6		24.3				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		79.5			25.5	49.5		31.5				
Max Q Clear Time (g_c+I1), s		2.0			6.9	14.1		19.1				
Green Ext Time (p_c), s		1.6			0.7	3.4		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			14.6									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	448	34	159	460	0	0	0	0	89	0	89
Future Volume (veh/h)	0	448	34	159	460	0	0	0	0	89	0	89
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1841	1841	1841
Adj Flow Rate, veh/h	0	487	37	173	500	0				97	0	97
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				4	4	4
Cap, veh/h	0	2353	178	718	2800	0				113	0	113
Arrive On Green	0.00	0.70	0.70	0.10	1.00	0.00				0.14	0.00	0.14
Sat Flow, veh/h	0	3441	254	1781	3647	0				825	0	825
Grp Volume(v), veh/h	0	258	266	173	500	0				194	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1825	1781	1777	0				1651	0	0
Q Serve(g_s), s	0.0	6.1	6.1	3.2	0.0	0.0				13.8	0.0	0.0
Cycle Q Clear(g_c), s	0.0	6.1	6.1	3.2	0.0	0.0				13.8	0.0	0.0
Prop In Lane	0.00		0.14	1.00		0.00				0.50		0.50
Lane Grp Cap(c), veh/h	0	1249	1283	718	2800	0				226	0	0
V/C Ratio(X)	0.00	0.21	0.21	0.24	0.18	0.00				0.86	0.00	0.00
Avail Cap(c_a), veh/h	0	1249	1283	997	2800	0				502	0	0
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.95	0.95	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	6.2	6.2	3.8	0.0	0.0				50.6	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.4	0.4	0.2	0.1	0.0				9.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	2.2	2.3	0.9	0.1	0.0				6.3	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	6.6	6.6	3.9	0.1	0.0				59.7	0.0	0.0
LnGrp LOS	A	A	A	A	A	A				E	A	A
Approach Vol, veh/h		524			673						194	
Approach Delay, s/veh		6.6			1.1						59.7	
Approach LOS		A			A						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	10.2	88.9		20.9		99.1
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	24.5	45.5		36.5		74.5
Max Q Clear Time (g_c+I1), s	15.2	8.1		15.8		2.0
Green Ext Time (p_c), s	0.5	2.0		0.7		2.3

Intersection Summary	
HCM 6th Ctrl Delay	11.3
HCM 6th LOS	B



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	472	0	380	0	0	0	0	1000	290	229	411	0
Future Volume (vph)	472	0	380	0	0	0	0	1000	290	229	411	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0		4.0	4.0	
Lane Util. Factor	1.00		1.00					0.95		1.00	0.95	
Frt	1.00		0.85					0.97		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1752		1568					3387		1787	3574	
Flt Permitted	0.95		1.00					1.00		0.05	1.00	
Satd. Flow (perm)	1752		1568					3387		102	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	513	0	413	0	0	0	0	1087	315	249	447	0
RTOR Reduction (vph)	0	0	139	0	0	0	0	17	0	0	0	0
Lane Group Flow (vph)	513	0	274	0	0	0	0	1385	0	249	447	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Turn Type	Prot		Prot					NA		pm+pt	NA	
Protected Phases	4		4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	47.1		47.1					71.8		94.9	94.9	
Effective Green, g (s)	47.1		47.1					71.8		94.9	94.9	
Actuated g/C Ratio	0.31		0.31					0.48		0.63	0.63	
Clearance Time (s)	4.0		4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	550		492					1621		279	2261	
v/s Ratio Prot	c0.29		0.17					0.41		c0.11	0.13	
v/s Ratio Perm										c0.45		
v/c Ratio	0.93		0.56					0.85		0.89	0.20	
Uniform Delay, d1	49.9		42.8					34.5		48.9	11.6	
Progression Factor	1.00		1.00					1.00		0.77	1.59	
Incremental Delay, d2	22.9		1.4					6.0		24.3	0.2	
Delay (s)	72.8		44.1					40.5		61.7	18.6	
Level of Service	E		D					D		E	B	
Approach Delay (s)		60.0			0.0			40.5			34.0	
Approach LOS		E			A			D			C	

Intersection Summary			
HCM 2000 Control Delay	45.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	173	0	159	633	839	0	0	467	268
Future Volume (veh/h)	0	0	0	173	0	159	633	839	0	0	467	268
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1841	0	1841	1885	1885	0	0	1885	1885
Adj Flow Rate, veh/h				188	0	0	688	912	0	0	508	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				4	0	4	1	1	0	0	1	1
Cap, veh/h				212	0		847	2957	0	0	2328	
Arrive On Green				0.12	0.00	0.00	0.15	0.83	0.00	0.00	0.65	0.00
Sat Flow, veh/h				1753	0	1560	1795	3676	0	0	3770	0
Grp Volume(v), veh/h				188	0	0	688	912	0	0	508	0
Grp Sat Flow(s),veh/h/ln				1753	0	1560	1795	1791	0	0	1791	0
Q Serve(g_s), s				15.8	0.0	0.0	17.5	8.9	0.0	0.0	8.7	0.0
Cycle Q Clear(g_c), s				15.8	0.0	0.0	17.5	8.9	0.0	0.0	8.7	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				212	0		847	2957	0	0	2328	
V/C Ratio(X)				0.89	0.00		0.81	0.31	0.00	0.00	0.22	
Avail Cap(c_a), veh/h				292	0		1382	2957	0	0	2328	
HCM Platoon Ratio				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.36	0.36	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				64.9	0.0	0.0	5.9	3.1	0.0	0.0	10.7	0.0
Incr Delay (d2), s/veh				20.6	0.0	0.0	0.7	0.1	0.0	0.0	0.2	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				8.3	0.0	0.0	4.4	2.0	0.0	0.0	3.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				85.5	0.0	0.0	6.6	3.2	0.0	0.0	10.9	0.0
LnGrp LOS				F	A		A	A	A	A	B	
Approach Vol, veh/h					188			1600			508	
Approach Delay, s/veh					85.5			4.6			10.9	
Approach LOS					F			A			B	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	127.8		26.3	101.5		22.2
Change Period (Y+Rc), s	4.0		4.0	4.0		4.0
Max Green Setting (Gmax), s	117.0		67.0	46.0		25.0
Max Q Clear Time (g_c+I1), s	10.9		19.5	10.7		17.8
Green Ext Time (p_c), s	4.0		2.8	2.0		0.3

Intersection Summary		
HCM 6th Ctrl Delay		12.7
HCM 6th LOS		B

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

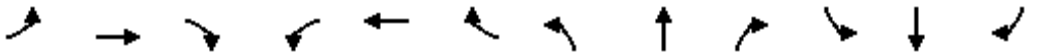
Intersection	
Int Delay, s/veh	12.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	77	31	518	364	100	602
Future Vol, veh/h	77	31	518	364	100	602
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	84	34	563	396	109	654

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1633	761	0	0	959	0
Stage 1	761	-	-	-	-	-
Stage 2	872	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	112	407	-	-	717	-
Stage 1	463	-	-	-	-	-
Stage 2	411	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	85	407	-	-	717	-
Mov Cap-2 Maneuver	85	-	-	-	-	-
Stage 1	463	-	-	-	-	-
Stage 2	313	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	179.1	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	110	717	-
HCM Lane V/C Ratio	-	-	1.067	0.152	-
HCM Control Delay (s)	-	-	179.1	10.9	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	7.1	0.5	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	363	68	147	202	66	68	733	112	447	1242	285
Future Volume (veh/h)	240	363	68	147	202	66	68	733	112	447	1242	285
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	261	395	74	160	220	72	74	797	122	486	1350	310
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	331	398	75	183	281	92	126	869	133	506	1855	828
Arrive On Green	0.13	0.26	0.26	0.07	0.21	0.21	0.04	0.28	0.28	0.28	0.52	0.52
Sat Flow, veh/h	1795	1544	289	1795	1360	445	1795	3114	477	1795	3582	1598
Grp Volume(v), veh/h	261	0	469	160	0	292	74	458	461	486	1350	310
Grp Sat Flow(s),veh/h/ln	1795	0	1833	1795	0	1805	1795	1791	1799	1795	1791	1598
Q Serve(g_s), s	16.6	0.0	38.0	10.5	0.0	22.8	4.7	36.9	37.0	39.7	43.4	17.3
Cycle Q Clear(g_c), s	16.6	0.0	38.0	10.5	0.0	22.8	4.7	36.9	37.0	39.7	43.4	17.3
Prop In Lane	1.00		0.16	1.00		0.25	1.00		0.26	1.00		1.00
Lane Grp Cap(c), veh/h	331	0	472	183	0	373	126	500	502	506	1855	828
V/C Ratio(X)	0.79	0.00	0.99	0.87	0.00	0.78	0.59	0.92	0.92	0.96	0.73	0.37
Avail Cap(c_a), veh/h	336	0	472	183	0	373	166	500	502	518	1855	828
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.1	0.0	55.2	45.5	0.0	56.0	45.6	52.0	52.0	52.7	27.8	21.5
Incr Delay (d2), s/veh	11.7	0.0	39.4	34.1	0.0	10.5	4.3	24.1	24.1	29.3	2.5	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.5	0.0	22.7	6.5	0.0	11.5	2.3	20.0	20.1	22.0	19.2	6.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	51.8	0.0	94.6	79.6	0.0	66.4	49.9	76.2	76.1	82.0	30.3	22.8
LnGrp LOS	D	A	F	E	A	E	D	E	E	F	C	C
Approach Vol, veh/h		730			452			993			2146	
Approach Delay, s/veh		79.3			71.1			74.2			40.9	
Approach LOS		E			E			E			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.0	45.6	15.0	42.4	10.4	81.2	22.6	34.8
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	43.0	41.6	11.0	38.4	9.8	74.8	19.0	30.4
Max Q Clear Time (g_c+I1), s	41.7	39.0	12.5	40.0	6.7	45.4	18.6	24.8
Green Ext Time (p_c), s	0.3	1.1	0.0	0.0	0.0	9.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	58.2
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	33	67	11	92	86	84	748	14	97	1448	43
Future Volume (veh/h)	26	33	67	11	92	86	84	748	14	97	1448	43
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	28	36	73	12	100	93	91	813	15	105	1574	47
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	132	256	217	35	121	106	264	2660	49	551	2627	78
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.04	0.74	0.74	0.04	0.74	0.74
Sat Flow, veh/h	1199	1885	1598	51	889	781	1795	3598	66	1795	3551	106
Grp Volume(v), veh/h	28	36	73	205	0	0	91	405	423	105	792	829
Grp Sat Flow(s),veh/h/ln	1199	1885	1598	1721	0	0	1795	1791	1873	1795	1791	1866
Q Serve(g_s), s	0.0	2.3	5.6	6.9	0.0	0.0	2.0	10.3	10.3	0.0	27.9	28.1
Cycle Q Clear(g_c), s	7.3	2.3	5.6	15.7	0.0	0.0	2.0	10.3	10.3	0.0	27.9	28.1
Prop In Lane	1.00		1.00	0.06		0.45	1.00		0.04	1.00		0.06
Lane Grp Cap(c), veh/h	132	256	217	262	0	0	264	1324	1385	551	1325	1380
V/C Ratio(X)	0.21	0.14	0.34	0.78	0.00	0.00	0.34	0.31	0.31	0.19	0.60	0.60
Avail Cap(c_a), veh/h	235	419	355	409	0	0	386	1324	1385	595	1325	1380
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	51.4	52.9	57.2	0.0	0.0	10.1	5.9	5.9	8.0	8.2	8.2
Incr Delay (d2), s/veh	0.8	0.2	0.9	5.2	0.0	0.0	0.8	0.6	0.6	0.2	2.0	1.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.1	2.3	7.2	0.0	0.0	0.8	3.8	4.0	1.1	10.5	11.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.4	51.7	53.8	62.4	0.0	0.0	10.9	6.5	6.5	8.1	10.2	10.2
LnGrp LOS	D	D	D	E	A	A	B	A	A	A	B	B
Approach Vol, veh/h		137			205			919			1726	
Approach Delay, s/veh		53.3			62.4			6.9			10.1	
Approach LOS		D			E			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.9	103.8		22.3	8.8	103.9		22.3
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	8.3	99.8		30.0	14.0	94.0		30.0
Max Q Clear Time (g_c+I1), s	7.3	12.3		9.3	4.0	30.1		17.7
Green Ext Time (p_c), s	0.1	3.4		0.4	0.2	10.0		0.6

Intersection Summary		
HCM 6th Ctrl Delay		14.7
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	21	194	7	156	170	114	13	679	127	140	1328	27
Future Volume (veh/h)	21	194	7	156	170	114	13	679	127	140	1328	27
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	23	211	8	170	185	124	14	738	138	152	1443	29
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	26	238	9	353	207	139	152	1422	266	353	2027	41
Arrive On Green	0.15	0.15	0.15	0.20	0.20	0.20	0.48	0.48	0.48	0.06	0.56	0.56
Sat Flow, veh/h	176	1614	61	1781	1044	700	359	2988	559	1795	3591	72
Grp Volume(v), veh/h	242	0	0	170	0	309	14	439	437	152	719	753
Grp Sat Flow(s),veh/h/ln	1851	0	0	1781	0	1744	359	1777	1770	1795	1791	1872
Q Serve(g_s), s	17.0	0.0	0.0	11.2	0.0	22.9	3.9	22.8	22.9	5.5	38.8	39.0
Cycle Q Clear(g_c), s	17.0	0.0	0.0	11.2	0.0	22.9	31.1	22.8	22.9	5.5	38.8	39.0
Prop In Lane	0.10		0.03	1.00		0.40	1.00		0.32	1.00		0.04
Lane Grp Cap(c), veh/h	273	0	0	353	0	345	152	846	842	353	1011	1057
V/C Ratio(X)	0.89	0.00	0.00	0.48	0.00	0.89	0.09	0.52	0.52	0.43	0.71	0.71
Avail Cap(c_a), veh/h	390	0	0	469	0	459	152	846	842	437	1011	1057
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.6	0.0	0.0	47.2	0.0	51.9	36.7	24.2	24.2	17.8	21.1	21.1
Incr Delay (d2), s/veh	16.0	0.0	0.0	1.0	0.0	16.1	1.2	2.3	2.3	0.8	4.3	4.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.2	0.0	0.0	5.1	0.0	11.6	0.4	10.1	10.1	2.4	17.0	17.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	71.6	0.0	0.0	48.3	0.0	68.0	37.9	26.5	26.5	18.6	25.3	25.2
LnGrp LOS	E	A	A	D	A	E	D	C	C	B	C	C
Approach Vol, veh/h		242			479			890			1624	
Approach Delay, s/veh		71.6			61.0			26.7			24.6	
Approach LOS		E			E			C			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	11.7	67.3		23.6		79.0		30.3				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	4.8	57.0		28.0		75.0		35.0				
Max Q Clear Time (g_c+I1), s	7.5	33.1		19.0		41.0		24.9				
Green Ext Time (p_c), s	0.2	3.9		0.5		7.8		1.4				

Intersection Summary	
HCM 6th Ctrl Delay	34.1
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	151	89	1273	1	54	42	723	659	4	24	1135	266
Future Volume (veh/h)	151	89	1273	1	54	42	723	659	4	24	1135	266
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	164	97	1384	1	59	46	786	716	4	26	1234	289
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	5	5	5	2	2	2
Cap, veh/h	199	118	1092	2	92	79	726	2350	13	307	1180	273
Arrive On Green	0.17	0.17	0.17	0.05	0.05	0.05	0.22	0.66	0.66	0.41	0.41	0.41
Sat Flow, veh/h	1148	679	2812	31	1838	1585	3374	3537	20	732	2865	663
Grp Volume(v), veh/h	261	0	1384	60	0	46	786	351	369	26	759	764
Grp Sat Flow(s),veh/h/ln	1828	0	1406	1869	0	1585	1687	1735	1822	732	1777	1751
Q Serve(g_s), s	14.7	0.0	18.5	3.4	0.0	3.0	23.0	9.1	9.1	2.6	44.0	44.0
Cycle Q Clear(g_c), s	14.7	0.0	18.5	3.4	0.0	3.0	23.0	9.1	9.1	11.8	44.0	44.0
Prop In Lane	0.63		1.00	0.02		1.00	1.00		0.01	1.00		0.38
Lane Grp Cap(c), veh/h	316	0	1092	94	0	79	726	1153	1211	307	732	721
V/C Ratio(X)	0.82	0.00	1.27	0.64	0.00	0.58	1.08	0.30	0.30	0.08	1.04	1.06
Avail Cap(c_a), veh/h	316	0	1092	324	0	274	726	1153	1211	307	732	721
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	42.6	0.0	32.7	49.8	0.0	49.6	41.9	7.5	7.5	25.1	31.4	31.4
Incr Delay (d2), s/veh	16.1	0.0	127.7	7.1	0.0	6.5	57.9	0.7	0.7	0.5	43.4	50.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.0	0.0	24.0	1.8	0.0	1.3	15.3	3.3	3.5	0.5	27.0	27.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	58.7	0.0	160.4	56.9	0.0	56.1	99.9	8.2	8.2	25.7	74.9	81.8
LnGrp LOS	E	A	F	E	A	E	F	A	A	C	F	F
Approach Vol, veh/h		1645			106			1506			1549	
Approach Delay, s/veh		144.2			56.6			56.1			77.4	
Approach LOS		F			E			E			E	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		75.0		22.5	27.0	48.0		9.4				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		71.0		18.5	23.0	44.0		18.5				
Max Q Clear Time (g_c+I1), s		11.1		20.5	25.0	46.0		5.4				
Green Ext Time (p_c), s		2.9		0.0	0.0	0.0		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			93.1									
HCM 6th LOS			F									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	210	9	1270	129	12	791
Future Volume (veh/h)	210	9	1270	129	12	791
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	228	0	1380	0	13	860
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	241		1455		131	1508
Arrive On Green	0.13	0.00	0.77	0.00	0.01	0.81
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	228	0	1380	0	13	860
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	18.9	0.0	93.4	0.0	0.2	24.3
Cycle Q Clear(g_c), s	18.9	0.0	93.4	0.0	0.2	24.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	241		1455		131	1508
V/C Ratio(X)	0.95		0.95		0.10	0.57
Avail Cap(c_a), veh/h	241		1455		171	1508
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	64.4	0.0	14.5	0.0	34.4	4.9
Incr Delay (d2), s/veh	43.6	0.0	14.1	0.0	0.3	1.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	11.4	0.0	37.4	0.0	0.3	7.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	108.0	0.0	28.6	0.0	34.8	6.5
LnGrp LOS	F		C		C	A
Approach Vol, veh/h	228		1380			873
Approach Delay, s/veh	108.0		28.6			6.9
Approach LOS	F		C			A

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	6.1	119.8		24.1		125.9
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	5.5	112.4		20.1		121.9
Max Q Clear Time (g_c+I1), s	2.2	95.4		20.9		26.3
Green Ext Time (p_c), s	0.0	8.4		0.0		4.2

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	3.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	33	281	204	91	127	44
Future Vol, veh/h	33	281	204	91	127	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	36	305	222	99	138	48

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	222	0	-	0	599	-
Stage 1	-	-	-	-	222	-
Stage 2	-	-	-	-	377	-
Critical Hdwy	4.11	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	-
Pot Cap-1 Maneuver	1353	-	-	0	466	0
Stage 1	-	-	-	0	817	0
Stage 2	-	-	-	0	696	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1353	-	-	-	451	-
Mov Cap-2 Maneuver	-	-	-	-	451	-
Stage 1	-	-	-	-	791	-
Stage 2	-	-	-	-	696	-

Approach	EB	WB	SB
HCM Control Delay, s	0.8	0	16.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1353	-	-	451
HCM Lane V/C Ratio	0.027	-	-	0.306
HCM Control Delay (s)	7.7	0	-	16.5
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.1	-	-	1.3

Intersection	
Int Delay, s/veh	6.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	124	105	152	115	83	123
Future Vol, veh/h	124	105	152	115	83	123
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	135	114	165	125	90	134

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	249	0	647	192
Stage 1	-	-	-	-	192	-
Stage 2	-	-	-	-	455	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1323	-	437	852
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1323	-	378	852
Mov Cap-2 Maneuver	-	-	-	-	378	-
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	555	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.6	15.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	566	-	-	1323	-
HCM Lane V/C Ratio	0.396	-	-	0.125	-
HCM Control Delay (s)	15.5	-	-	8.1	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.9	-	-	0.4	-

Intersection	
Int Delay, s/veh	36.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	121	468	215	90	165	200
Future Vol, veh/h	121	468	215	90	165	200
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	132	509	234	98	179	217

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	332	0	-	0	1056	283
Stage 1	-	-	-	-	283	-
Stage 2	-	-	-	-	773	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1227	-	-	-	251	758
Stage 1	-	-	-	-	767	-
Stage 2	-	-	-	-	457	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1227	-	-	-	213	758
Mov Cap-2 Maneuver	-	-	-	-	213	-
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	457	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	122.5
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1227	-	-	-	351
HCM Lane V/C Ratio	0.107	-	-	-	1.13
HCM Control Delay (s)	8.3	0	-	-	122.5
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	15.4

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	530	97	13	220	3	79	0	8	5	0	6
Future Vol, veh/h	6	530	97	13	220	3	79	0	8	5	0	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	3	3	3
Mvmt Flow	7	576	105	14	239	3	86	0	9	5	0	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	242	0	0	681	0	0	915	913	629	916	964	241
Stage 1	-	-	-	-	-	-	643	643	-	269	269	-
Stage 2	-	-	-	-	-	-	272	270	-	647	695	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.527	4.027	3.327
Pot Cap-1 Maneuver	1330	-	-	916	-	-	254	274	484	252	254	795
Stage 1	-	-	-	-	-	-	464	470	-	734	685	-
Stage 2	-	-	-	-	-	-	736	688	-	458	442	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1330	-	-	916	-	-	247	267	484	242	247	795
Mov Cap-2 Maneuver	-	-	-	-	-	-	247	267	-	242	247	-
Stage 1	-	-	-	-	-	-	460	466	-	727	673	-
Stage 2	-	-	-	-	-	-	717	676	-	446	438	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.5	26.7	14.5
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	259	1330	-	-	916	-	-	390
HCM Lane V/C Ratio	0.365	0.005	-	-	0.015	-	-	0.031
HCM Control Delay (s)	26.7	7.7	0	-	9	0	-	14.5
HCM Lane LOS	D	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.6	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	2.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	126	76	84	68	8
Future Vol, veh/h	17	126	76	84	68	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	18	137	83	91	74	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	174	0	-	0	302	129
Stage 1	-	-	-	-	129	-
Stage 2	-	-	-	-	173	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1409	-	-	-	692	924
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	860	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1409	-	-	-	682	924
Mov Cap-2 Maneuver	-	-	-	-	682	-
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	860	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1409	-	-	-	701
HCM Lane V/C Ratio	0.013	-	-	-	0.118
HCM Control Delay (s)	7.6	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	128	1	13	71	0	15
Future Vol, veh/h	128	1	13	71	0	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	139	1	14	77	0	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	140	0	245	140
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	105	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1449	-	746	911
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	922	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1449	-	739	911
Mov Cap-2 Maneuver	-	-	-	-	739	-
Stage 1	-	-	-	-	889	-
Stage 2	-	-	-	-	913	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.2	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	911	-	-	1449	-
HCM Lane V/C Ratio	0.018	-	-	0.01	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

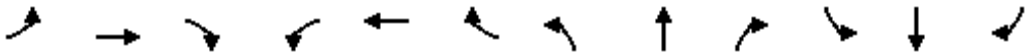
Intersection	
Int Delay, s/veh	13

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1054	22	125	885	24	18	2	103	15	5	5
Future Vol, veh/h	8	1054	22	125	885	24	18	2	103	15	5	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	9	1146	24	136	962	26	20	2	112	16	5	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	988	0	0	1170	0	0	1932	2436	585	1839	2435	494
Stage 1	-	-	-	-	-	-	1176	1176	-	1247	1247	-
Stage 2	-	-	-	-	-	-	756	1260	-	592	1188	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	689	-	-	587	-	-	40	32	457	47	32	524
Stage 1	-	-	-	-	-	-	205	265	-	185	245	-
Stage 2	-	-	-	-	-	-	369	242	-	462	262	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	689	-	-	587	-	-	27	24	457	27	24	524
Mov Cap-2 Maneuver	-	-	-	-	-	-	27	24	-	27	24	-
Stage 1	-	-	-	-	-	-	202	262	-	183	188	-
Stage 2	-	-	-	-	-	-	272	186	-	341	259	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	1.6	164.9	293.7
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	126	689	-	-	587	-	-	32
HCM Lane V/C Ratio	1.061	0.013	-	-	0.231	-	-	0.849
HCM Control Delay (s)	164.9	10.3	-	-	13	-	-	293.7
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	7.6	0	-	-	0.9	-	-	2.9

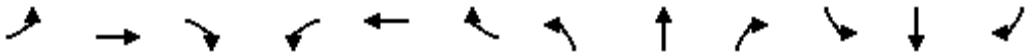


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	116	504	0	0	341	74	24	0	85	0	0	0
Future Volume (veh/h)	116	504	0	0	341	74	24	0	85	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1826	1826	1826			
Adj Flow Rate, veh/h	126	548	0	0	371	80	26	0	92			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	5	5	5			
Cap, veh/h	623	2357	0	0	1719	367	97	0	342			
Arrive On Green	0.09	1.00	0.00	0.00	0.59	0.59	0.28	0.00	0.28			
Sat Flow, veh/h	1781	3647	0	0	3007	622	349	0	1236			
Grp Volume(v), veh/h	126	548	0	0	225	226	118	0	0			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1758	1586	0	0			
Q Serve(g_s), s	4.2	0.0	0.0	0.0	8.9	9.1	8.7	0.0	0.0			
Cycle Q Clear(g_c), s	4.2	0.0	0.0	0.0	8.9	9.1	8.7	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.35	0.22		0.78			
Lane Grp Cap(c), veh/h	623	2357	0	0	1048	1037	439	0	0			
V/C Ratio(X)	0.20	0.23	0.00	0.00	0.21	0.22	0.27	0.00	0.00			
Avail Cap(c_a), veh/h	907	2357	0	0	1048	1037	439	0	0			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.86	0.86	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	10.1	0.0	0.0	0.0	14.4	14.5	42.4	0.0	0.0			
Incr Delay (d2), s/veh	0.1	0.2	0.0	0.0	0.5	0.5	1.5	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	1.5	0.1	0.0	0.0	3.8	3.8	3.7	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.2	0.2	0.0	0.0	14.9	15.0	43.9	0.0	0.0			
LnGrp LOS	B	A	A	A	B	B	D	A	A			
Approach Vol, veh/h		674			451			118				
Approach Delay, s/veh		2.1			14.9			43.9				
Approach LOS		A			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		104.0			11.0	93.0		46.0				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		99.5			30.5	64.5		41.5				
Max Q Clear Time (g_c+I1), s		2.0			6.2	11.1		10.7				
Green Ext Time (p_c), s		2.5			0.4	1.7		0.4				
Intersection Summary												
HCM 6th Ctrl Delay			10.7									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	476	57	147	218	0	0	0	0	144	0	332
Future Volume (veh/h)	0	476	57	147	218	0	0	0	0	144	0	332
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1841	1841	1841
Adj Flow Rate, veh/h	0	517	62	160	237	0				157	0	361
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				4	4	4
Cap, veh/h	0	1113	133	361	1599	0				240	0	551
Arrive On Green	0.00	0.35	0.35	0.10	0.60	0.00				0.49	0.00	0.49
Sat Flow, veh/h	0	3290	382	1781	3647	0				489	0	1125
Grp Volume(v), veh/h	0	287	292	160	237	0				518	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1802	1781	1777	0				1614	0	0
Q Serve(g_s), s	0.0	18.8	18.9	8.4	4.4	0.0				36.2	0.0	0.0
Cycle Q Clear(g_c), s	0.0	18.8	18.9	8.4	4.4	0.0				36.2	0.0	0.0
Prop In Lane	0.00		0.21	1.00		0.00				0.30		0.70
Lane Grp Cap(c), veh/h	0	619	627	361	1599	0				791	0	0
V/C Ratio(X)	0.00	0.46	0.47	0.44	0.15	0.00				0.66	0.00	0.00
Avail Cap(c_a), veh/h	0	619	627	477	1599	0				791	0	0
HCM Platoon Ratio	1.00	1.00	1.00	1.33	1.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.98	0.98	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	38.0	38.0	27.6	17.4	0.0				28.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	2.5	2.5	0.8	0.2	0.0				4.2	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	8.7	8.9	3.6	1.9	0.0				14.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	40.5	40.5	28.4	17.6	0.0				32.9	0.0	0.0
LnGrp LOS	A	D	D	C	B	A				C	A	A
Approach Vol, veh/h		579			397						518	
Approach Delay, s/veh		40.5			22.0						32.9	
Approach LOS		D			C						C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	15.3	56.7		78.0		72.0
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	20.5	42.5		73.5		67.5
Max Q Clear Time (g_c+I1), s	10.4	20.9		38.2		6.4
Green Ext Time (p_c), s	0.3	2.1		2.5		1.0

Intersection Summary		
HCM 6th Ctrl Delay		33.0
HCM 6th LOS		C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	245	0	683	0	0	0	0	870	321	176	526	0
Future Volume (vph)	245	0	683	0	0	0	0	870	321	176	526	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0					4.0		4.0	4.0	
Lane Util. Factor	1.00		1.00					0.95		1.00	0.95	
Frt	1.00		0.85					0.96		1.00	1.00	
Flt Protected	0.95		1.00					1.00		0.95	1.00	
Satd. Flow (prot)	1752		1568					3363		1787	3574	
Flt Permitted	0.95		1.00					1.00		0.07	1.00	
Satd. Flow (perm)	1752		1568					3363		136	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	266	0	742	0	0	0	0	946	349	191	572	0
RTOR Reduction (vph)	0	0	167	0	0	0	0	30	0	0	0	0
Lane Group Flow (vph)	266	0	575	0	0	0	0	1265	0	191	572	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	1%	1%	1%
Turn Type	Prot		Prot					NA		pm+pt	NA	
Protected Phases	4		4					2		1	6	
Permitted Phases										6		
Actuated Green, G (s)	45.9		45.9					51.3		66.1	66.1	
Effective Green, g (s)	45.9		45.9					51.3		66.1	66.1	
Actuated g/C Ratio	0.38		0.38					0.43		0.55	0.55	
Clearance Time (s)	4.0		4.0					4.0		4.0	4.0	
Vehicle Extension (s)	3.0		3.0					3.0		3.0	3.0	
Lane Grp Cap (vph)	670		599					1437		223	1968	
v/s Ratio Prot	0.15		c0.37					0.38		c0.08	0.16	
v/s Ratio Perm										c0.39		
v/c Ratio	0.40		0.96					0.88		0.86	0.29	
Uniform Delay, d1	27.0		36.2					31.5		32.2	14.4	
Progression Factor	1.00		1.00					1.00		0.62	0.93	
Incremental Delay, d2	0.4		27.1					8.0		3.1	0.0	
Delay (s)	27.4		63.2					39.5		23.0	13.4	
Level of Service	C		E					D		C	B	
Approach Delay (s)		53.8			0.0			39.5			15.8	
Approach LOS		D			A			D			B	

Intersection Summary			
HCM 2000 Control Delay	38.3	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	110.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	270	0	396	1013	102	0	0	432	532
Future Volume (veh/h)	0	0	0	270	0	396	1013	102	0	0	432	532
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1856	1856	0	0	1885	1885
Adj Flow Rate, veh/h				293	0	0	1101	111	0	0	470	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	3	3	0	0	1	1
Cap, veh/h				312	0		1015	2674	0	0	866	
Arrive On Green				0.17	0.00	0.00	0.81	1.00	0.00	0.00	0.24	0.00
Sat Flow, veh/h				1781	0	1585	1767	3618	0	0	3770	0
Grp Volume(v), veh/h				293	0	0	1101	111	0	0	470	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1767	1763	0	0	1791	0
Q Serve(g_s), s				19.5	0.0	0.0	58.0	0.0	0.0	0.0	13.7	0.0
Cycle Q Clear(g_c), s				19.5	0.0	0.0	58.0	0.0	0.0	0.0	13.7	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				312	0		1015	2674	0	0	866	
V/C Ratio(X)				0.94	0.00		1.08	0.04	0.00	0.00	0.54	
Avail Cap(c_a), veh/h				312	0		1015	2674	0	0	866	
HCM Platoon Ratio				1.00	1.00	1.00	1.67	1.67	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.50	0.50	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				48.9	0.0	0.0	6.3	0.0	0.0	0.0	39.7	0.0
Incr Delay (d2), s/veh				35.4	0.0	0.0	47.1	0.0	0.0	0.0	2.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				11.7	0.0	0.0	18.3	0.0	0.0	0.0	6.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				84.3	0.0	0.0	53.5	0.0	0.0	0.0	42.2	0.0
LnGrp LOS				F	A		F	A	A	A	D	
Approach Vol, veh/h					293			1212			470	
Approach Delay, s/veh					84.3			48.6			42.2	
Approach LOS					F			D			D	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	95.0		62.0	33.0		25.0
Change Period (Y+Rc), s	4.0		4.0	4.0		4.0
Max Green Setting (Gmax), s	91.0		58.0	29.0		21.0
Max Q Clear Time (g_c+I1), s	2.0		60.0	15.7		21.5
Green Ext Time (p_c), s	0.4		0.0	1.5		0.0

Intersection Summary	
HCM 6th Ctrl Delay	52.3
HCM 6th LOS	D

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

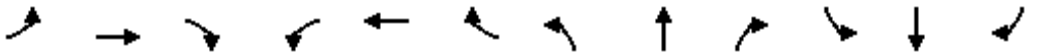
Intersection	
Int Delay, s/veh	13.6

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	171	81	422	115	34	378
Future Vol, veh/h	171	81	422	115	34	378
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	186	88	459	125	37	411

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1007	522	0	0	584	0
Stage 1	522	-	-	-	-	-
Stage 2	485	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	268	557	-	-	991	-
Stage 1	597	-	-	-	-	-
Stage 2	621	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	255	557	-	-	991	-
Mov Cap-2 Maneuver	255	-	-	-	-	-
Stage 1	597	-	-	-	-	-
Stage 2	591	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	63.9	0	0.7
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	309	991	-
HCM Lane V/C Ratio	-	-	0.886	0.037	-
HCM Control Delay (s)	-	-	63.9	8.8	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	8.2	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	407	699	22	104	202	96	54	785	61	124	847	312
Future Volume (veh/h)	407	699	22	104	202	96	54	785	61	124	847	312
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	442	760	24	113	220	104	59	853	66	135	921	339
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	544	783	25	166	352	166	125	992	77	161	1247	556
Arrive On Green	0.19	0.43	0.43	0.05	0.29	0.29	0.04	0.29	0.29	0.09	0.35	0.35
Sat Flow, veh/h	1795	1817	57	1795	1210	572	1795	3369	261	1795	3582	1598
Grp Volume(v), veh/h	442	0	784	113	0	324	59	453	466	135	921	339
Grp Sat Flow(s),veh/h/ln	1795	0	1875	1795	0	1782	1795	1791	1838	1795	1791	1598
Q Serve(g_s), s	19.5	0.0	48.6	5.3	0.0	18.7	2.9	28.4	28.4	8.8	26.8	20.9
Cycle Q Clear(g_c), s	19.5	0.0	48.6	5.3	0.0	18.7	2.9	28.4	28.4	8.8	26.8	20.9
Prop In Lane	1.00		0.03	1.00		0.32	1.00		0.14	1.00		1.00
Lane Grp Cap(c), veh/h	544	0	807	166	0	519	125	527	541	161	1247	556
V/C Ratio(X)	0.81	0.00	0.97	0.68	0.00	0.62	0.47	0.86	0.86	0.84	0.74	0.61
Avail Cap(c_a), veh/h	644	0	820	166	0	519	145	527	541	166	1247	556
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.0	0.0	33.1	32.4	0.0	36.5	35.5	39.6	39.6	53.2	34.0	32.1
Incr Delay (d2), s/veh	6.8	0.0	24.3	10.7	0.0	2.3	2.7	16.6	16.3	29.0	3.9	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.0	0.0	26.9	2.8	0.0	8.5	1.4	14.8	15.2	5.3	12.2	8.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.7	0.0	57.4	43.1	0.0	38.9	38.3	56.2	55.9	82.2	37.9	37.0
LnGrp LOS	C	A	E	D	A	D	D	E	E	F	D	D
Approach Vol, veh/h		1226			437			978			1395	
Approach Delay, s/veh		47.4			39.9			55.0			42.0	
Approach LOS		D			D			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	14.7	39.0	10.0	55.2	8.3	45.4	26.6	38.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	11.0	35.0	6.0	52.0	5.6	40.4	29.2	28.8
Max Q Clear Time (g_c+I1), s	10.8	30.4	7.3	50.6	4.9	28.8	21.5	20.7
Green Ext Time (p_c), s	0.0	1.7	0.0	0.6	0.0	4.6	1.1	0.8

Intersection Summary	
HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	73	144	29	88	184	82	718	31	93	1027	37
Future Volume (veh/h)	26	73	144	29	88	184	82	718	31	93	1027	37
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	28	79	157	32	96	200	89	780	34	101	1116	40
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	190	424	359	62	121	225	322	2128	93	478	2151	77
Arrive On Green	0.22	0.22	0.22	0.22	0.22	0.22	0.05	0.61	0.61	0.05	0.61	0.61
Sat Flow, veh/h	1092	1885	1598	100	540	1001	1795	3496	152	1795	3527	126
Grp Volume(v), veh/h	28	79	157	328	0	0	89	399	415	101	567	589
Grp Sat Flow(s),veh/h/ln	1092	1885	1598	1641	0	0	1795	1791	1858	1795	1791	1862
Q Serve(g_s), s	0.0	3.4	8.5	11.2	0.0	0.0	2.2	11.3	11.3	0.0	18.1	18.1
Cycle Q Clear(g_c), s	5.4	3.4	8.5	19.3	0.0	0.0	2.2	11.3	11.3	0.0	18.1	18.1
Prop In Lane	1.00		1.00	0.10		0.61	1.00		0.08	1.00		0.07
Lane Grp Cap(c), veh/h	190	424	359	408	0	0	322	1090	1131	478	1092	1136
V/C Ratio(X)	0.15	0.19	0.44	0.80	0.00	0.00	0.28	0.37	0.37	0.21	0.52	0.52
Avail Cap(c_a), veh/h	359	715	606	657	0	0	437	1090	1131	555	1092	1136
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.2	31.4	33.4	37.5	0.0	0.0	11.4	9.9	9.9	13.4	11.2	11.2
Incr Delay (d2), s/veh	0.4	0.2	0.8	3.7	0.0	0.0	0.5	1.0	0.9	0.2	1.8	1.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.6	3.3	8.1	0.0	0.0	0.8	4.4	4.6	1.3	7.2	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	32.5	31.6	34.2	41.2	0.0	0.0	11.8	10.8	10.8	13.6	12.9	12.9
LnGrp LOS	C	C	C	D	A	A	B	B	B	B	B	B
Approach Vol, veh/h		264			328			903			1257	
Approach Delay, s/veh		33.3			41.2			10.9			12.9	
Approach LOS		C			D			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.7	65.0		26.5	8.6	65.1		26.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	9.6	61.0		38.0	11.0	59.0		38.0
Max Q Clear Time (g_c+I1), s	7.4	13.3		10.5	4.2	20.1		21.3
Green Ext Time (p_c), s	0.1	3.3		1.0	0.1	5.4		1.2

Intersection Summary		
HCM 6th Ctrl Delay		17.6
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	56	382	26	78	151	138	20	680	144	169	1058	29
Future Volume (veh/h)	56	382	26	78	151	138	20	680	144	169	1058	29
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	61	415	28	85	164	150	22	739	157	184	1150	32
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	2	2	2	2	2	2	2	2	2
Cap, veh/h	64	437	29	329	166	152	133	904	192	259	1513	42
Arrive On Green	0.29	0.29	0.29	0.18	0.18	0.18	0.31	0.31	0.31	0.08	0.43	0.43
Sat Flow, veh/h	225	1528	103	1781	900	823	474	2916	619	1781	3531	98
Grp Volume(v), veh/h	504	0	0	85	0	314	22	450	446	184	579	603
Grp Sat Flow(s),veh/h/ln	1855	0	0	1781	0	1722	474	1777	1759	1781	1777	1853
Q Serve(g_s), s	31.7	0.0	0.0	4.9	0.0	21.6	4.9	27.9	27.9	8.1	32.8	32.9
Cycle Q Clear(g_c), s	31.7	0.0	0.0	4.9	0.0	21.6	23.7	27.9	27.9	8.1	32.8	32.9
Prop In Lane	0.12		0.06	1.00		0.48	1.00		0.35	1.00		0.05
Lane Grp Cap(c), veh/h	530	0	0	329	0	318	133	551	545	259	761	794
V/C Ratio(X)	0.95	0.00	0.00	0.26	0.00	0.99	0.17	0.82	0.82	0.71	0.76	0.76
Avail Cap(c_a), veh/h	546	0	0	329	0	318	133	551	545	272	761	794
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.7	0.0	0.0	41.5	0.0	48.4	44.8	37.9	37.9	28.2	28.8	28.8
Incr Delay (d2), s/veh	26.3	0.0	0.0	0.4	0.0	46.6	2.7	12.7	12.8	7.9	7.0	6.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.2	0.0	0.0	2.2	0.0	13.4	0.7	14.0	13.8	4.0	15.2	15.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	68.0	0.0	0.0	41.9	0.0	94.9	47.5	50.6	50.7	36.1	35.8	35.6
LnGrp LOS	E	A	A	D	A	F	D	D	D	D	D	D
Approach Vol, veh/h		504			399			918			1366	
Approach Delay, s/veh		68.0			83.6			50.6			35.8	
Approach LOS		E			F			D			D	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	14.1	40.9		38.0		55.0		26.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	10.1	36.0		35.0		51.0		22.0				
Max Q Clear Time (g_c+I1), s	10.1	29.9		33.7		34.9		23.6				
Green Ext Time (p_c), s	0.1	2.2		0.3		4.7		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	51.1
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	257	122	930	1	22	43	1187	604	4	52	857	202
Future Volume (veh/h)	257	122	930	1	22	43	1187	604	4	52	857	202
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	279	133	1011	1	24	47	1290	657	4	57	932	220
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	2	2	2	2	2	2
Cap, veh/h	259	124	1360	3	78	69	977	2269	14	241	874	206
Arrive On Green	0.22	0.22	0.22	0.04	0.04	0.04	0.28	0.63	0.63	0.31	0.31	0.31
Sat Flow, veh/h	1196	570	2723	75	1792	1585	3456	3621	22	774	2853	673
Grp Volume(v), veh/h	412	0	1011	25	0	47	1290	322	339	57	580	572
Grp Sat Flow(s),veh/h/ln	1766	0	1362	1867	0	1585	1728	1777	1866	774	1777	1749
Q Serve(g_s), s	23.0	0.0	1.4	1.4	0.0	3.1	30.0	8.8	8.8	6.6	32.5	32.5
Cycle Q Clear(g_c), s	23.0	0.0	1.4	1.4	0.0	3.1	30.0	8.8	8.8	15.3	32.5	32.5
Prop In Lane	0.68		1.00	0.04		1.00	1.00		0.01	1.00		0.38
Lane Grp Cap(c), veh/h	383	0	1360	81	0	69	977	1114	1170	241	544	536
V/C Ratio(X)	1.08	0.00	0.74	0.31	0.00	0.68	1.32	0.29	0.29	0.24	1.07	1.07
Avail Cap(c_a), veh/h	383	0	1360	325	0	276	977	1114	1170	241	544	536
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	41.6	0.0	21.1	49.2	0.0	50.0	38.1	9.0	9.0	34.5	36.8	36.8
Incr Delay (d2), s/veh	67.9	0.0	2.2	2.1	0.0	11.2	151.4	0.7	0.6	2.3	57.2	58.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.1	0.0	10.0	0.7	0.0	1.4	33.0	3.4	3.6	1.4	22.4	22.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	109.4	0.0	23.4	51.3	0.0	61.2	189.5	9.7	9.7	36.8	94.0	95.1
LnGrp LOS	F	A	C	D	A	E	F	A	A	D	F	F
Approach Vol, veh/h		1423			72			1951			1209	
Approach Delay, s/veh		48.3			57.8			128.6			91.8	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	2		4	5	6		8
Phs Duration (G+Y+Rc), s	70.5		27.0	34.0	36.5		8.6
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	66.5		23.0	30.0	32.5		18.5
Max Q Clear Time (g_c+I1), s	10.8		25.0	32.0	34.5		5.1
Green Ext Time (p_c), s	2.6		0.0	0.0	0.0		0.1

Intersection Summary		
HCM 6th Ctrl Delay		93.4
HCM 6th LOS		F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	348	146	767	96	89	989
Future Volume (veh/h)	348	146	767	96	89	989
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	378	0	834	0	97	1075
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	438		1035		314	1215
Arrive On Green	0.24	0.00	0.55	0.00	0.06	0.66
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	378	0	834	0	97	1075
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	16.0	0.0	28.4	0.0	1.7	37.7
Cycle Q Clear(g_c), s	16.0	0.0	28.4	0.0	1.7	37.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	438		1035		314	1215
V/C Ratio(X)	0.86		0.81		0.31	0.88
Avail Cap(c_a), veh/h	1357		1035		340	1215
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	0.0	14.5	0.0	12.6	11.2
Incr Delay (d2), s/veh	5.1	0.0	6.7	0.0	0.6	9.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.9	0.0	11.8	0.0	0.6	14.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.9	0.0	21.2	0.0	13.1	20.8
LnGrp LOS	C		C		B	C
Approach Vol, veh/h	378		834			1172
Approach Delay, s/veh	33.9		21.2			20.2
Approach LOS	C		C			C

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.4	47.6		23.4		56.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	5.6	42.4		60.0		52.0
Max Q Clear Time (g_c+I1), s	3.7	30.4		18.0		39.7
Green Ext Time (p_c), s	0.0	3.0		1.4		4.5

Intersection Summary	
HCM 6th Ctrl Delay	22.7
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	5.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	151	173	300	176	108	89
Future Vol, veh/h	151	173	300	176	108	89
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	164	188	326	191	117	97

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	326	0	-	0	842	-
Stage 1	-	-	-	-	326	-
Stage 2	-	-	-	-	516	-
Critical Hdwy	4.11	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	-
Pot Cap-1 Maneuver	1239	-	-	0	336	0
Stage 1	-	-	-	0	734	0
Stage 2	-	-	-	0	601	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1239	-	-	-	286	-
Mov Cap-2 Maneuver	-	-	-	-	286	-
Stage 1	-	-	-	-	625	-
Stage 2	-	-	-	-	601	-

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	26.1
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1239	-	-	286
HCM Lane V/C Ratio	0.132	-	-	0.41
HCM Control Delay (s)	8.3	0	-	26.1
HCM Lane LOS	A	A	-	D
HCM 95th %tile Q(veh)	0.5	-	-	1.9

Intersection	
Int Delay, s/veh	14

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	119	89	123	239	165	226
Future Vol, veh/h	119	89	123	239	165	226
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	129	97	134	260	179	246

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	226	0	706	178
Stage 1	-	-	-	-	178	-
Stage 2	-	-	-	-	528	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1348	-	404	868
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	594	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1348	-	357	868
Mov Cap-2 Maneuver	-	-	-	-	357	-
Stage 1	-	-	-	-	855	-
Stage 2	-	-	-	-	525	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.7	31.8
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	541	-	-	1348	-
HCM Lane V/C Ratio	0.786	-	-	0.099	-
HCM Control Delay (s)	31.8	-	-	8	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	7.3	-	-	0.3	-

Intersection	
Int Delay, s/veh	397.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	203	522	983	156	124	177
Future Vol, veh/h	203	522	983	156	124	177
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	221	567	1068	170	135	192

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	1238	0	-	0	2162	1153
Stage 1	-	-	-	-	1153	-
Stage 2	-	-	-	-	1009	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	563	-	-	-	~ 52	241
Stage 1	-	-	-	-	302	-
Stage 2	-	-	-	-	354	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	563	-	-	-	~ 22	241
Mov Cap-2 Maneuver	-	-	-	-	~ 22	-
Stage 1	-	-	-	-	~ 129	-
Stage 2	-	-	-	-	354	-

Approach	EB	WB	SB
HCM Control Delay, s	4.3	0	$ 2850.8
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	563	-	-	-	47
HCM Lane V/C Ratio	0.392	-	-	-	6.961
HCM Control Delay (s)	15.5	0	-	-	$ 2850.8
HCM Lane LOS	C	A	-	-	F
HCM 95th %tile Q(veh)	1.9	-	-	-	38.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	76.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	566	75	17	985	0	138	0	15	5	0	16
Future Vol, veh/h	5	566	75	17	985	0	138	0	15	5	0	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	3	3	3
Mvmt Flow	5	615	82	18	1071	0	150	0	16	5	0	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1071	0	0	697	0	0	1782	1773	656	1781	1814	1071
Stage 1	-	-	-	-	-	-	666	666	-	1107	1107	-
Stage 2	-	-	-	-	-	-	1116	1107	-	674	707	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.527	4.027	3.327
Pot Cap-1 Maneuver	655	-	-	904	-	-	~ 64	83	467	63	78	267
Stage 1	-	-	-	-	-	-	450	459	-	254	285	-
Stage 2	-	-	-	-	-	-	253	287	-	443	437	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	655	-	-	904	-	-	~ 57	78	467	58	73	267
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 57	78	-	58	73	-
Stage 1	-	-	-	-	-	-	444	453	-	251	271	-
Stage 2	-	-	-	-	-	-	225	273	-	422	431	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	$ 903.5	34.7
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	62	655	-	-	904	-	-	144
HCM Lane V/C Ratio	2.682	0.008	-	-	0.02	-	-	0.159
HCM Control Delay (s)	$ 903.5	10.5	0	-	9.1	0	-	34.7
HCM Lane LOS	F	B	A	-	A	A	-	D
HCM 95th %tile Q(veh)	16.8	0	-	-	0.1	-	-	0.5

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	3.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	13	140	191	66	118	16
Future Vol, veh/h	13	140	191	66	118	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	14	152	208	72	128	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	280	0	-	0	424	244
Stage 1	-	-	-	-	244	-
Stage 2	-	-	-	-	180	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1288	-	-	-	589	797
Stage 1	-	-	-	-	799	-
Stage 2	-	-	-	-	853	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1288	-	-	-	582	797
Mov Cap-2 Maneuver	-	-	-	-	582	-
Stage 1	-	-	-	-	789	-
Stage 2	-	-	-	-	853	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	12.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1288	-	-	-	601
HCM Lane V/C Ratio	0.011	-	-	-	0.242
HCM Control Delay (s)	7.8	0	-	-	12.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection	
Int Delay, s/veh	0.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	131	1	10	197	1	22
Future Vol, veh/h	131	1	10	197	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	142	1	11	214	1	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	143	0	379	143
Stage 1	-	-	-	-	143	-
Stage 2	-	-	-	-	236	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1446	-	625	907
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	806	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1446	-	619	907
Mov Cap-2 Maneuver	-	-	-	-	619	-
Stage 1	-	-	-	-	887	-
Stage 2	-	-	-	-	799	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	9.2
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	889	-	-	1446	-
HCM Lane V/C Ratio	0.028	-	-	0.008	-
HCM Control Delay (s)	9.2	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	316.4

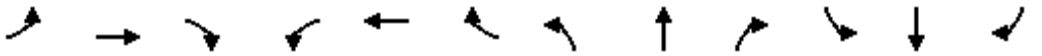
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	8	1038	19	107	1962	17	36	2	193	25	3	14
Future Vol, veh/h	8	1038	19	107	1962	17	36	2	193	25	3	14
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	9	1128	21	116	2133	18	39	2	210	27	3	15

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	2151	0	0	1149	0	0	2457	3540	575	2957	3541	1076
Stage 1	-	-	-	-	-	-	1157	1157	-	2374	2374	-
Stage 2	-	-	-	-	-	-	1300	2383	-	583	1167	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	243	-	-	598	-	-	~ 16	6	464	~ 7	6	217
Stage 1	-	-	-	-	-	-	210	271	-	36	67	-
Stage 2	-	-	-	-	-	-	172	66	-	468	268	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	243	-	-	598	-	-	~ 6	5	464	~ 2	5	217
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 6	5	-	~ 2	5	-
Stage 1	-	-	-	-	-	-	202	261	-	35	54	-
Stage 2	-	-	-	-	-	-	121	53	-	245	258	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.2	0.6	$ 3101.7	$ 8699.3
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	34	243	-	-	598	-	-	3
HCM Lane V/C Ratio	7.385	0.036	-	-	0.194	-	-	15.217
HCM Control Delay (s)	$ 3101.7	20.4	-	-	12.5	-	-	$ 8699.3
HCM Lane LOS	F	C	-	-	B	-	-	F
HCM 95th %tile Q(veh)	30.2	0.1	-	-	0.7	-	-	7.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

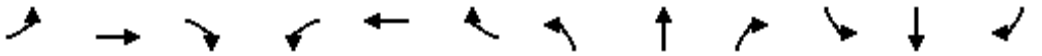


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	329	495	0	0	865	295	86	0	230	0	0	0
Future Volume (veh/h)	329	495	0	0	865	295	86	0	230	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1826	1826	1826			
Adj Flow Rate, veh/h	358	538	0	0	940	321	93	0	250			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	5	5	5			
Cap, veh/h	396	2476	0	0	1403	477	99	0	265			
Arrive On Green	0.24	1.00	0.00	0.00	0.54	0.54	0.23	0.00	0.23			
Sat Flow, veh/h	1781	3647	0	0	2697	885	432	0	1163			
Grp Volume(v), veh/h	358	538	0	0	640	621	343	0	0			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1711	1595	0	0			
Q Serve(g_s), s	11.3	0.0	0.0	0.0	31.2	31.5	25.4	0.0	0.0			
Cycle Q Clear(g_c), s	11.3	0.0	0.0	0.0	31.2	31.5	25.4	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.52	0.27		0.73			
Lane Grp Cap(c), veh/h	396	2476	0	0	957	922	364	0	0			
V/C Ratio(X)	0.90	0.22	0.00	0.00	0.67	0.67	0.94	0.00	0.00			
Avail Cap(c_a), veh/h	590	2476	0	0	957	922	366	0	0			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.93	0.93	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	17.4	0.0	0.0	0.0	19.9	20.0	45.5	0.0	0.0			
Incr Delay (d2), s/veh	12.0	0.2	0.0	0.0	3.7	3.9	32.4	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	6.2	0.1	0.0	0.0	13.5	13.2	13.3	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.4	0.2	0.0	0.0	23.6	23.9	77.9	0.0	0.0			
LnGrp LOS	C	A	A	A	C	C	E	A	A			
Approach Vol, veh/h		896			1261			343				
Approach Delay, s/veh		11.8			23.8			77.9				
Approach LOS		B			C			E				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		88.1			18.9	69.2		31.9				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		83.5			27.5	51.5		27.5				
Max Q Clear Time (g_c+I1), s		2.0			13.3	33.5		27.4				
Green Ext Time (p_c), s		2.5			1.2	5.5		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			26.9									
HCM 6th LOS			C									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	682	55	255	696	0	0	0	0	142	0	143
Future Volume (veh/h)	0	682	55	255	696	0	0	0	0	142	0	143
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1841	1841	1841
Adj Flow Rate, veh/h	0	741	60	277	757	0				154	0	155
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				4	4	4
Cap, veh/h	0	2009	163	530	2551	0				170	0	171
Arrive On Green	0.00	0.60	0.60	0.03	0.24	0.00				0.21	0.00	0.21
Sat Flow, veh/h	0	3423	269	1781	3647	0				823	0	828
Grp Volume(v), veh/h	0	395	406	277	757	0				309	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1822	1781	1777	0				1651	0	0
Q Serve(g_s), s	0.0	13.6	13.6	6.3	21.0	0.0				21.9	0.0	0.0
Cycle Q Clear(g_c), s	0.0	13.6	13.6	6.3	21.0	0.0				21.9	0.0	0.0
Prop In Lane	0.00		0.15	1.00		0.00				0.50		0.50
Lane Grp Cap(c), veh/h	0	1072	1100	530	2551	0				342	0	0
V/C Ratio(X)	0.00	0.37	0.37	0.52	0.30	0.00				0.90	0.00	0.00
Avail Cap(c_a), veh/h	0	1072	1100	786	2551	0				488	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.62	0.62	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	12.1	12.1	8.7	20.9	0.0				46.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	1.0	1.0	0.5	0.2	0.0				15.5	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	5.5	5.7	2.6	10.0	0.0				10.4	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	13.1	13.1	9.2	21.1	0.0				61.9	0.0	0.0
LnGrp LOS	A	B	B	A	C	A				E	A	A
Approach Vol, veh/h		801			1034						309	
Approach Delay, s/veh		13.1			17.9						61.9	
Approach LOS		B			B						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	13.7	76.9		29.4		90.6
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	26.5	44.5		35.5		75.5
Max Q Clear Time (g_c+I1), s	8.3	15.6		23.9		23.0
Green Ext Time (p_c), s	0.9	3.2		0.9		3.7

Intersection Summary	
HCM 6th Ctrl Delay	22.5
HCM 6th LOS	C



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	664	0	482	0	0	0	0	1138	383	231	450	0
Future Volume (veh/h)	664	0	482	0	0	0	0	1138	383	231	450	0
Initial Q (Qb), veh	0	0	0				0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00				1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00				1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No						No			No	
Adj Sat Flow, veh/h/ln	1856	0	1856				0	1856	1856	1885	1885	0
Adj Flow Rate, veh/h	722	0	524				0	1237	416	251	489	0
Peak Hour Factor	0.92	0.92	0.92				0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	3	0	3				0	3	3	1	1	0
Cap, veh/h	672	0	598				0	1131	370	234	2030	0
Arrive On Green	0.38	0.00	0.38				0.00	0.43	0.43	0.21	1.00	0.00
Sat Flow, veh/h	1767	0	1572				0	2703	854	1795	3676	0
Grp Volume(v), veh/h	722	0	524				0	824	829	251	489	0
Grp Sat Flow(s),veh/h/ln	1767	0	1572				0	1763	1702	1795	1791	0
Q Serve(g_s), s	57.0	0.0	46.5				0.0	65.0	65.0	15.5	0.0	0.0
Cycle Q Clear(g_c), s	57.0	0.0	46.5				0.0	65.0	65.0	15.5	0.0	0.0
Prop In Lane	1.00		1.00				0.00		0.50	1.00		0.00
Lane Grp Cap(c), veh/h	672	0	598				0	764	737	234	2030	0
V/C Ratio(X)	1.08	0.00	0.88				0.00	1.08	1.12	1.07	0.24	0.00
Avail Cap(c_a), veh/h	672	0	598				0	764	737	234	2030	0
HCM Platoon Ratio	1.00	1.00	1.00				1.00	1.00	1.00	2.00	2.00	1.00
Upstream Filter(I)	1.00	0.00	1.00				0.00	1.00	1.00	0.33	0.33	0.00
Uniform Delay (d), s/veh	46.5	0.0	43.2				0.0	42.5	42.5	44.0	0.0	0.0
Incr Delay (d2), s/veh	56.7	0.0	13.9				0.0	55.9	72.8	55.7	0.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0				0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	34.2	0.0	19.4				0.0	38.3	40.4	7.0	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	103.2	0.0	57.1				0.0	98.4	115.3	99.8	0.1	0.0
LnGrp LOS	F	A	E				A	F	F	F	A	A
Approach Vol, veh/h		1246						1653			740	
Approach Delay, s/veh		83.8						106.9			33.9	
Approach LOS		F						F			C	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	20.0	69.0		61.0		89.0
Change Period (Y+Rc), s	4.5	4.0		4.0		4.0
Max Green Setting (Gmax), s	15.5	65.0		57.0		85.0
Max Q Clear Time (g_c+I1), s	17.5	67.0		59.0		2.0
Green Ext Time (p_c), s	0.0	0.0		0.0		1.9

Intersection Summary	
HCM 6th Ctrl Delay	84.1
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	0	180	0	160	794	1008	0	0	501	458
Future Volume (veh/h)	0	0	0	180	0	160	794	1008	0	0	501	458
Initial Q (Qb), veh				0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)				1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj				1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach					No			No			No	
Adj Sat Flow, veh/h/ln				1870	0	1870	1856	1856	0	0	1885	1885
Adj Flow Rate, veh/h				196	0	0	863	1096	0	0	545	0
Peak Hour Factor				0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %				2	0	2	3	3	0	0	1	1
Cap, veh/h				218	0		1054	2894	0	0	1160	
Arrive On Green				0.12	0.00	0.00	0.94	1.00	0.00	0.00	0.32	0.00
Sat Flow, veh/h				1781	0	1585	1767	3618	0	0	3770	0
Grp Volume(v), veh/h				196	0	0	863	1096	0	0	545	0
Grp Sat Flow(s),veh/h/ln				1781	0	1585	1767	1763	0	0	1791	0
Q Serve(g_s), s				16.3	0.0	0.0	67.5	0.0	0.0	0.0	18.2	0.0
Cycle Q Clear(g_c), s				16.3	0.0	0.0	67.5	0.0	0.0	0.0	18.2	0.0
Prop In Lane				1.00		1.00	1.00		0.00	0.00		0.00
Lane Grp Cap(c), veh/h				218	0		1054	2894	0	0	1160	
V/C Ratio(X)				0.90	0.00		0.82	0.38	0.00	0.00	0.47	
Avail Cap(c_a), veh/h				232	0		1071	2894	0	0	1160	
HCM Platoon Ratio				1.00	1.00	1.00	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)				1.00	0.00	0.00	0.09	0.09	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh				64.9	0.0	0.0	1.2	0.0	0.0	0.0	40.4	0.0
Incr Delay (d2), s/veh				32.6	0.0	0.0	0.5	0.0	0.0	0.0	1.4	0.0
Initial Q Delay(d3),s/veh				0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln				9.4	0.0	0.0	0.5	0.0	0.0	0.0	8.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh				97.5	0.0	0.0	1.7	0.0	0.0	0.0	41.8	0.0
LnGrp LOS				F	A		A	A	A	A	D	
Approach Vol, veh/h					196	A		1959			545	A
Approach Delay, s/veh					97.5			0.8			41.8	
Approach LOS					F			A			D	

Timer - Assigned Phs	2		5	6		8
Phs Duration (G+Y+Rc), s	127.1		74.6	52.6		22.9
Change Period (Y+Rc), s	4.0		4.0	4.0		4.5
Max Green Setting (Gmax), s	122.0		72.0	46.0		19.5
Max Q Clear Time (g_c+I1), s	2.0		69.5	20.2		18.3
Green Ext Time (p_c), s	5.2		1.0	2.1		0.1

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Notes

Unsignalized Delay for [WBR, SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	23.9

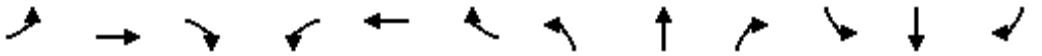
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	88	30	567	416	98	659
Future Vol, veh/h	88	30	567	416	98	659
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	96	33	616	452	107	716

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1772	842	0	0	1068	0
Stage 1	842	-	-	-	-	-
Stage 2	930	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	~ 92	366	-	-	653	-
Stage 1	424	-	-	-	-	-
Stage 2	386	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 67	366	-	-	653	-
Mov Cap-2 Maneuver	~ 67	-	-	-	-	-
Stage 1	424	-	-	-	-	-
Stage 2	281	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 366.5	0	1.5
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	85	653	-
HCM Lane V/C Ratio	-	-	1.509	0.163	-
HCM Control Delay (s)	-	-	$ 366.5	11.6	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	10.1	0.6	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	452	73	155	256	73	72	816	118	497	1379	488
Future Volume (veh/h)	262	452	73	155	256	73	72	816	118	497	1379	488
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	285	491	79	168	278	79	78	887	128	540	1499	530
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	306	439	71	168	295	84	130	833	120	510	1805	805
Arrive On Green	0.13	0.28	0.28	0.07	0.21	0.21	0.05	0.27	0.27	0.28	0.50	0.50
Sat Flow, veh/h	1795	1584	255	1795	1412	401	1795	3141	453	1795	3582	1598
Grp Volume(v), veh/h	285	0	570	168	0	357	78	506	509	540	1499	530
Grp Sat Flow(s),veh/h/ln	1795	0	1839	1795	0	1813	1795	1791	1804	1795	1791	1598
Q Serve(g_s), s	18.2	0.0	41.6	10.0	0.0	29.1	5.1	39.8	39.8	42.6	53.6	36.9
Cycle Q Clear(g_c), s	18.2	0.0	41.6	10.0	0.0	29.1	5.1	39.8	39.8	42.6	53.6	36.9
Prop In Lane	1.00		0.14	1.00		0.22	1.00		0.25	1.00		1.00
Lane Grp Cap(c), veh/h	306	0	510	168	0	379	130	475	479	510	1805	805
V/C Ratio(X)	0.93	0.00	1.12	1.00	0.00	0.94	0.60	1.06	1.06	1.06	0.83	0.66
Avail Cap(c_a), veh/h	310	0	510	168	0	379	131	475	479	510	1805	805
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	0.0	54.2	49.0	0.0	58.4	47.1	55.1	55.1	53.7	31.7	27.6
Incr Delay (d2), s/veh	33.5	0.0	76.1	70.0	0.0	31.6	7.4	59.4	59.3	56.4	4.6	4.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.9	0.0	30.0	4.8	0.0	16.7	2.6	25.8	25.9	27.2	24.1	15.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	74.0	0.0	130.3	119.0	0.0	90.1	54.5	114.5	114.4	110.1	36.4	31.8
LnGrp LOS	E	A	F	F	A	F	D	F	F	F	D	C
Approach Vol, veh/h		855			525			1093			2569	
Approach Delay, s/veh		111.6			99.3			110.2			50.9	
Approach LOS		F			F			F			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	46.6	43.8	14.0	45.6	10.8	79.6	24.2	35.4
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	42.6	39.8	10.0	41.6	6.9	75.5	20.6	31.0
Max Q Clear Time (g_c+I1), s	44.6	41.8	12.0	43.6	7.1	55.6	20.2	31.1
Green Ext Time (p_c), s	0.0	0.0	0.0	0.0	0.0	10.8	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	79.1
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	47	96	16	132	121	123	879	20	138	1696	61
Future Volume (veh/h)	36	47	96	16	132	121	123	879	20	138	1696	61
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	39	51	104	17	143	132	134	955	22	150	1843	66
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	131	350	297	38	165	144	192	2472	57	444	2416	86
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.04	0.69	0.69	0.04	0.68	0.68
Sat Flow, veh/h	1113	1885	1598	55	886	776	1795	3579	82	1795	3528	126
Grp Volume(v), veh/h	39	51	104	292	0	0	134	478	499	150	930	979
Grp Sat Flow(s),veh/h/ln	1113	1885	1598	1717	0	0	1795	1791	1870	1795	1791	1863
Q Serve(g_s), s	0.0	3.1	7.8	11.6	0.0	0.0	3.6	15.5	15.5	0.0	46.9	48.0
Cycle Q Clear(g_c), s	14.2	3.1	7.8	22.9	0.0	0.0	3.6	15.5	15.5	0.0	46.9	48.0
Prop In Lane	1.00		1.00	0.06		0.45	1.00		0.04	1.00		0.07
Lane Grp Cap(c), veh/h	131	350	297	347	0	0	192	1237	1292	444	1227	1276
V/C Ratio(X)	0.30	0.15	0.35	0.84	0.00	0.00	0.70	0.39	0.39	0.34	0.76	0.77
Avail Cap(c_a), veh/h	184	439	372	426	0	0	299	1237	1292	523	1227	1276
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	51.4	46.9	48.8	54.8	0.0	0.0	26.5	9.0	9.0	14.8	14.2	14.4
Incr Delay (d2), s/veh	1.2	0.2	0.7	12.0	0.0	0.0	4.5	0.9	0.9	0.4	4.4	4.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.3	1.5	3.2	11.1	0.0	0.0	3.1	6.1	6.4	2.6	19.2	20.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.6	47.0	49.5	66.9	0.0	0.0	31.0	9.9	9.8	15.3	18.6	18.8
LnGrp LOS	D	D	D	E	A	A	C	A	A	B	B	B
Approach Vol, veh/h		194			292			1111			2059	
Approach Delay, s/veh		49.5			66.9			12.4			18.5	
Approach LOS		D			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.0	99.0		29.5	9.8	98.2		29.5
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	5.0	95.0		32.0	14.0	92.0		32.0
Max Q Clear Time (g_c+I1), s	2.0	17.5		16.2	5.6	50.0		24.9
Green Ext Time (p_c), s	0.3	4.3		0.6	0.2	13.6		0.6

Intersection Summary	
HCM 6th Ctrl Delay	22.2
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	254	16	118	225	206	30	846	95	251	1635	45
Future Volume (veh/h)	36	254	16	118	225	206	30	846	95	251	1635	45
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	39	276	17	128	245	224	33	920	103	273	1777	49
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	38	266	16	439	222	203	48	1177	132	304	1780	49
Arrive On Green	0.17	0.17	0.17	0.25	0.25	0.25	0.37	0.37	0.37	0.11	0.50	0.50
Sat Flow, veh/h	216	1532	94	1781	900	823	255	3222	361	1795	3561	98
Grp Volume(v), veh/h	332	0	0	128	0	469	33	507	516	273	891	935
Grp Sat Flow(s),veh/h/ln	1843	0	0	1781	0	1722	255	1777	1805	1795	1791	1868
Q Serve(g_s), s	26.0	0.0	0.0	8.7	0.0	37.0	0.0	38.1	38.1	13.8	74.2	75.0
Cycle Q Clear(g_c), s	26.0	0.0	0.0	8.7	0.0	37.0	54.8	38.1	38.1	13.8	74.2	75.0
Prop In Lane	0.12		0.05	1.00		0.48	1.00		0.20	1.00		0.05
Lane Grp Cap(c), veh/h	319	0	0	439	0	425	48	649	660	304	895	934
V/C Ratio(X)	1.04	0.00	0.00	0.29	0.00	1.10	0.69	0.78	0.78	0.90	0.99	1.00
Avail Cap(c_a), veh/h	319	0	0	439	0	425	48	649	660	352	895	934
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.0	0.0	0.0	45.9	0.0	56.5	75.0	42.3	42.3	32.2	37.3	37.5
Incr Delay (d2), s/veh	61.0	0.0	0.0	0.4	0.0	74.9	58.3	9.1	9.0	22.7	28.8	29.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	17.6	0.0	0.0	4.0	0.0	24.9	2.1	18.4	18.7	7.9	39.0	41.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	123.0	0.0	0.0	46.2	0.0	131.4	133.3	51.4	51.2	54.8	66.1	67.4
LnGrp LOS	F	A	A	D	A	F	F	D	D	D	E	F
Approach Vol, veh/h		332			597			1056			2099	
Approach Delay, s/veh		123.0			113.1			53.9			65.2	
Approach LOS		F			F			D			E	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	20.2	58.8		30.0		79.0		41.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	20.2	50.8		26.0		75.0		37.0				
Max Q Clear Time (g_c+I1), s	15.8	56.8		28.0		77.0		39.0				
Green Ext Time (p_c), s	0.4	0.0		0.0		0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	74.0
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	171	81	1394	1	34	65	793	775	4	36	1342	302
Future Volume (veh/h)	171	81	1394	1	34	65	793	775	4	36	1342	302
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	186	88	1515	1	37	71	862	842	4	39	1459	328
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	2	2	2	2	2	2
Cap, veh/h	232	110	1072	3	107	94	692	2400	11	267	1255	275
Arrive On Green	0.19	0.19	0.19	0.06	0.06	0.06	0.20	0.66	0.66	0.43	0.43	0.43
Sat Flow, veh/h	1199	567	2723	49	1819	1585	3456	3627	17	651	2898	635
Grp Volume(v), veh/h	274	0	1515	38	0	71	862	412	434	39	879	908
Grp Sat Flow(s),veh/h/ln	1766	0	1362	1868	0	1585	1728	1777	1867	651	1777	1756
Q Serve(g_s), s	20.7	0.0	27.0	2.7	0.0	6.2	28.0	14.3	14.3	6.0	60.5	60.5
Cycle Q Clear(g_c), s	20.7	0.0	27.0	2.7	0.0	6.2	28.0	14.3	14.3	20.2	60.5	60.5
Prop In Lane	0.68		1.00	0.03		1.00	1.00		0.01	1.00		0.36
Lane Grp Cap(c), veh/h	341	0	1072	110	0	94	692	1176	1236	267	769	760
V/C Ratio(X)	0.80	0.00	1.41	0.34	0.00	0.76	1.25	0.35	0.35	0.15	1.14	1.19
Avail Cap(c_a), veh/h	341	0	1072	247	0	210	692	1176	1236	267	769	760
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.8	0.0	42.4	63.1	0.0	64.8	55.9	10.4	10.4	33.3	39.6	39.6
Incr Delay (d2), s/veh	13.0	0.0	191.7	1.8	0.0	11.7	122.2	0.8	0.8	1.2	79.5	100.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.0	36.2	1.4	0.0	2.8	23.9	5.8	6.0	1.0	42.9	46.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	66.8	0.0	234.1	65.0	0.0	76.5	178.1	11.2	11.2	34.5	119.1	139.7
LnGrp LOS	E	A	F	E	A	E	F	B	B	C	F	F
Approach Vol, veh/h		1789			109			1708			1826	
Approach Delay, s/veh		208.5			72.5			95.4			127.6	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	96.5	31.0	32.0	64.5	12.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	92.5	27.0	28.0	60.5	18.5
Max Q Clear Time (g_c+I1), s	16.3	29.0	30.0	62.5	8.2
Green Ext Time (p_c), s	3.5	0.0	0.0	0.0	0.2

Intersection Summary	
HCM 6th Ctrl Delay	143.0
HCM 6th LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	232	101	1415	143	134	883
Future Volume (veh/h)	232	101	1415	143	134	883
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	252	0	1538	0	146	960
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	312		1123		214	1329
Arrive On Green	0.17	0.00	0.60	0.00	0.07	0.72
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	252	0	1538	0	146	960
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	9.8	0.0	43.3	0.0	2.0	22.1
Cycle Q Clear(g_c), s	9.8	0.0	43.3	0.0	2.0	22.1
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	312		1123		214	1329
V/C Ratio(X)	0.81		1.37		0.68	0.72
Avail Cap(c_a), veh/h	1484		1123		235	1329
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	0.0	14.7	0.0	17.9	6.1
Incr Delay (d2), s/veh	5.0	0.0	171.8	0.0	6.9	3.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.3	0.0	67.0	0.0	1.8	6.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.8	0.0	186.5	0.0	24.8	9.5
LnGrp LOS	C		F		C	A
Approach Vol, veh/h	252	A	1538	A		1106
Approach Delay, s/veh	33.8		186.5			11.5
Approach LOS	C		F			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.7	47.3		16.6		56.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	5.6	42.4		60.0		52.0
Max Q Clear Time (g_c+I1), s	4.0	45.3		11.8		24.1
Green Ext Time (p_c), s	0.1	0.0		0.9		4.8

Intersection Summary	
HCM 6th Ctrl Delay	106.4
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	101	260	189	116	163	134
Future Vol, veh/h	101	260	189	116	163	134
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	110	283	205	126	177	146

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	205	0	-	0	708	-
Stage 1	-	-	-	-	205	-
Stage 2	-	-	-	-	503	-
Critical Hdwy	4.11	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	-
Pot Cap-1 Maneuver	1372	-	-	0	403	0
Stage 1	-	-	-	0	832	0
Stage 2	-	-	-	0	609	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1372	-	-	-	365	-
Mov Cap-2 Maneuver	-	-	-	-	365	-
Stage 1	-	-	-	-	753	-
Stage 2	-	-	-	-	609	-

Approach	EB	WB	SB
HCM Control Delay, s	2.2	0	23.8
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1372	-	-	365
HCM Lane V/C Ratio	0.08	-	-	0.485
HCM Control Delay (s)	7.9	0	-	23.8
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.3	-	-	2.6

Intersection	
Int Delay, s/veh	9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	170	135	185	144	108	151
Future Vol, veh/h	170	135	185	144	108	151
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	185	147	201	157	117	164

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	332	0	818	259
Stage 1	-	-	-	-	259	-
Stage 2	-	-	-	-	559	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1233	-	347	782
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	574	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1233	-	285	782
Mov Cap-2 Maneuver	-	-	-	-	285	-
Stage 1	-	-	-	-	787	-
Stage 2	-	-	-	-	471	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.8	25.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	453	-	-	1233	-
HCM Lane V/C Ratio	0.621	-	-	0.163	-
HCM Control Delay (s)	25.1	-	-	8.5	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	4.1	-	-	0.6	-

Intersection	
Int Delay, s/veh	238

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	163	743	356	103	187	268
Future Vol, veh/h	163	743	356	103	187	268
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	177	808	387	112	203	291

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	499	0	-	0	1605	443
Stage 1	-	-	-	-	443	-
Stage 2	-	-	-	-	1162	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1065	-	-	-	~ 116	617
Stage 1	-	-	-	-	649	-
Stage 2	-	-	-	-	299	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1065	-	-	-	~ 81	617
Mov Cap-2 Maneuver	-	-	-	-	~ 81	-
Stage 1	-	-	-	-	454	-
Stage 2	-	-	-	-	299	-

Approach	EB	WB	SB
HCM Control Delay, s	1.6	0	$ 948.9
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1065	-	-	-	166
HCM Lane V/C Ratio	0.166	-	-	-	2.979
HCM Control Delay (s)	9.1	0	-	-	$ 948.9
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.6	-	-	-	45.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	7	810	113	16	361	3	91	0	2	5	0	7
Future Vol, veh/h	7	810	113	16	361	3	91	0	2	5	0	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	3	3	3
Mvmt Flow	8	880	123	17	392	3	99	0	2	5	0	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	395	0	0	1003	0	0	1390	1387	942	1387	1447	394
Stage 1	-	-	-	-	-	-	958	958	-	428	428	-
Stage 2	-	-	-	-	-	-	432	429	-	959	1019	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.527	4.027	3.327
Pot Cap-1 Maneuver	1169	-	-	694	-	-	120	144	320	120	131	653
Stage 1	-	-	-	-	-	-	311	337	-	603	583	-
Stage 2	-	-	-	-	-	-	604	586	-	308	313	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1169	-	-	694	-	-	114	137	320	115	125	653
Mov Cap-2 Maneuver	-	-	-	-	-	-	114	137	-	115	125	-
Stage 1	-	-	-	-	-	-	306	332	-	593	565	-
Stage 2	-	-	-	-	-	-	578	568	-	301	308	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.4	121.2	22.3
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	116	1169	-	-	694	-	-	221
HCM Lane V/C Ratio	0.871	0.007	-	-	0.025	-	-	0.059
HCM Control Delay (s)	121.2	8.1	0	-	10.3	0	-	22.3
HCM Lane LOS	F	A	A	-	B	A	-	C
HCM 95th %tile Q(veh)	5.3	0	-	-	0.1	-	-	0.2

Intersection	
Int Delay, s/veh	2.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	20	212	128	97	79	10
Future Vol, veh/h	20	212	128	97	79	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	22	230	139	105	86	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	244	0	-	0	466	192
Stage 1	-	-	-	-	192	-
Stage 2	-	-	-	-	274	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1328	-	-	-	557	852
Stage 1	-	-	-	-	843	-
Stage 2	-	-	-	-	774	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1328	-	-	-	546	852
Mov Cap-2 Maneuver	-	-	-	-	546	-
Stage 1	-	-	-	-	827	-
Stage 2	-	-	-	-	774	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	12.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1328	-	-	-	569
HCM Lane V/C Ratio	0.016	-	-	-	0.17
HCM Control Delay (s)	7.8	0	-	-	12.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	0.7

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	216	1	14	124	1	16
Future Vol, veh/h	216	1	14	124	1	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	235	1	15	135	1	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	236	0	401	236
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	165	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1337	-	607	805
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	867	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1337	-	600	805
Mov Cap-2 Maneuver	-	-	-	-	600	-
Stage 1	-	-	-	-	806	-
Stage 2	-	-	-	-	857	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.8	9.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	789	-	-	1337	-
HCM Lane V/C Ratio	0.023	-	-	0.011	-
HCM Control Delay (s)	9.7	-	-	7.7	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	1.2

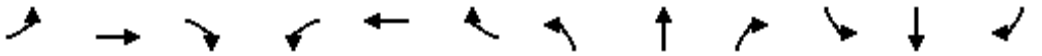
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	1558	30	159	1308	27	25	4	130	17	5	11
Future Vol, veh/h	16	1558	30	159	1308	27	25	4	130	17	5	11
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	17	1693	33	173	1422	29	27	4	141	18	5	12

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1451	0	0	1726	0	0	2804	3541	863	2666	3543	726
Stage 1	-	-	-	-	-	-	1744	1744	-	1783	1783	-
Stage 2	-	-	-	-	-	-	1060	1797	-	883	1760	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	458	-	-	358	-	-	~ 9	6	300	~ 11	6	369
Stage 1	-	-	-	-	-	-	91	140	-	86	134	-
Stage 2	-	-	-	-	-	-	241	132	-	309	138	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	458	-	-	358	-	-	-	~ 3	300	-	~ 3	369
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	~ 3	-	-	~ 3	-
Stage 1	-	-	-	-	-	-	88	135	-	83	69	-
Stage 2	-	-	-	-	-	-	111	68	-	152	133	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	2.6		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	-	458	-	-	358	-	-	-
HCM Lane V/C Ratio	-	0.038	-	-	0.483	-	-	-
HCM Control Delay (s)	-	13.2	-	-	24.1	-	-	-
HCM Lane LOS	-	B	-	-	C	-	-	-
HCM 95th %tile Q(veh)	-	0.1	-	-	2.5	-	-	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

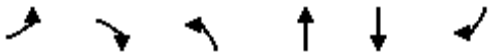


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	185	770	0	0	506	118	38	0	136	0	0	0
Future Volume (veh/h)	185	770	0	0	506	118	38	0	136	0	0	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0			
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Work Zone On Approach		No			No			No				
Adj Sat Flow, veh/h/ln	1870	1870	0	0	1870	1870	1826	1826	1826			
Adj Flow Rate, veh/h	201	837	0	0	550	128	41	0	148			
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92			
Percent Heavy Veh, %	2	2	0	0	2	2	5	5	5			
Cap, veh/h	524	2381	0	0	1647	382	93	0	335			
Arrive On Green	0.13	1.00	0.00	0.00	0.58	0.58	0.27	0.00	0.27			
Sat Flow, veh/h	1781	3647	0	0	2957	664	344	0	1241			
Grp Volume(v), veh/h	201	837	0	0	341	337	189	0	0			
Grp Sat Flow(s),veh/h/ln	1781	1777	0	0	1777	1751	1585	0	0			
Q Serve(g_s), s	7.1	0.0	0.0	0.0	15.1	15.2	14.8	0.0	0.0			
Cycle Q Clear(g_c), s	7.1	0.0	0.0	0.0	15.1	15.2	14.8	0.0	0.0			
Prop In Lane	1.00		0.00	0.00		0.38	0.22		0.78			
Lane Grp Cap(c), veh/h	524	2381	0	0	1022	1007	428	0	0			
V/C Ratio(X)	0.38	0.35	0.00	0.00	0.33	0.34	0.44	0.00	0.00			
Avail Cap(c_a), veh/h	783	2381	0	0	1022	1007	428	0	0			
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00			
Upstream Filter(I)	0.33	0.33	0.00	0.00	1.00	1.00	1.00	0.00	0.00			
Uniform Delay (d), s/veh	10.7	0.0	0.0	0.0	16.7	16.8	45.4	0.0	0.0			
Incr Delay (d2), s/veh	0.2	0.1	0.0	0.0	0.9	0.9	3.3	0.0	0.0			
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0			
%ile BackOfQ(50%),veh/ln	2.4	0.0	0.0	0.0	6.5	6.4	6.3	0.0	0.0			
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	10.9	0.1	0.0	0.0	17.6	17.7	48.7	0.0	0.0			
LnGrp LOS	B	A	A	A	B	B	D	A	A			
Approach Vol, veh/h		1038			678			189				
Approach Delay, s/veh		2.2			17.6			48.7				
Approach LOS		A			B			D				
Timer - Assigned Phs		2			5	6		8				
Phs Duration (G+Y+Rc), s		105.0			14.2	90.8		45.0				
Change Period (Y+Rc), s		4.5			4.5	4.5		4.5				
Max Green Setting (Gmax), s		100.5			31.5	64.5		40.5				
Max Q Clear Time (g_c+I1), s		2.0			9.1	17.2		16.8				
Green Ext Time (p_c), s		4.2			0.7	2.7		0.7				
Intersection Summary												
HCM 6th Ctrl Delay			12.3									
HCM 6th LOS			B									

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	724	91	235	309	0	0	0	0	231	0	532
Future Volume (veh/h)	0	724	91	235	309	0	0	0	0	231	0	532
Initial Q (Qb), veh	0	0	0	0	0	0				0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00				1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00				1.00	1.00	1.00
Work Zone On Approach		No			No						No	
Adj Sat Flow, veh/h/ln	0	1870	1870	1870	1870	0				1841	1841	1841
Adj Flow Rate, veh/h	0	787	99	255	336	0				251	0	578
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92				0.92	0.92	0.92
Percent Heavy Veh, %	0	2	2	2	2	0				4	4	4
Cap, veh/h	0	900	113	301	1575	0				243	0	559
Arrive On Green	0.00	0.28	0.28	0.04	0.15	0.00				0.50	0.00	0.50
Sat Flow, veh/h	0	3269	399	1781	3647	0				489	0	1125
Grp Volume(v), veh/h	0	440	446	255	336	0				829	0	0
Grp Sat Flow(s),veh/h/ln	0	1777	1798	1781	1777	0				1614	0	0
Q Serve(g_s), s	0.0	35.4	35.4	15.5	12.5	0.0				74.5	0.0	0.0
Cycle Q Clear(g_c), s	0.0	35.4	35.4	15.5	12.5	0.0				74.5	0.0	0.0
Prop In Lane	0.00		0.22	1.00		0.00				0.30		0.70
Lane Grp Cap(c), veh/h	0	503	510	301	1575	0				802	0	0
V/C Ratio(X)	0.00	0.87	0.87	0.85	0.21	0.00				1.03	0.00	0.00
Avail Cap(c_a), veh/h	0	503	510	301	1575	0				802	0	0
HCM Platoon Ratio	1.00	1.00	1.00	0.33	0.33	1.00				1.00	1.00	1.00
Upstream Filter(I)	0.00	1.00	1.00	0.95	0.95	0.00				1.00	0.00	0.00
Uniform Delay (d), s/veh	0.0	51.2	51.2	67.5	41.0	0.0				37.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	18.7	18.6	18.9	0.3	0.0				41.0	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0				0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	18.4	18.6	11.9	6.1	0.0				37.9	0.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	69.9	69.8	86.4	41.3	0.0				78.7	0.0	0.0
LnGrp LOS	A	E	E	F	D	A				F	A	A
Approach Vol, veh/h		886			591						829	
Approach Delay, s/veh		69.8			60.8						78.7	
Approach LOS		E			E						E	

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	24.0	47.0		79.0		71.0
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	19.5	42.5		74.5		66.5
Max Q Clear Time (g_c+I1), s	17.5	37.4		76.5		14.5
Green Ext Time (p_c), s	0.2	1.8		0.0		1.5

Intersection Summary	
HCM 6th Ctrl Delay	70.7
HCM 6th LOS	E



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	129	566	0	1168	439	0
Future Volume (vph)	129	566	0	1168	439	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.90	0.85		1.00	1.00	
Flt Protected	0.98	1.00		1.00	1.00	
Satd. Flow (prot)	1639	1490		3574	3574	
Flt Permitted	0.98	1.00		1.00	1.00	
Satd. Flow (perm)	1639	1490		3574	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	140	615	0	1270	477	0
RTOR Reduction (vph)	64	267	0	0	0	0
Lane Group Flow (vph)	322	102	0	1270	477	0
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	24.7	24.7		66.4	66.4	
Effective Green, g (s)	24.7	24.7		66.4	66.4	
Actuated g/C Ratio	0.25	0.25		0.67	0.67	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	408	371		2394	2394	
v/s Ratio Prot	c0.20			c0.36	0.13	
v/s Ratio Perm		0.07				
v/c Ratio	0.79	0.28		0.53	0.20	
Uniform Delay, d1	34.8	30.0		8.4	6.2	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	9.8	0.4		0.8	0.2	
Delay (s)	44.6	30.4		9.2	6.4	
Level of Service	D	C		A	A	
Approach Delay (s)	37.6			9.2	6.4	
Approach LOS	D			A	A	

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	99.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	644	653	439	464
Future Volume (veh/h)	0	0	644	653	439	464
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1856	1885	1885	1856
Adj Flow Rate, veh/h			700	710	477	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			3	1	1	3
Cap, veh/h			953	3462	3078	
Arrive On Green			0.07	0.97	0.86	0.00
Sat Flow, veh/h			1767	3676	3770	0
Grp Volume(v), veh/h			700	710	477	0
Grp Sat Flow(s),veh/h/ln			1767	1791	1791	0
Q Serve(g_s), s			3.9	1.0	2.6	0.0
Cycle Q Clear(g_c), s			3.9	1.0	2.6	0.0
Prop In Lane			1.00			0.00
Lane Grp Cap(c), veh/h			953	3462	3078	
V/C Ratio(X)			0.73	0.21	0.15	
Avail Cap(c_a), veh/h			1765	3462	3078	
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh			0.6	0.1	1.4	0.0
Incr Delay (d2), s/veh			1.1	0.1	0.1	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.3	0.1	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			1.7	0.2	1.5	0.0
LnGrp LOS			A	A	A	
Approach Vol, veh/h				1410	477	
Approach Delay, s/veh				1.0	1.5	
Approach LOS				A	A	

Timer - Assigned Phs	2			5	6
Phs Duration (G+Y+Rc), s	120.0			12.9	107.1
Change Period (Y+Rc), s	4.0			4.0	4.0
Max Green Setting (Gmax), s	116.0			64.0	48.0
Max Q Clear Time (g_c+I1), s	3.0			5.9	4.6
Green Ext Time (p_c), s	3.0			2.9	1.9

Intersection Summary	
HCM 6th Ctrl Delay	1.1
HCM 6th LOS	A

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

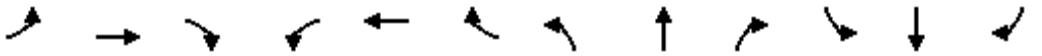
Intersection	
Int Delay, s/veh	7.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	112	150	398	73	27	399
Future Vol, veh/h	112	150	398	73	27	399
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	122	163	433	79	29	434

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	965	473	0	0	512	0
Stage 1	473	-	-	-	-	-
Stage 2	492	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	284	593	-	-	1053	-
Stage 1	629	-	-	-	-	-
Stage 2	617	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	274	593	-	-	1053	-
Mov Cap-2 Maneuver	274	-	-	-	-	-
Stage 1	629	-	-	-	-	-
Stage 2	595	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	34.2	0	0.5
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	396	1053	-
HCM Lane V/C Ratio	-	-	0.719	0.028	-
HCM Control Delay (s)	-	-	34.2	8.5	0
HCM Lane LOS	-	-	D	A	A
HCM 95th %tile Q(veh)	-	-	5.5	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	269	281	15	64	191	74	36	780	47	61	1051	185
Future Volume (veh/h)	269	281	15	64	191	74	36	780	47	61	1051	185
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	292	305	16	70	208	80	39	848	51	66	1142	201
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	367	512	27	298	235	90	179	1511	91	134	1728	771
Arrive On Green	0.15	0.29	0.29	0.04	0.18	0.18	0.03	0.44	0.44	0.07	0.48	0.48
Sat Flow, veh/h	1795	1775	93	1795	1297	499	1795	3433	206	1795	3582	1598
Grp Volume(v), veh/h	292	0	321	70	0	288	39	442	457	66	1142	201
Grp Sat Flow(s),veh/h/ln	1795	0	1868	1795	0	1795	1795	1791	1848	1795	1791	1598
Q Serve(g_s), s	13.2	0.0	15.4	3.3	0.0	16.3	1.3	19.2	19.2	3.7	25.3	7.8
Cycle Q Clear(g_c), s	13.2	0.0	15.4	3.3	0.0	16.3	1.3	19.2	19.2	3.7	25.3	7.8
Prop In Lane	1.00		0.05	1.00		0.28	1.00		0.11	1.00		1.00
Lane Grp Cap(c), veh/h	367	0	538	298	0	326	179	788	813	134	1728	771
V/C Ratio(X)	0.80	0.00	0.60	0.24	0.00	0.88	0.22	0.56	0.56	0.49	0.66	0.26
Avail Cap(c_a), veh/h	474	0	758	315	0	447	217	788	813	172	1728	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.2	0.0	32.0	32.7	0.0	41.7	21.8	21.7	21.7	46.5	20.6	16.0
Incr Delay (d2), s/veh	7.0	0.0	1.1	0.4	0.0	14.7	0.6	2.9	2.8	2.8	2.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	0.0	7.0	1.4	0.0	8.3	0.6	8.5	8.7	1.7	10.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.3	0.0	33.0	33.1	0.0	56.4	22.5	24.6	24.5	49.3	22.6	16.8
LnGrp LOS	D	A	C	C	A	E	C	C	C	D	C	B
Approach Vol, veh/h		613			358			938			1409	
Approach Delay, s/veh		34.1			51.8			24.5			23.0	
Approach LOS		C			D			C			C	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.8	50.0	8.6	34.1	7.4	54.4	19.8	22.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	10.0	46.0	5.6	42.4	5.6	50.4	22.0	26.0
Max Q Clear Time (g_c+I1), s	5.7	21.2	5.3	17.4	3.3	27.3	15.2	18.3
Green Ext Time (p_c), s	0.0	3.6	0.0	1.1	0.0	6.8	0.6	0.6

Intersection Summary	
HCM 6th Ctrl Delay	28.6
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	23	45	3	87	20	44	822	2	20	693	23
Future Volume (veh/h)	11	23	45	3	87	20	44	822	2	20	693	23
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	12	25	49	3	95	22	48	893	2	22	753	25
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	184	168	142	42	131	30	571	2778	6	530	2627	87
Arrive On Green	0.09	0.09	0.09	0.09	0.09	0.09	0.04	0.76	0.76	0.02	0.74	0.74
Sat Flow, veh/h	1285	1885	1598	18	1466	333	1795	3666	8	1795	3538	117
Grp Volume(v), veh/h	12	25	49	120	0	0	48	436	459	22	381	397
Grp Sat Flow(s),veh/h/ln	1285	1885	1598	1818	0	0	1795	1791	1884	1795	1791	1864
Q Serve(g_s), s	0.0	1.1	2.7	1.0	0.0	0.0	0.7	7.2	7.2	0.0	6.4	6.4
Cycle Q Clear(g_c), s	0.9	1.1	2.7	5.9	0.0	0.0	0.7	7.2	7.2	0.0	6.4	6.4
Prop In Lane	1.00		1.00	0.02		0.18	1.00		0.00	1.00		0.06
Lane Grp Cap(c), veh/h	184	168	142	202	0	0	571	1357	1427	530	1330	1384
V/C Ratio(X)	0.07	0.15	0.34	0.59	0.00	0.00	0.08	0.32	0.32	0.04	0.29	0.29
Avail Cap(c_a), veh/h	473	592	501	608	0	0	716	1357	1427	663	1330	1384
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	38.7	38.8	39.5	41.0	0.0	0.0	3.7	3.6	3.6	5.0	3.9	3.9
Incr Delay (d2), s/veh	0.1	0.4	1.4	2.8	0.0	0.0	0.1	0.6	0.6	0.0	0.5	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.5	1.1	2.8	0.0	0.0	0.2	2.2	2.3	0.1	2.0	2.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.9	39.2	41.0	43.8	0.0	0.0	3.8	4.2	4.2	5.0	4.4	4.4
LnGrp LOS	D	D	D	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		86			120			943			800	
Approach Delay, s/veh		40.2			43.8			4.2			4.4	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	6.2	74.0		12.2	7.5	72.6		12.2
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	9.6	70.0		29.0	11.0	68.0		29.0
Max Q Clear Time (g_c+I1), s	2.0	9.2		4.7	2.7	8.4		7.9
Green Ext Time (p_c), s	0.0	3.8		0.3	0.1	3.2		0.3

Intersection Summary	
HCM 6th Ctrl Delay	8.3
HCM 6th LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	110	6	125	108	41	29	822	102	113	620	8
Future Volume (veh/h)	5	110	6	125	108	41	29	822	102	113	620	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	5	120	7	136	117	45	32	893	111	123	674	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	6	152	9	206	148	57	517	1869	232	399	2444	33
Arrive On Green	0.09	0.09	0.09	0.12	0.12	0.12	0.59	0.59	0.59	0.05	0.68	0.68
Sat Flow, veh/h	70	1681	98	1781	1286	495	758	3181	395	1795	3619	48
Grp Volume(v), veh/h	132	0	0	136	0	162	32	499	505	123	333	350
Grp Sat Flow(s),veh/h/ln	1849	0	0	1781	0	1781	758	1777	1799	1795	1791	1876
Q Serve(g_s), s	7.0	0.0	0.0	7.4	0.0	8.9	1.8	16.2	16.2	2.6	7.5	7.5
Cycle Q Clear(g_c), s	7.0	0.0	0.0	7.4	0.0	8.9	1.8	16.2	16.2	2.6	7.5	7.5
Prop In Lane	0.04		0.05	1.00		0.28	1.00		0.22	1.00		0.03
Lane Grp Cap(c), veh/h	167	0	0	206	0	206	517	1044	1057	399	1209	1267
V/C Ratio(X)	0.79	0.00	0.00	0.66	0.00	0.79	0.06	0.48	0.48	0.31	0.28	0.28
Avail Cap(c_a), veh/h	367	0	0	354	0	354	517	1044	1057	545	1209	1267
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	0.0	42.7	0.0	43.3	8.9	11.9	11.9	8.5	6.5	6.5
Incr Delay (d2), s/veh	8.2	0.0	0.0	3.6	0.0	6.6	0.2	1.6	1.5	0.4	0.6	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	3.4	0.0	4.3	0.3	6.5	6.5	0.9	2.7	2.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	53.0	0.0	0.0	46.3	0.0	49.9	9.2	13.5	13.5	9.0	7.1	7.1
LnGrp LOS	D	A	A	D	A	D	A	B	B	A	A	A
Approach Vol, veh/h		132			298			1036			806	
Approach Delay, s/veh		53.0			48.3			13.3			7.4	
Approach LOS		D			D			B			A	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	8.8	63.2		13.1		72.0		15.6				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	13.0	51.0		20.0		68.0		20.0				
Max Q Clear Time (g_c+I1), s	4.6	18.2		9.0		9.5		10.9				
Green Ext Time (p_c), s	0.2	4.7		0.3		2.7		0.7				

Intersection Summary		
HCM 6th Ctrl Delay		18.1
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	139	117	956	1	52	28	696	807	3	24	575	141
Future Volume (veh/h)	139	117	956	1	52	28	696	807	3	24	575	141
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	151	127	1039	1	57	30	757	877	3	26	625	153
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	3	3	3	2	2	2
Cap, veh/h	193	162	1363	2	87	75	1031	2293	8	183	840	205
Arrive On Green	0.20	0.20	0.20	0.05	0.05	0.05	0.30	0.64	0.64	0.30	0.30	0.30
Sat Flow, veh/h	966	812	2723	32	1837	1585	3428	3604	12	631	2831	692
Grp Volume(v), veh/h	278	0	1039	58	0	30	757	429	451	26	392	386
Grp Sat Flow(s),veh/h/ln	1778	0	1362	1869	0	1585	1714	1763	1853	631	1777	1746
Q Serve(g_s), s	15.3	0.0	0.8	3.1	0.0	1.9	20.4	12.1	12.1	3.6	20.5	20.6
Cycle Q Clear(g_c), s	15.3	0.0	0.8	3.1	0.0	1.9	20.4	12.1	12.1	15.7	20.5	20.6
Prop In Lane	0.54		1.00	0.02		1.00	1.00		0.01	1.00		0.40
Lane Grp Cap(c), veh/h	355	0	1363	89	0	75	1031	1122	1179	183	527	518
V/C Ratio(X)	0.78	0.00	0.76	0.65	0.00	0.40	0.73	0.38	0.38	0.14	0.74	0.75
Avail Cap(c_a), veh/h	412	0	1450	335	0	284	1031	1122	1179	183	527	518
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.1	0.0	20.8	48.3	0.0	47.7	32.4	9.0	9.0	36.2	32.7	32.7
Incr Delay (d2), s/veh	8.2	0.0	2.3	7.9	0.0	3.4	2.8	1.0	0.9	1.6	9.2	9.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.4	0.0	10.0	1.7	0.0	0.8	8.3	4.1	4.3	0.6	10.0	9.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	47.3	0.0	23.1	56.1	0.0	51.1	35.1	10.0	10.0	37.8	41.9	42.1
LnGrp LOS	D	A	C	E	A	D	D	B	A	D	D	D
Approach Vol, veh/h		1317			88			1637			804	
Approach Delay, s/veh		28.2			54.4			21.6			41.9	
Approach LOS		C			D			C			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		69.6		24.6	35.0	34.6		8.9				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		65.6		23.9	31.0	30.6		18.5				
Max Q Clear Time (g_c+I1), s		14.1		17.3	22.4	22.6		5.1				
Green Ext Time (p_c), s		3.2		3.3	2.2	2.2		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			28.9									
HCM 6th LOS			C									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	623	29	428	197	52	454
Future Volume (veh/h)	623	29	428	197	52	454
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	677	0	465	0	57	493
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	729		821		372	955
Arrive On Green	0.41	0.00	0.44	0.00	0.04	0.51
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	677	0	465	0	57	493
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	36.3	0.0	18.7	0.0	1.7	17.7
Cycle Q Clear(g_c), s	36.3	0.0	18.7	0.0	1.7	17.7
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	729		821		372	955
V/C Ratio(X)	0.93		0.57		0.15	0.52
Avail Cap(c_a), veh/h	1066		821		400	955
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	28.6	0.0	21.4	0.0	15.6	16.2
Incr Delay (d2), s/veh	10.3	0.0	2.8	0.0	0.2	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.3	0.0	8.4	0.0	0.7	7.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	38.9	0.0	24.2	0.0	15.8	18.2
LnGrp LOS	D		C		B	B
Approach Vol, veh/h	677		465			550
Approach Delay, s/veh	38.9		24.2			18.0
Approach LOS	D		C			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.0	48.0		45.1		56.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	5.6	42.4		60.0		52.0
Max Q Clear Time (g_c+I1), s	3.7	20.7		38.3		19.7
Green Ext Time (p_c), s	0.0	1.6		2.7		1.8

Intersection Summary	
HCM 6th Ctrl Delay	28.1
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	5.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	341	92	192	203	29	169
Future Vol, veh/h	341	92	192	203	29	169
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	371	100	209	221	32	184

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	209	0	-	0	1051	-
Stage 1	-	-	-	-	209	-
Stage 2	-	-	-	-	842	-
Critical Hdwy	4.11	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	-
Pot Cap-1 Maneuver	1368	-	-	0	252	0
Stage 1	-	-	-	0	828	0
Stage 2	-	-	-	0	424	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1368	-	-	-	180	-
Mov Cap-2 Maneuver	-	-	-	-	180	-
Stage 1	-	-	-	-	590	-
Stage 2	-	-	-	-	424	-

Approach	EB	WB	SB
HCM Control Delay, s	6.8	0	29.2
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1368	-	-	180
HCM Lane V/C Ratio	0.271	-	-	0.175
HCM Control Delay (s)	8.6	0	-	29.2
HCM Lane LOS	A	A	-	D
HCM 95th %tile Q(veh)	1.1	-	-	0.6

Intersection	
Int Delay, s/veh	7.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	131	35	138	238	48	297
Future Vol, veh/h	131	35	138	238	48	297
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	142	38	150	259	52	323

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	180	0	720	161
Stage 1	-	-	-	-	161	-
Stage 2	-	-	-	-	559	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1402	-	396	887
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	574	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1402	-	347	887
Mov Cap-2 Maneuver	-	-	-	-	347	-
Stage 1	-	-	-	-	870	-
Stage 2	-	-	-	-	502	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.9	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	729	-	-	1402	-
HCM Lane V/C Ratio	0.514	-	-	0.107	-
HCM Control Delay (s)	15.1	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	3	-	-	0.4	-

Intersection	
Int Delay, s/veh	13.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	112	202	459	281	153	67
Future Vol, veh/h	112	202	459	281	153	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	122	220	499	305	166	73

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	499	0	-	0	1116	652
Stage 1	-	-	-	-	652	-
Stage 2	-	-	-	-	464	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1065	-	-	-	231	470
Stage 1	-	-	-	-	520	-
Stage 2	-	-	-	-	635	-
Platoon blocked, %			-	-	-	
Mov Cap-1 Maneuver	1065	-	-	-	201	470
Mov Cap-2 Maneuver	-	-	-	-	201	-
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	635	-

Approach	EB	WB	SB
HCM Control Delay, s	3.1	0	73.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1065	-	-	-	266
HCM Lane V/C Ratio	0.114	-	-	-	0.899
HCM Control Delay (s)	8.8	0	-	-	73.2
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	7.9

Intersection	
Int Delay, s/veh	11.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	235	117	14	561	0	166	1	14	0	3	13
Future Vol, veh/h	3	235	117	14	561	0	166	1	14	0	3	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	3	3	3
Mvmt Flow	3	255	127	15	610	0	180	1	15	0	3	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	610	0	0	255	0	0	974	965	319	902	901	610
Stage 1	-	-	-	-	-	-	325	325	-	640	640	-
Stage 2	-	-	-	-	-	-	649	640	-	262	261	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.527	4.027	3.327
Pot Cap-1 Maneuver	974	-	-	1316	-	-	232	256	724	258	277	493
Stage 1	-	-	-	-	-	-	690	651	-	462	468	-
Stage 2	-	-	-	-	-	-	460	471	-	741	690	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	974	-	-	1316	-	-	220	251	724	248	271	493
Mov Cap-2 Maneuver	-	-	-	-	-	-	220	251	-	248	271	-
Stage 1	-	-	-	-	-	-	687	648	-	460	460	-
Stage 2	-	-	-	-	-	-	436	463	-	721	687	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	67.2	13.8
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	236	974	-	-	1316	-	-	427
HCM Lane V/C Ratio	0.834	0.003	-	-	0.012	-	-	0.041
HCM Control Delay (s)	67.2	8.7	0	-	7.8	0	-	13.8
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	6.5	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	131	90	104	127	3
Future Vol, veh/h	14	131	90	104	127	3
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	15	142	98	113	138	3

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	211	0	-	0	327	155
Stage 1	-	-	-	-	155	-
Stage 2	-	-	-	-	172	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1366	-	-	-	669	893
Stage 1	-	-	-	-	876	-
Stage 2	-	-	-	-	861	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1366	-	-	-	661	893
Mov Cap-2 Maneuver	-	-	-	-	661	-
Stage 1	-	-	-	-	865	-
Stage 2	-	-	-	-	861	-

Approach	EB	WB	SB
HCM Control Delay, s	0.7	0	11.9
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1366	-	-	-	665
HCM Lane V/C Ratio	0.011	-	-	-	0.212
HCM Control Delay (s)	7.7	0	-	-	11.9
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	122	0	1	92	1	23
Future Vol, veh/h	122	0	1	92	1	23
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	133	0	1	100	1	25

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	133	0	235	133
Stage 1	-	-	-	-	133	-
Stage 2	-	-	-	-	102	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1458	-	755	919
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	925	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1458	-	754	919
Mov Cap-2 Maneuver	-	-	-	-	754	-
Stage 1	-	-	-	-	896	-
Stage 2	-	-	-	-	924	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	9.1
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	911	-	-	1458	-
HCM Lane V/C Ratio	0.029	-	-	0.001	-
HCM Control Delay (s)	9.1	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	6.6

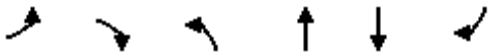
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	749	7	94	1227	30	7	2	287	10	0	5
Future Vol, veh/h	2	749	7	94	1227	30	7	2	287	10	0	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	2	814	8	102	1334	33	8	2	312	11	0	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1367	0	0	822	0	0	1693	2393	411	1967	2381	684
Stage 1	-	-	-	-	-	-	822	822	-	1555	1555	-
Stage 2	-	-	-	-	-	-	871	1571	-	412	826	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	493	-	-	797	-	-	61	34	593	38	34	393
Stage 1	-	-	-	-	-	-	336	389	-	119	174	-
Stage 2	-	-	-	-	-	-	314	171	-	591	387	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	493	-	-	797	-	-	54	30	593	15	30	393
Mov Cap-2 Maneuver	-	-	-	-	-	-	54	30	-	15	30	-
Stage 1	-	-	-	-	-	-	335	387	-	119	152	-
Stage 2	-	-	-	-	-	-	270	149	-	277	385	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.7	33.3	$ 351.1
HCM LOS			D	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	435	493	-	-	797	-	-	22
HCM Lane V/C Ratio	0.74	0.004	-	-	0.128	-	-	0.741
HCM Control Delay (s)	33.3	12.3	-	-	10.2	-	-	$ 351.1
HCM Lane LOS	D	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	6	0	-	-	0.4	-	-	2.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	345	767	0	1212	501	0
Future Volume (vph)	345	767	0	1212	501	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.94	0.85		1.00	1.00	
Flt Protected	0.97	1.00		1.00	1.00	
Satd. Flow (prot)	1683	1490		3574	3574	
Flt Permitted	0.97	1.00		1.00	1.00	
Satd. Flow (perm)	1683	1490		3574	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	375	834	0	1317	545	0
RTOR Reduction (vph)	18	144	0	0	0	0
Lane Group Flow (vph)	607	440	0	1317	545	0
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	53.1	53.1		71.1	71.1	
Effective Green, g (s)	53.1	53.1		71.1	71.1	
Actuated g/C Ratio	0.40	0.40		0.53	0.53	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	670	593		1907	1907	
v/s Ratio Prot	c0.36			c0.37	0.15	
v/s Ratio Perm		0.30				
v/c Ratio	0.91	0.74		0.69	0.29	
Uniform Delay, d1	37.7	34.2		22.9	17.1	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	15.8	5.0		2.1	0.4	
Delay (s)	53.5	39.2		25.0	17.5	
Level of Service	D	D		C	B	
Approach Delay (s)	46.6			25.0	17.5	
Approach LOS	D			C	B	

Intersection Summary			
HCM 2000 Control Delay	32.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	133.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	454	1103	501	335
Future Volume (veh/h)	0	0	454	1103	501	335
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1856	1885	1856	1885
Adj Flow Rate, veh/h			493	1199	545	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			3	1	3	1
Cap, veh/h			875	3474	3160	
Arrive On Green			0.04	0.97	0.90	0.00
Sat Flow, veh/h			1767	3676	3711	0
Grp Volume(v), veh/h			493	1199	545	0
Grp Sat Flow(s),veh/h/ln			1767	1791	1763	0
Q Serve(g_s), s			2.7	2.3	2.8	0.0
Cycle Q Clear(g_c), s			2.7	2.3	2.8	0.0
Prop In Lane			1.00			0.00
Lane Grp Cap(c), veh/h			875	3474	3160	
V/C Ratio(X)			0.56	0.35	0.17	
Avail Cap(c_a), veh/h			1605	3474	3160	
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh			0.4	0.1	1.0	0.0
Incr Delay (d2), s/veh			0.6	0.3	0.1	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.1	0.1	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			1.0	0.4	1.1	0.0
LnGrp LOS			A	A	A	
Approach Vol, veh/h				1692	545	
Approach Delay, s/veh				0.6	1.1	
Approach LOS				A	A	

Timer - Assigned Phs	2			5	6
Phs Duration (G+Y+Rc), s	150.0			11.0	139.0
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	145.5			68.5	72.5
Max Q Clear Time (g_c+I1), s	4.3			4.7	4.8
Green Ext Time (p_c), s	6.0			1.8	2.2

Intersection Summary	
HCM 6th Ctrl Delay	0.7
HCM 6th LOS	A

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

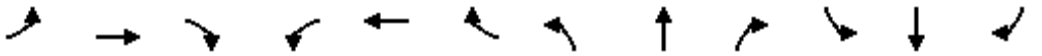
Intersection	
Int Delay, s/veh	7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	57	57	536	263	76	697
Future Vol, veh/h	57	57	536	263	76	697
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	62	62	583	286	83	758

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1650	726	0	0	869	0
Stage 1	726	-	-	-	-	-
Stage 2	924	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	109	426	-	-	775	-
Stage 1	481	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	89	426	-	-	775	-
Mov Cap-2 Maneuver	89	-	-	-	-	-
Stage 1	481	-	-	-	-	-
Stage 2	316	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	96.8	0	1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	147	775	-
HCM Lane V/C Ratio	-	-	0.843	0.107	-
HCM Control Delay (s)	-	-	96.8	10.2	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	5.5	0.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	236	344	49	95	243	57	47	811	90	247	1750	287
Future Volume (veh/h)	236	344	49	95	243	57	47	811	90	247	1750	287
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	257	374	53	103	264	62	51	882	98	268	1902	312
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	294	417	59	192	285	67	108	1555	173	380	1935	863
Arrive On Green	0.13	0.26	0.26	0.06	0.19	0.19	0.03	0.48	0.48	0.09	0.54	0.54
Sat Flow, veh/h	1795	1615	229	1795	1476	347	1795	3250	361	1795	3582	1598
Grp Volume(v), veh/h	257	0	427	103	0	326	51	486	494	268	1902	312
Grp Sat Flow(s),veh/h/ln	1795	0	1844	1795	0	1823	1795	1791	1820	1795	1791	1598
Q Serve(g_s), s	16.1	0.0	32.3	6.6	0.0	25.4	2.1	28.0	28.0	10.5	75.1	16.1
Cycle Q Clear(g_c), s	16.1	0.0	32.3	6.6	0.0	25.4	2.1	28.0	28.0	10.5	75.1	16.1
Prop In Lane	1.00		0.12	1.00		0.19	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	294	0	476	192	0	352	108	857	871	380	1935	863
V/C Ratio(X)	0.87	0.00	0.90	0.54	0.00	0.93	0.47	0.57	0.57	0.71	0.98	0.36
Avail Cap(c_a), veh/h	298	0	476	314	0	404	122	857	871	529	1935	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.5	0.0	51.7	44.7	0.0	57.2	34.4	27.0	27.0	20.5	32.5	19.0
Incr Delay (d2), s/veh	23.6	0.0	19.4	2.3	0.0	25.4	3.2	2.7	2.7	2.5	16.8	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	9.1	0.0	17.5	3.0	0.0	14.0	1.0	12.7	12.9	4.6	36.0	6.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	64.1	0.0	71.1	47.0	0.0	82.7	37.6	29.7	29.6	23.0	49.3	20.1
LnGrp LOS	E	A	E	D	A	F	D	C	C	C	D	C
Approach Vol, veh/h		684			429			1031			2482	
Approach Delay, s/veh		68.5			74.1			30.0			42.8	
Approach LOS		E			E			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	17.3	73.1	12.7	41.3	8.4	82.0	22.1	31.9
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	25.3	58.2	18.5	32.0	5.5	78.0	18.5	32.0
Max Q Clear Time (g_c+I1), s	12.5	30.0	8.6	34.3	4.1	77.1	18.1	27.4
Green Ext Time (p_c), s	0.8	4.2	0.2	0.0	0.0	0.8	0.0	0.5

Intersection Summary	
HCM 6th Ctrl Delay	46.6
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	36	54	116	4	65	68	51	917	19	55	1158	30
Future Volume (veh/h)	36	54	116	4	65	68	51	917	19	55	1158	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	39	59	126	4	71	74	55	997	21	60	1259	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	172	181	153	5	84	88	312	2324	49	403	2314	61
Arrive On Green	0.10	0.10	0.10	0.10	0.10	0.10	0.03	0.65	0.65	0.03	0.65	0.65
Sat Flow, veh/h	1795	1885	1598	46	824	858	1795	3587	76	1795	3566	93
Grp Volume(v), veh/h	39	59	126	149	0	0	55	498	520	60	632	660
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1728	0	0	1795	1791	1872	1795	1791	1868
Q Serve(g_s), s	2.6	3.8	10.0	11.0	0.0	0.0	1.3	17.6	17.6	1.4	24.8	24.9
Cycle Q Clear(g_c), s	2.6	3.8	10.0	11.0	0.0	0.0	1.3	17.6	17.6	1.4	24.8	24.9
Prop In Lane	1.00		1.00	0.03		0.50	1.00		0.04	1.00		0.05
Lane Grp Cap(c), veh/h	172	181	153	177	0	0	312	1160	1213	403	1162	1212
V/C Ratio(X)	0.23	0.33	0.82	0.84	0.00	0.00	0.18	0.43	0.43	0.15	0.54	0.54
Avail Cap(c_a), veh/h	256	269	228	333	0	0	363	1160	1213	439	1162	1212
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	54.7	57.5	57.2	0.0	0.0	9.5	11.1	11.1	8.1	12.4	12.4
Incr Delay (d2), s/veh	0.7	1.0	13.8	10.2	0.0	0.0	0.3	1.2	1.1	0.2	1.8	1.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.2	1.9	4.6	5.3	0.0	0.0	0.5	7.1	7.4	0.5	10.1	10.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	54.8	55.7	71.3	67.4	0.0	0.0	9.8	12.3	12.2	8.3	14.2	14.1
LnGrp LOS	D	E	E	E	A	A	A	B	B	A	B	B
Approach Vol, veh/h		224			149			1073			1352	
Approach Delay, s/veh		64.3			67.4			12.1			13.9	
Approach LOS		E			E			B			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.4	88.0		15.9	8.3	88.1		17.3
Change Period (Y+Rc), s	4.0	4.0		3.5	4.0	* 4		4.0
Max Green Setting (Gmax), s	7.0	84.0		18.5	8.0	* 84		25.0
Max Q Clear Time (g_c+I1), s	3.4	19.6		12.0	3.3	26.9		13.0
Green Ext Time (p_c), s	0.0	4.5		0.4	0.0	6.5		0.4

Intersection Summary		
HCM 6th Ctrl Delay	20.1	
HCM 6th LOS	C	

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	11	140	30	128	100	69	21	907	121	221	1049	8
Future Volume (veh/h)	11	140	30	128	100	69	21	907	121	221	1049	8
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	12	152	33	139	109	75	23	986	132	240	1140	9
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	14	173	38	219	127	87	303	1770	237	369	2422	19
Arrive On Green	0.12	0.12	0.12	0.12	0.12	0.12	0.56	0.56	0.56	0.07	0.67	0.67
Sat Flow, veh/h	110	1397	303	1781	1032	710	489	3150	421	1795	3642	29
Grp Volume(v), veh/h	197	0	0	139	0	184	23	556	562	240	561	588
Grp Sat Flow(s),veh/h/ln	1810	0	0	1781	0	1743	489	1777	1794	1795	1791	1880
Q Serve(g_s), s	14.6	0.0	0.0	10.2	0.0	14.2	3.3	27.3	27.3	7.4	20.9	20.9
Cycle Q Clear(g_c), s	14.6	0.0	0.0	10.2	0.0	14.2	10.1	27.3	27.3	7.4	20.9	20.9
Prop In Lane	0.06		0.17	1.00		0.41	1.00		0.23	1.00		0.02
Lane Grp Cap(c), veh/h	225	0	0	219	0	214	303	999	1008	369	1191	1250
V/C Ratio(X)	0.88	0.00	0.00	0.63	0.00	0.86	0.08	0.56	0.56	0.65	0.47	0.47
Avail Cap(c_a), veh/h	318	0	0	299	0	293	303	999	1008	565	1191	1250
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	58.9	0.0	0.0	57.1	0.0	58.8	17.1	19.1	19.1	15.6	11.2	11.2
Incr Delay (d2), s/veh	17.5	0.0	0.0	3.0	0.0	16.8	0.5	2.2	2.2	1.9	1.3	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	0.0	4.8	0.0	7.3	0.4	11.8	11.9	3.1	8.5	8.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.4	0.0	0.0	60.1	0.0	75.6	17.5	21.3	21.3	17.5	12.5	12.4
LnGrp LOS	E	A	A	E	A	E	B	C	C	B	B	B
Approach Vol, veh/h		197			323			1141			1389	
Approach Delay, s/veh		76.4			68.9			21.3			13.3	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	14.1	80.9		21.0		95.0		20.8				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	25.0	62.0		24.0		91.0		23.0				
Max Q Clear Time (g_c+I1), s	9.4	29.3		16.6		22.9		16.2				
Green Ext Time (p_c), s	0.7	5.5		0.4		5.4		0.7				

Intersection Summary	
HCM 6th Ctrl Delay	26.3
HCM 6th LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	125	33	1046	1	100	42	804	861	2	34	1058	265
Future Volume (veh/h)	125	33	1046	1	100	42	804	861	2	34	1058	265
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1826	1826	1826	1870	1870	1870	1856	1856	1856	1870	1870	1870
Adj Flow Rate, veh/h	136	36	1137	1	109	46	874	936	2	37	1150	288
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	5	5	5	2	2	2	3	3	3	2	2	2
Cap, veh/h	198	52	1097	1	137	117	893	2524	5	296	1159	287
Arrive On Green	0.14	0.14	0.14	0.07	0.07	0.07	0.26	0.70	0.70	0.41	0.41	0.41
Sat Flow, veh/h	1389	368	2723	17	1853	1585	3428	3609	8	597	2821	700
Grp Volume(v), veh/h	172	0	1137	110	0	46	874	457	481	37	720	718
Grp Sat Flow(s),veh/h/ln	1756	0	1362	1870	0	1585	1714	1763	1854	597	1777	1744
Q Serve(g_s), s	13.2	0.0	20.2	8.2	0.0	3.9	35.9	14.9	14.9	5.5	57.0	58.3
Cycle Q Clear(g_c), s	13.2	0.0	20.2	8.2	0.0	3.9	35.9	14.9	14.9	5.5	57.0	58.3
Prop In Lane	0.79		1.00	0.01		1.00	1.00		0.00	1.00		0.40
Lane Grp Cap(c), veh/h	250	0	1097	138	0	117	893	1233	1297	296	730	716
V/C Ratio(X)	0.69	0.00	1.04	0.80	0.00	0.39	0.98	0.37	0.37	0.13	0.99	1.00
Avail Cap(c_a), veh/h	250	0	1097	244	0	207	893	1233	1297	296	730	716
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	57.9	0.0	42.4	64.7	0.0	62.7	52.1	8.7	8.7	26.3	41.5	41.8
Incr Delay (d2), s/veh	7.7	0.0	37.0	10.0	0.0	2.1	24.8	0.9	0.8	0.9	30.3	34.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.4	0.0	24.6	4.3	0.0	1.7	18.0	5.3	5.5	0.9	30.8	31.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	65.6	0.0	79.4	74.7	0.0	64.8	76.9	9.5	9.5	27.2	71.8	76.0
LnGrp LOS	E	A	F	E	A	E	E	A	A	C	E	F
Approach Vol, veh/h		1309			156			1812			1475	
Approach Delay, s/veh		77.6			71.8			42.0			72.7	
Approach LOS		E			E			D			E	

Timer - Assigned Phs	2		4	5	6		8					
Phs Duration (G+Y+Rc), s	103.3		24.2	41.0	62.3		14.5					
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0					
Max Green Setting (Gmax), s	99.3		20.2	37.0	58.3		18.5					
Max Q Clear Time (g_c+I1), s	16.9		22.2	37.9	60.3		10.2					
Green Ext Time (p_c), s	3.5		0.0	0.0	0.0		0.3					

Intersection Summary		
HCM 6th Ctrl Delay	62.3	
HCM 6th LOS	E	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	174	132	253	341	117	526
Future Volume (veh/h)	174	132	253	341	117	526
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	189	0	275	0	127	572
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	229		1307		858	1457
Arrive On Green	0.13	0.00	0.69	0.00	0.05	0.79
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	189	0	275	0	127	572
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	10.6	0.0	5.4	0.0	1.9	9.9
Cycle Q Clear(g_c), s	10.6	0.0	5.4	0.0	1.9	9.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	229		1307		858	1457
V/C Ratio(X)	0.83		0.21		0.15	0.39
Avail Cap(c_a), veh/h	722		1307		1175	1790
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	43.9	0.0	5.7	0.0	3.5	3.4
Incr Delay (d2), s/veh	7.4	0.0	0.4	0.0	0.1	0.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.0	0.0	1.9	0.0	0.5	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	51.3	0.0	6.0	0.0	3.5	3.6
LnGrp LOS	D		A		A	A
Approach Vol, veh/h	189		275			699
Approach Delay, s/veh	51.3		6.0			3.6
Approach LOS	D		A			A

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.5	76.0		17.6		85.5
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	23.5	71.5		41.5		99.5
Max Q Clear Time (g_c+I1), s	13.9	7.4		12.6		11.9
Green Ext Time (p_c), s	0.3	0.9		0.6		2.3

Intersection Summary	
HCM 6th Ctrl Delay	11.9
HCM 6th LOS	B

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	92	208	129	46	170	246
Future Vol, veh/h	92	208	129	46	170	246
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	100	226	140	50	185	267

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	140	0	-	0	566	-
Stage 1	-	-	-	-	140	-
Stage 2	-	-	-	-	426	-
Critical Hdwy	4.11	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	-
Pot Cap-1 Maneuver	1449	-	-	0	487	0
Stage 1	-	-	-	0	889	0
Stage 2	-	-	-	0	661	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1449	-	-	-	449	-
Mov Cap-2 Maneuver	-	-	-	-	449	-
Stage 1	-	-	-	-	819	-
Stage 2	-	-	-	-	661	-

Approach	EB	WB	SB
HCM Control Delay, s	2.4	0	18.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1449	-	-	449
HCM Lane V/C Ratio	0.069	-	-	0.412
HCM Control Delay (s)	7.7	0	-	18.5
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.2	-	-	2

Intersection	
Int Delay, s/veh	5.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	202	64	217	168	45	102
Future Vol, veh/h	202	64	217	168	45	102
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	220	70	236	183	49	111

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	290	0	910	255
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	655	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1278	-	306	786
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	519	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1278	-	243	786
Mov Cap-2 Maneuver	-	-	-	-	243	-
Stage 1	-	-	-	-	790	-
Stage 2	-	-	-	-	412	-

Approach	EB	WB	NB
HCM Control Delay, s	0	4.8	16.7
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	467	-	-	1278	-
HCM Lane V/C Ratio	0.342	-	-	0.185	-
HCM Control Delay (s)	16.7	-	-	8.5	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.5	-	-	0.7	-

Intersection	
Int Delay, s/veh	32.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	80	474	314	86	204	103
Future Vol, veh/h	80	474	314	86	204	103
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Yield	-	Yield
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	87	515	341	93	222	112

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	341	0	-	0	1077	388
Stage 1	-	-	-	-	388	-
Stage 2	-	-	-	-	689	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1218	-	-	-	243	662
Stage 1	-	-	-	-	688	-
Stage 2	-	-	-	-	500	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1218	-	-	-	~ 219	662
Mov Cap-2 Maneuver	-	-	-	-	~ 219	-
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	500	-

Approach	EB	WB	SB
HCM Control Delay, s	1.2	0	132.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1218	-	-	-	294
HCM Lane V/C Ratio	0.071	-	-	-	1.135
HCM Control Delay (s)	8.2	0	-	-	132.3
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.2	-	-	-	13.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	5	558	115	13	347	2	48	9	9	0	3	5
Future Vol, veh/h	5	558	115	13	347	2	48	9	9	0	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	Yield	-	-	None	-	-	Yield	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	3	3	3
Mvmt Flow	5	607	125	14	377	2	52	10	10	0	3	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	379	0	0	607	0	0	1090	1087	670	1028	1023	378
Stage 1	-	-	-	-	-	-	680	680	-	406	406	-
Stage 2	-	-	-	-	-	-	410	407	-	622	617	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.527	4.027	3.327
Pot Cap-1 Maneuver	1185	-	-	976	-	-	193	217	459	211	235	667
Stage 1	-	-	-	-	-	-	442	452	-	620	596	-
Stage 2	-	-	-	-	-	-	621	599	-	473	480	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1185	-	-	976	-	-	186	212	459	195	229	667
Mov Cap-2 Maneuver	-	-	-	-	-	-	186	212	-	195	229	-
Stage 1	-	-	-	-	-	-	439	449	-	616	585	-
Stage 2	-	-	-	-	-	-	601	588	-	450	477	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	29.1	14.5
HCM LOS			D	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	220	1185	-	-	976	-	-	388
HCM Lane V/C Ratio	0.326	0.005	-	-	0.014	-	-	0.022
HCM Control Delay (s)	29.1	8.1	0	-	8.7	0	-	14.5
HCM Lane LOS	D	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	1.4	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	12	92	91	53	93	17
Future Vol, veh/h	12	92	91	53	93	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	13	100	99	58	101	18

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	157	0	-	0	254	128
Stage 1	-	-	-	-	128	-
Stage 2	-	-	-	-	126	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1429	-	-	-	737	925
Stage 1	-	-	-	-	900	-
Stage 2	-	-	-	-	902	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1429	-	-	-	730	925
Mov Cap-2 Maneuver	-	-	-	-	730	-
Stage 1	-	-	-	-	891	-
Stage 2	-	-	-	-	902	-

Approach	EB	WB	SB
HCM Control Delay, s	0.9	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1429	-	-	-	755
HCM Lane V/C Ratio	0.009	-	-	-	0.158
HCM Control Delay (s)	7.5	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.6

Intersection	
Int Delay, s/veh	1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	92	0	14	94	0	12
Future Vol, veh/h	92	0	14	94	0	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	100	0	15	102	0	13

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	100	0	232	100
Stage 1	-	-	-	-	100	-
Stage 2	-	-	-	-	132	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1499	-	758	958
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	897	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1499	-	750	958
Mov Cap-2 Maneuver	-	-	-	-	750	-
Stage 1	-	-	-	-	927	-
Stage 2	-	-	-	-	887	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	958	-	-	1499	-
HCM Lane V/C Ratio	0.014	-	-	0.01	-
HCM Control Delay (s)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0	-	-	0	-

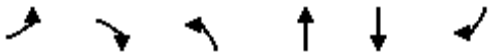
Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	991	16	92	759	9	8	0	52	3	0	2
Future Vol, veh/h	4	991	16	92	759	9	8	0	52	3	0	2
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	4	1077	17	100	825	10	9	0	57	3	0	2

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	835	0	0	1094	0	0	1707	2129	547	1577	2132	418
Stage 1	-	-	-	-	-	-	1094	1094	-	1030	1030	-
Stage 2	-	-	-	-	-	-	613	1035	-	547	1102	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	788	-	-	628	-	-	60	50	484	75	49	587
Stage 1	-	-	-	-	-	-	230	290	-	252	311	-
Stage 2	-	-	-	-	-	-	449	309	-	491	288	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	788	-	-	628	-	-	52	42	484	58	41	587
Mov Cap-2 Maneuver	-	-	-	-	-	-	52	42	-	58	41	-
Stage 1	-	-	-	-	-	-	229	289	-	251	262	-
Stage 2	-	-	-	-	-	-	376	260	-	431	287	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.3	26.7	47.1
HCM LOS			D	E

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	230	788	-	-	628	-	-	91
HCM Lane V/C Ratio	0.284	0.006	-	-	0.159	-	-	0.06
HCM Control Delay (s)	26.7	9.6	-	-	11.8	-	-	47.1
HCM Lane LOS	D	A	-	-	B	-	-	E
HCM 95th %tile Q(veh)	1.1	0	-	-	0.6	-	-	0.2



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	133	591	0	1295	534	0
Future Volume (vph)	133	591	0	1295	534	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.90	0.85		1.00	1.00	
Flt Protected	0.98	1.00		1.00	1.00	
Satd. Flow (prot)	1638	1490		3574	3574	
Flt Permitted	0.98	1.00		1.00	1.00	
Satd. Flow (perm)	1638	1490		3574	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	145	642	0	1408	580	0
RTOR Reduction (vph)	64	205	0	0	0	0
Lane Group Flow (vph)	338	180	0	1408	580	0
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	25.9	25.9		66.4	66.4	
Effective Green, g (s)	25.9	25.9		66.4	66.4	
Actuated g/C Ratio	0.26	0.26		0.66	0.66	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	422	384		2366	2366	
v/s Ratio Prot	c0.21			c0.39	0.16	
v/s Ratio Perm		0.12				
v/c Ratio	0.80	0.47		0.60	0.25	
Uniform Delay, d1	34.8	31.4		9.5	6.8	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	10.5	0.9		1.1	0.2	
Delay (s)	45.3	32.3		10.6	7.1	
Level of Service	D	C		B	A	
Approach Delay (s)	38.9			10.6	7.1	
Approach LOS	D			B	A	

Intersection Summary			
HCM 2000 Control Delay	17.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	672	756	534	484
Future Volume (veh/h)	0	0	672	756	534	484
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1885	1885	1885	1885
Adj Flow Rate, veh/h			730	822	580	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			1	1	1	1
Cap, veh/h			895	3462	3068	
Arrive On Green			0.08	0.97	0.86	0.00
Sat Flow, veh/h			1795	3676	3770	0
Grp Volume(v), veh/h			730	822	580	0
Grp Sat Flow(s),veh/h/ln			1795	1791	1791	0
Q Serve(g_s), s			4.1	1.2	3.3	0.0
Cycle Q Clear(g_c), s			4.1	1.2	3.3	0.0
Prop In Lane			1.00			0.00
Lane Grp Cap(c), veh/h			895	3462	3068	
V/C Ratio(X)			0.82	0.24	0.19	
Avail Cap(c_a), veh/h			1714	3462	3068	
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh			1.2	0.1	1.5	0.0
Incr Delay (d2), s/veh			1.9	0.2	0.1	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.5	0.1	0.3	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			3.0	0.2	1.6	0.0
LnGrp LOS			A	A	A	
Approach Vol, veh/h				1552	580	
Approach Delay, s/veh				1.6	1.6	
Approach LOS				A	A	

Timer - Assigned Phs	2			5	6
Phs Duration (G+Y+Rc), s	120.0			13.2	106.8
Change Period (Y+Rc), s	4.0			4.0	4.0
Max Green Setting (Gmax), s	116.0			64.0	48.0
Max Q Clear Time (g_c+I1), s	3.2			6.1	5.3
Green Ext Time (p_c), s	3.5			3.1	2.3

Intersection Summary	
HCM 6th Ctrl Delay	1.6
HCM 6th LOS	A

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

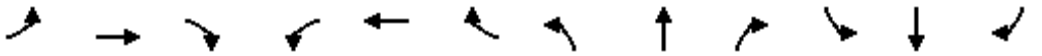
Intersection	
Int Delay, s/veh	10.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	121	163	401	79	29	402
Future Vol, veh/h	121	163	401	79	29	402
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	132	177	436	86	32	437

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	980	479	0	0	522	0
Stage 1	479	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	278	589	-	-	1044	-
Stage 1	625	-	-	-	-	-
Stage 2	611	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	267	589	-	-	1044	-
Mov Cap-2 Maneuver	267	-	-	-	-	-
Stage 1	625	-	-	-	-	-
Stage 2	587	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	41.7	0	0.6
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	389	1044	-
HCM Lane V/C Ratio	-	-	0.794	0.03	-
HCM Control Delay (s)	-	-	41.7	8.6	0
HCM Lane LOS	-	-	E	A	A
HCM 95th %tile Q(veh)	-	-	6.9	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	149	679	24	130	199	62	56	774	76	78	1090	155
Future Volume (veh/h)	149	679	24	130	199	62	56	774	76	78	1090	155
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	162	738	26	141	216	67	61	841	83	85	1185	168
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	511	747	26	178	560	174	126	1071	106	117	1268	566
Arrive On Green	0.07	0.41	0.41	0.06	0.41	0.41	0.04	0.33	0.33	0.07	0.35	0.35
Sat Flow, veh/h	1795	1810	64	1795	1380	428	1795	3293	325	1795	3582	1598
Grp Volume(v), veh/h	162	0	764	141	0	283	61	457	467	85	1185	168
Grp Sat Flow(s),veh/h/ln	1795	0	1874	1795	0	1808	1795	1791	1827	1795	1791	1598
Q Serve(g_s), s	6.2	0.0	48.0	5.4	0.0	13.1	2.9	27.5	27.5	5.5	37.9	9.0
Cycle Q Clear(g_c), s	6.2	0.0	48.0	5.4	0.0	13.1	2.9	27.5	27.5	5.5	37.9	9.0
Prop In Lane	1.00		0.03	1.00		0.24	1.00		0.18	1.00		1.00
Lane Grp Cap(c), veh/h	511	0	774	178	0	733	126	583	594	117	1268	566
V/C Ratio(X)	0.32	0.00	0.99	0.79	0.00	0.39	0.48	0.79	0.79	0.73	0.93	0.30
Avail Cap(c_a), veh/h	528	0	774	179	0	733	145	583	594	136	1268	566
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.8	0.0	34.5	28.0	0.0	24.9	33.8	36.3	36.3	54.4	37.0	27.7
Incr Delay (d2), s/veh	0.4	0.0	29.1	21.2	0.0	0.3	2.8	10.2	10.0	15.0	13.8	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	27.5	3.3	0.0	5.7	1.4	13.5	13.8	3.0	18.7	3.7
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	19.2	0.0	63.6	49.2	0.0	25.2	36.6	46.5	46.3	69.4	50.8	29.0
LnGrp LOS	B	A	E	D	A	C	D	D	D	E	D	C
Approach Vol, veh/h		926			424			985			1438	
Approach Delay, s/veh		55.8			33.2			45.8			49.4	
Approach LOS		E			C			D			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	42.6	11.3	53.0	8.3	46.0	12.2	52.1
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	9.0	38.6	7.4	49.0	5.6	42.0	9.3	47.1
Max Q Clear Time (g_c+I1), s	7.5	29.5	7.4	50.0	4.9	39.9	8.2	15.1
Green Ext Time (p_c), s	0.0	2.7	0.0	0.0	0.0	1.4	0.1	1.1

Intersection Summary	
HCM 6th Ctrl Delay	48.2
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	64	134	12	65	110	57	740	16	55	1134	24
Future Volume (veh/h)	34	64	134	12	65	110	57	740	16	55	1134	24
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	37	70	146	13	71	120	62	804	17	60	1233	26
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	174	271	230	45	92	142	348	2503	53	540	2502	53
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.04	0.70	0.70	0.04	0.70	0.70
Sat Flow, veh/h	1202	1885	1598	53	637	986	1795	3587	76	1795	3587	76
Grp Volume(v), veh/h	37	70	146	204	0	0	62	401	420	60	615	644
Grp Sat Flow(s),veh/h/ln	1202	1885	1598	1676	0	0	1795	1791	1872	1795	1791	1872
Q Serve(g_s), s	0.0	3.4	8.8	4.8	0.0	0.0	1.2	8.9	8.9	0.0	16.1	16.1
Cycle Q Clear(g_c), s	5.6	3.4	8.8	12.0	0.0	0.0	1.2	8.9	8.9	0.0	16.1	16.1
Prop In Lane	1.00		1.00	0.06		0.59	1.00		0.04	1.00		0.04
Lane Grp Cap(c), veh/h	174	271	230	279	0	0	348	1250	1306	540	1249	1305
V/C Ratio(X)	0.21	0.26	0.63	0.73	0.00	0.00	0.18	0.32	0.32	0.11	0.49	0.49
Avail Cap(c_a), veh/h	343	537	455	511	0	0	434	1250	1306	609	1249	1305
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	39.7	38.7	41.0	42.4	0.0	0.0	7.3	6.0	6.0	7.6	7.1	7.1
Incr Delay (d2), s/veh	0.6	0.5	2.9	3.7	0.0	0.0	0.2	0.7	0.7	0.1	1.4	1.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.6	3.6	5.2	0.0	0.0	0.4	3.2	3.3	0.5	5.8	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	40.3	39.2	43.9	46.1	0.0	0.0	7.6	6.7	6.6	7.7	8.5	8.4
LnGrp LOS	D	D	D	D	A	A	A	A	A	A	A	A
Approach Vol, veh/h		253			204			883			1319	
Approach Delay, s/veh		42.1			46.1			6.7			8.4	
Approach LOS		D			D			A			A	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.1	75.0		18.6	8.1	74.9		18.6
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	8.0	71.0		29.0	9.0	70.0		29.0
Max Q Clear Time (g_c+I1), s	7.6	10.9		10.8	3.2	18.1		14.0
Green Ext Time (p_c), s	0.1	3.4		0.9	0.1	6.2		0.6

Intersection Summary		
HCM 6th Ctrl Delay		13.9
HCM 6th LOS		B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	53	173	26	100	118	79	21	724	148	208	1109	31
Future Volume (veh/h)	53	173	26	100	118	79	21	724	148	208	1109	31
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	58	188	28	109	128	86	23	787	161	226	1205	34
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	65	212	32	254	149	100	228	1344	275	373	2060	58
Arrive On Green	0.17	0.17	0.17	0.14	0.14	0.14	0.46	0.46	0.46	0.09	0.58	0.58
Sat Flow, veh/h	385	1247	186	1781	1043	701	449	2938	601	1795	3558	100
Grp Volume(v), veh/h	274	0	0	109	0	214	23	476	472	226	606	633
Grp Sat Flow(s),veh/h/ln	1818	0	0	1781	0	1744	449	1777	1762	1795	1791	1867
Q Serve(g_s), s	16.3	0.0	0.0	6.2	0.0	13.3	3.8	21.9	21.9	7.0	23.8	23.8
Cycle Q Clear(g_c), s	16.3	0.0	0.0	6.2	0.0	13.3	14.2	21.9	21.9	7.0	23.8	23.8
Prop In Lane	0.21		0.10	1.00		0.40	1.00		0.34	1.00		0.05
Lane Grp Cap(c), veh/h	309	0	0	254	0	249	228	813	806	373	1037	1081
V/C Ratio(X)	0.89	0.00	0.00	0.43	0.00	0.86	0.10	0.59	0.59	0.61	0.58	0.59
Avail Cap(c_a), veh/h	395	0	0	322	0	316	228	813	806	496	1037	1081
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.9	0.0	0.0	43.3	0.0	46.3	23.6	22.2	22.2	16.4	14.8	14.8
Incr Delay (d2), s/veh	17.8	0.0	0.0	1.1	0.0	17.3	0.9	3.1	3.1	1.6	2.4	2.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.0	0.0	2.8	0.0	6.9	0.5	9.6	9.6	2.9	9.9	10.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.7	0.0	0.0	44.4	0.0	63.6	24.5	25.3	25.3	18.0	17.2	17.1
LnGrp LOS	E	A	A	D	A	E	C	C	C	B	B	B
Approach Vol, veh/h		274			323			971			1465	
Approach Delay, s/veh		62.7			57.1			25.3			17.3	
Approach LOS		E			E			C			B	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	13.5	54.5		22.8		68.0		19.8				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	17.6	43.0		24.0		64.0		20.0				
Max Q Clear Time (g_c+I1), s	19.3	23.9		18.3		25.8		15.3				
Green Ext Time (p_c), s	0.5	4.1		0.5		6.0		0.5				

Intersection Summary		
HCM 6th Ctrl Delay		28.2
HCM 6th LOS		C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	204	89	894	1	65	30	1022	659	2	44	1001	190
Future Volume (veh/h)	204	89	894	1	65	30	1022	659	2	44	1001	190
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1856	1856	1856	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	222	97	972	1	71	33	1111	716	2	48	1088	207
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	3	3	3	5	5	5	2	2	2
Cap, veh/h	224	98	1255	1	103	88	910	2326	6	259	1039	197
Arrive On Green	0.18	0.18	0.18	0.06	0.06	0.06	0.27	0.66	0.66	0.35	0.35	0.35
Sat Flow, veh/h	1268	554	2812	26	1828	1572	3374	3549	10	734	2980	565
Grp Volume(v), veh/h	319	0	972	72	0	33	1111	350	368	48	647	648
Grp Sat Flow(s),veh/h/ln	1822	0	1406	1854	0	1572	1687	1735	1824	734	1777	1769
Q Serve(g_s), s	18.8	0.0	2.5	4.1	0.0	2.2	29.0	9.4	9.4	5.6	37.5	37.5
Cycle Q Clear(g_c), s	18.8	0.0	2.5	4.1	0.0	2.2	29.0	9.4	9.4	14.9	37.5	37.5
Prop In Lane	0.70		1.00	0.01		1.00	1.00		0.01	1.00		0.32
Lane Grp Cap(c), veh/h	322	0	1255	104	0	88	910	1137	1196	259	620	617
V/C Ratio(X)	0.99	0.00	0.77	0.69	0.00	0.37	1.22	0.31	0.31	0.19	1.04	1.05
Avail Cap(c_a), veh/h	322	0	1255	319	0	271	910	1137	1196	259	620	617
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	44.2	0.0	25.2	49.8	0.0	48.9	39.3	8.0	8.0	31.4	35.0	35.0
Incr Delay (d2), s/veh	47.6	0.0	3.1	7.9	0.0	2.6	109.5	0.7	0.7	1.6	48.3	50.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.7	0.0	10.7	2.1	0.0	0.9	25.6	3.5	3.6	1.1	24.1	24.3
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	91.8	0.0	28.3	57.7	0.0	51.5	148.8	8.7	8.7	32.9	83.3	85.3
LnGrp LOS	F	A	C	E	A	D	F	A	A	C	F	F
Approach Vol, veh/h		1291			105			1829			1343	
Approach Delay, s/veh		44.0			55.8			93.8			82.4	
Approach LOS		D			E			F			F	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		74.5		23.0	33.0	41.5		10.0				
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s		70.5		19.0	29.0	37.5		18.5				
Max Q Clear Time (g_c+I1), s		11.4		20.8	31.0	39.5		6.1				
Green Ext Time (p_c), s		2.9		0.0	0.0	0.0		0.2				

Intersection Summary												
HCM 6th Ctrl Delay			75.5									
HCM 6th LOS			E									

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	465	101	556	121	70	815
Future Volume (veh/h)	465	101	556	121	70	815
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	505	0	604	0	76	886
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	544		1036		408	1161
Arrive On Green	0.30	0.00	0.55	0.00	0.04	0.63
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	505	0	604	0	76	886
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	30.5	0.0	23.8	0.0	2.0	38.3
Cycle Q Clear(g_c), s	30.5	0.0	23.8	0.0	2.0	38.3
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	544		1036		408	1161
V/C Ratio(X)	0.93		0.58		0.19	0.76
Avail Cap(c_a), veh/h	674		1036		429	1161
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	37.8	0.0	16.7	0.0	12.3	15.0
Incr Delay (d2), s/veh	17.0	0.0	2.4	0.0	0.2	4.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	15.3	0.0	10.2	0.0	0.7	15.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	54.8	0.0	19.1	0.0	12.5	19.8
LnGrp LOS	D		B		B	B
Approach Vol, veh/h	505		604			962
Approach Delay, s/veh	54.8		19.1			19.2
Approach LOS	D		B			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.5	65.5		37.9		74.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	5.8	60.2		42.0		70.0
Max Q Clear Time (g_c+I1), s	4.0	25.8		32.5		40.3
Green Ext Time (p_c), s	0.0	2.4		1.4		4.2

Intersection Summary	
HCM 6th Ctrl Delay	27.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	245	129	235	145	75	141
Future Vol, veh/h	245	129	235	145	75	141
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	266	140	255	158	82	153

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	255	0	-	0	927	-
Stage 1	-	-	-	-	255	-
Stage 2	-	-	-	-	672	-
Critical Hdwy	4.11	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	-
Pot Cap-1 Maneuver	1316	-	-	0	299	0
Stage 1	-	-	-	0	790	0
Stage 2	-	-	-	0	509	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1316	-	-	-	234	-
Mov Cap-2 Maneuver	-	-	-	-	234	-
Stage 1	-	-	-	-	617	-
Stage 2	-	-	-	-	509	-

Approach	EB	WB	SB
HCM Control Delay, s	5.5	0	28.4
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1316	-	-	234
HCM Lane V/C Ratio	0.202	-	-	0.348
HCM Control Delay (s)	8.4	0	-	28.4
HCM Lane LOS	A	A	-	D
HCM 95th %tile Q(veh)	0.8	-	-	1.5

Intersection	
Int Delay, s/veh	6.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	142	39	147	229	55	232
Future Vol, veh/h	142	39	147	229	55	232
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	154	42	160	249	60	252

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	196	0	744	175
Stage 1	-	-	-	-	175	-
Stage 2	-	-	-	-	569	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1383	-	384	871
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	568	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1383	-	333	871
Mov Cap-2 Maneuver	-	-	-	-	333	-
Stage 1	-	-	-	-	858	-
Stage 2	-	-	-	-	492	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3.1	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	665	-	-	1383	-
HCM Lane V/C Ratio	0.469	-	-	0.116	-
HCM Control Delay (s)	15.1	-	-	7.9	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	2.5	-	-	0.4	-

Intersection	
Int Delay, s/veh	16.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	287	450	238	136	70
Future Vol, veh/h	106	287	450	238	136	70
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	115	312	489	259	148	76

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	748	0	-	0	1161	619
Stage 1	-	-	-	-	619	-
Stage 2	-	-	-	-	542	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	861	-	-	-	217	490
Stage 1	-	-	-	-	539	-
Stage 2	-	-	-	-	585	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	861	-	-	-	182	490
Mov Cap-2 Maneuver	-	-	-	-	182	-
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	585	-

Approach	EB	WB	SB
HCM Control Delay, s	2.7	0	96.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	861	-	-	-	231
HCM Lane V/C Ratio	0.134	-	-	-	0.969
HCM Control Delay (s)	9.8	0	-	-	96.4
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.5	-	-	-	8.7

Intersection	
Int Delay, s/veh	8.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	338	82	14	544	0	131	1	14	0	3	13
Future Vol, veh/h	3	338	82	14	544	0	131	1	14	0	3	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	3	3	3
Mvmt Flow	3	367	89	15	591	0	142	1	15	0	3	14

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	591	0	0	456	0	0	1048	1039	412	1047	1083	591
Stage 1	-	-	-	-	-	-	418	418	-	621	621	-
Stage 2	-	-	-	-	-	-	630	621	-	426	462	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.527	4.027	3.327
Pot Cap-1 Maneuver	990	-	-	1110	-	-	207	232	642	205	216	505
Stage 1	-	-	-	-	-	-	614	592	-	473	478	-
Stage 2	-	-	-	-	-	-	471	481	-	604	563	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	990	-	-	1110	-	-	195	226	642	196	211	505
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	226	-	196	211	-
Stage 1	-	-	-	-	-	-	612	590	-	471	468	-
Stage 2	-	-	-	-	-	-	446	471	-	586	561	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.2	62	14.4
HCM LOS			F	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	209	990	-	-	1110	-	-	400
HCM Lane V/C Ratio	0.759	0.003	-	-	0.014	-	-	0.043
HCM Control Delay (s)	62	8.6	0	-	8.3	0	-	14.4
HCM Lane LOS	F	A	A	-	A	A	-	B
HCM 95th %tile Q(veh)	5.2	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	56	74	71	116	16
Future Vol, veh/h	14	56	74	71	116	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	15	61	80	77	126	17

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	157	0	-	0	210	119
Stage 1	-	-	-	-	119	-
Stage 2	-	-	-	-	91	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1429	-	-	-	781	935
Stage 1	-	-	-	-	909	-
Stage 2	-	-	-	-	935	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1429	-	-	-	772	935
Mov Cap-2 Maneuver	-	-	-	-	772	-
Stage 1	-	-	-	-	899	-
Stage 2	-	-	-	-	935	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	10.6
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1429	-	-	-	789
HCM Lane V/C Ratio	0.011	-	-	-	0.182
HCM Control Delay (s)	7.5	0	-	-	10.6
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.7

Intersection	
Int Delay, s/veh	1.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	48	0	9	81	1	22
Future Vol, veh/h	48	0	9	81	1	22
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	52	0	10	88	1	24

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	52	0	160	52
Stage 1	-	-	-	-	52	-
Stage 2	-	-	-	-	108	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1560	-	833	1019
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	919	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1560	-	827	1019
Mov Cap-2 Maneuver	-	-	-	-	827	-
Stage 1	-	-	-	-	973	-
Stage 2	-	-	-	-	913	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	8.7
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	1009	-	-	1560	-
HCM Lane V/C Ratio	0.025	-	-	0.006	-
HCM Control Delay (s)	8.7	-	-	7.3	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

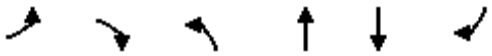
Intersection	
Int Delay, s/veh	6.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	711	21	81	1225	21	13	7	152	13	3	8
Future Vol, veh/h	2	711	21	81	1225	21	13	7	152	13	3	8
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	2	773	23	88	1332	23	14	8	165	14	3	9

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1355	0	0	796	0	0	1633	2320	398	1915	2320	678
Stage 1	-	-	-	-	-	-	789	789	-	1520	1520	-
Stage 2	-	-	-	-	-	-	844	1531	-	395	800	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	498	-	-	815	-	-	68	38	604	41	38	397
Stage 1	-	-	-	-	-	-	352	402	-	125	181	-
Stage 2	-	-	-	-	-	-	326	179	-	604	398	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	498	-	-	815	-	-	56	34	604	23	34	397
Mov Cap-2 Maneuver	-	-	-	-	-	-	56	34	-	23	34	-
Stage 1	-	-	-	-	-	-	351	400	-	125	161	-
Stage 2	-	-	-	-	-	-	279	160	-	429	396	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	53	234
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	249	498	-	-	815	-	-	36
HCM Lane V/C Ratio	0.751	0.004	-	-	0.108	-	-	0.725
HCM Control Delay (s)	53	12.3	-	-	10	-	-	234
HCM Lane LOS	F	B	-	-	A	-	-	F
HCM 95th %tile Q(veh)	5.3	0	-	-	0.4	-	-	2.6



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	356	802	0	1376	609	0
Future Volume (vph)	356	802	0	1376	609	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.94	0.85		1.00	1.00	
Flt Protected	0.97	1.00		1.00	1.00	
Satd. Flow (prot)	1683	1490		3574	3574	
Flt Permitted	0.97	1.00		1.00	1.00	
Satd. Flow (perm)	1683	1490		3574	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	387	872	0	1496	662	0
RTOR Reduction (vph)	18	102	0	0	0	0
Lane Group Flow (vph)	631	508	0	1496	662	0
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	55.6	55.6		71.1	71.1	
Effective Green, g (s)	55.6	55.6		71.1	71.1	
Actuated g/C Ratio	0.41	0.41		0.52	0.52	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	689	610		1872	1872	
v/s Ratio Prot	c0.37			c0.42	0.19	
v/s Ratio Perm		0.34				
v/c Ratio	0.92	0.83		0.80	0.35	
Uniform Delay, d1	37.8	35.9		26.5	18.9	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.8	9.5		3.7	0.5	
Delay (s)	54.6	45.4		30.1	19.4	
Level of Service	D	D		C	B	
Approach Delay (s)	50.2			30.1	19.4	
Approach LOS	D			C	B	

Intersection Summary			
HCM 2000 Control Delay	35.4	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	135.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	474	1258	609	350
Future Volume (veh/h)	0	0	474	1258	609	350
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1856	1885	1885	1856
Adj Flow Rate, veh/h			515	1367	662	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			3	1	1	3
Cap, veh/h			796	3474	3204	
Arrive On Green			0.05	0.97	0.89	0.00
Sat Flow, veh/h			1767	3676	3770	0
Grp Volume(v), veh/h			515	1367	662	0
Grp Sat Flow(s),veh/h/ln			1767	1791	1791	0
Q Serve(g_s), s			2.9	2.8	3.6	0.0
Cycle Q Clear(g_c), s			2.9	2.8	3.6	0.0
Prop In Lane			1.00			0.00
Lane Grp Cap(c), veh/h			796	3474	3204	
V/C Ratio(X)			0.65	0.39	0.21	
Avail Cap(c_a), veh/h			1523	3474	3204	
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh			0.5	0.1	1.0	0.0
Incr Delay (d2), s/veh			0.9	0.3	0.1	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			0.2	0.2	0.2	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			1.4	0.4	1.2	0.0
LnGrp LOS			A	A	A	
Approach Vol, veh/h				1882	662	
Approach Delay, s/veh				0.7	1.2	
Approach LOS				A	A	

Timer - Assigned Phs	2			5	6
Phs Duration (G+Y+Rc), s	150.0			11.3	138.7
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	145.5			68.5	72.5
Max Q Clear Time (g_c+I1), s	4.8			4.9	5.6
Green Ext Time (p_c), s	7.3			1.9	2.7

Intersection Summary	
HCM 6th Ctrl Delay	0.8
HCM 6th LOS	A

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

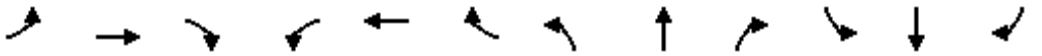
Intersection	
Int Delay, s/veh	10

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	62	62	540	284	83	702
Future Vol, veh/h	62	62	540	284	83	702
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	67	67	587	309	90	763

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1685	742	0	0	896	0
Stage 1	742	-	-	-	-	-
Stage 2	943	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	104	417	-	-	757	-
Stage 1	473	-	-	-	-	-
Stage 2	380	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	83	417	-	-	757	-
Mov Cap-2 Maneuver	83	-	-	-	-	-
Stage 1	473	-	-	-	-	-
Stage 2	302	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	133	0	1.1
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	138	757	-
HCM Lane V/C Ratio	-	-	0.977	0.119	-
HCM Control Delay (s)	-	-	133	10.4	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	6.9	0.4	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	131	440	77	194	252	48	75	805	146	315	1774	242
Future Volume (veh/h)	131	440	77	194	252	48	75	805	146	315	1774	242
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	142	478	84	211	274	52	82	875	159	342	1928	263
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	333	415	73	235	458	87	116	1167	212	368	1734	773
Arrive On Green	0.07	0.27	0.27	0.10	0.30	0.30	0.04	0.39	0.39	0.14	0.48	0.48
Sat Flow, veh/h	1795	1561	274	1795	1540	292	1795	3027	550	1795	3582	1598
Grp Volume(v), veh/h	142	0	562	211	0	326	82	518	516	342	1928	263
Grp Sat Flow(s),veh/h/ln	1795	0	1836	1795	0	1833	1795	1791	1786	1795	1791	1598
Q Serve(g_s), s	8.3	0.0	39.0	13.0	0.0	22.3	4.1	36.7	36.7	17.3	71.0	14.9
Cycle Q Clear(g_c), s	8.3	0.0	39.0	13.0	0.0	22.3	4.1	36.7	36.7	17.3	71.0	14.9
Prop In Lane	1.00		0.15	1.00		0.16	1.00		0.31	1.00		1.00
Lane Grp Cap(c), veh/h	333	0	488	235	0	545	116	690	688	368	1734	773
V/C Ratio(X)	0.43	0.00	1.15	0.90	0.00	0.60	0.70	0.75	0.75	0.93	1.11	0.34
Avail Cap(c_a), veh/h	430	0	488	275	0	545	116	690	688	423	1734	773
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.1	0.0	53.8	42.2	0.0	44.1	36.5	39.0	39.0	32.3	37.8	23.4
Incr Delay (d2), s/veh	0.9	0.0	89.5	26.8	0.0	1.8	17.5	7.3	7.4	25.2	59.2	1.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	30.1	7.1	0.0	10.5	2.3	17.5	17.5	10.0	44.7	6.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.0	0.0	143.4	69.0	0.0	45.9	54.0	46.3	46.3	57.5	97.1	24.6
LnGrp LOS	D	A	F	E	A	D	D	D	D	E	F	C
Approach Vol, veh/h		704			537			1116			2533	
Approach Delay, s/veh		121.9			55.0			46.9			84.2	
Approach LOS		F			D			D			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	24.0	60.5	19.2	43.0	9.5	75.0	14.6	47.6
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	24.5	52.0	18.5	39.0	5.5	71.0	18.5	39.0
Max Q Clear Time (g_c+I1), s	19.3	38.7	15.0	41.0	6.1	73.0	10.3	24.3
Green Ext Time (p_c), s	0.6	3.7	0.2	0.0	0.0	0.0	0.3	1.0

Intersection Summary	
HCM 6th Ctrl Delay	77.9
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	23	42	89	7	98	73	85	905	10	82	1873	40
Future Volume (veh/h)	23	42	89	7	98	73	85	905	10	82	1873	40
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	25	46	97	8	107	79	92	984	11	89	2036	43
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	136	143	121	9	120	88	153	2381	27	414	2353	50
Arrive On Green	0.08	0.08	0.08	0.12	0.12	0.12	0.03	0.66	0.66	0.03	0.66	0.66
Sat Flow, veh/h	1795	1885	1598	72	967	714	1795	3628	41	1795	3587	75
Grp Volume(v), veh/h	25	46	97	194	0	0	92	486	509	89	1013	1066
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1753	0	0	1795	1791	1878	1795	1791	1872
Q Serve(g_s), s	1.8	3.3	8.4	15.4	0.0	0.0	2.4	18.0	18.0	2.3	63.1	64.2
Cycle Q Clear(g_c), s	1.8	3.3	8.4	15.4	0.0	0.0	2.4	18.0	18.0	2.3	63.1	64.2
Prop In Lane	1.00		1.00	0.04		0.41	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	136	143	121	217	0	0	153	1175	1232	414	1175	1228
V/C Ratio(X)	0.18	0.32	0.80	0.89	0.00	0.00	0.60	0.41	0.41	0.21	0.86	0.87
Avail Cap(c_a), veh/h	210	221	187	236	0	0	180	1175	1232	441	1175	1228
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	61.1	61.7	64.1	60.9	0.0	0.0	31.3	11.4	11.4	8.5	19.2	19.4
Incr Delay (d2), s/veh	0.6	1.3	12.9	30.5	0.0	0.0	4.0	1.1	1.0	0.3	8.4	8.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	1.6	3.9	8.7	0.0	0.0	2.3	7.4	7.7	0.9	27.5	29.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	61.7	63.0	77.1	91.4	0.0	0.0	35.3	12.5	12.5	8.7	27.6	27.9
LnGrp LOS	E	E	E	F	A	A	D	B	B	A	C	C
Approach Vol, veh/h		168			194			1087			2168	
Approach Delay, s/veh		70.9			91.4			14.4			27.0	
Approach LOS		E			F			B			C	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.8	96.5		14.2	8.9	96.5		21.5
Change Period (Y+Rc), s	4.0	4.0		3.5	4.0	* 4		4.0
Max Green Setting (Gmax), s	7.0	92.0		16.5	7.0	* 93		19.0
Max Q Clear Time (g_c+I1), s	4.3	20.0		10.4	4.4	66.2		17.4
Green Ext Time (p_c), s	0.0	4.3		0.3	0.1	13.5		0.1

Intersection Summary	
HCM 6th Ctrl Delay	28.7
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	115	18	150	176	119	31	900	98	312	1714	47
Future Volume (veh/h)	35	115	18	150	176	119	31	900	98	312	1714	47
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	38	125	20	163	191	129	34	978	107	339	1863	51
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	43	142	23	354	207	140	89	1483	162	377	2150	59
Arrive On Green	0.11	0.11	0.11	0.20	0.20	0.20	0.46	0.46	0.46	0.12	0.60	0.60
Sat Flow, veh/h	377	1240	198	1781	1041	703	234	3230	353	1795	3562	97
Grp Volume(v), veh/h	183	0	0	163	0	320	34	538	547	339	933	981
Grp Sat Flow(s),veh/h/ln	1816	0	0	1781	0	1744	234	1777	1807	1795	1791	1868
Q Serve(g_s), s	14.3	0.0	0.0	11.6	0.0	25.9	20.4	33.8	33.9	13.8	62.1	63.2
Cycle Q Clear(g_c), s	14.3	0.0	0.0	11.6	0.0	25.9	62.8	33.8	33.9	13.8	62.1	63.2
Prop In Lane	0.21		0.11	1.00		0.40	1.00		0.20	1.00		0.05
Lane Grp Cap(c), veh/h	207	0	0	354	0	347	89	816	829	377	1081	1127
V/C Ratio(X)	0.88	0.00	0.00	0.46	0.00	0.92	0.38	0.66	0.66	0.90	0.86	0.87
Avail Cap(c_a), veh/h	244	0	0	391	0	382	89	816	829	541	1081	1127
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.9	0.0	0.0	50.9	0.0	56.6	58.8	30.2	30.2	25.5	23.6	23.8
Incr Delay (d2), s/veh	26.3	0.0	0.0	0.9	0.0	26.3	12.1	4.2	4.1	13.5	9.1	9.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.1	0.0	0.0	5.3	0.0	14.0	1.5	15.4	15.7	7.1	28.0	29.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	89.2	0.0	0.0	51.8	0.0	82.9	70.9	34.4	34.3	39.0	32.7	33.1
LnGrp LOS	F	A	A	D	A	F	E	C	C	D	C	C
Approach Vol, veh/h		183			483			1119			2253	
Approach Delay, s/veh		89.2			72.4			35.5			33.8	
Approach LOS		F			E			D			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	20.8	70.2		20.5		91.0		32.7				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	30.8	53.0		19.4		87.0		31.6				
Max Q Clear Time (g_c+I1), s	15.8	64.8		16.3		65.2		27.9				
Green Ext Time (p_c), s	1.1	0.0		0.2		10.6		0.7				

Intersection Summary	
HCM 6th Ctrl Delay	41.4
HCM 6th LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	136	59	1340	1	97	46	682	847	2	30	1568	284
Future Volume (veh/h)	136	59	1340	1	97	46	682	847	2	30	1568	284
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1856	1856	1856	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	148	64	1457	1	105	50	741	921	2	33	1704	309
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	3	3	3	5	5	5	2	2	2
Cap, veh/h	260	113	575	1	133	114	547	2267	5	322	1353	238
Arrive On Green	0.20	0.20	0.20	0.07	0.07	0.07	0.16	0.64	0.64	0.45	0.45	0.45
Sat Flow, veh/h	1272	550	2812	17	1837	1572	3374	3551	8	606	3020	531
Grp Volume(v), veh/h	212	0	1457	106	0	50	741	450	473	33	981	1032
Grp Sat Flow(s),veh/h/ln	1822	0	1406	1855	0	1572	1687	1735	1825	606	1777	1775
Q Serve(g_s), s	14.8	0.0	29.0	8.0	0.0	4.3	23.0	17.9	17.9	4.5	63.5	63.5
Cycle Q Clear(g_c), s	14.8	0.0	29.0	8.0	0.0	4.3	23.0	17.9	17.9	4.5	63.5	63.5
Prop In Lane	0.70		1.00	0.01		1.00	1.00		0.00	1.00		0.30
Lane Grp Cap(c), veh/h	373	0	575	134	0	114	547	1108	1165	322	796	795
V/C Ratio(X)	0.57	0.00	2.53	0.79	0.00	0.44	1.35	0.41	0.41	0.10	1.23	1.30
Avail Cap(c_a), veh/h	373	0	575	242	0	205	547	1108	1165	322	796	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	50.7	0.0	56.4	64.7	0.0	63.0	59.4	12.5	12.5	22.8	39.1	39.1
Incr Delay (d2), s/veh	2.0	0.0	694.8	9.9	0.0	2.7	170.9	1.1	1.1	0.6	115.3	143.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.0	0.0	65.8	4.2	0.0	1.8	22.8	7.2	7.6	0.7	52.7	58.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	52.8	0.0	751.2	74.6	0.0	65.7	230.2	13.6	13.6	23.5	154.4	182.6
LnGrp LOS	D	A	F	E	A	E	F	B	B	C	F	F
Approach Vol, veh/h		1669			156			1664			2046	
Approach Delay, s/veh		662.5			71.8			110.1			166.5	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	94.5	33.0	27.0	67.5	14.2
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	90.5	29.0	23.0	63.5	18.5
Max Q Clear Time (g_c+I1), s	19.9	31.0	25.0	65.5	10.0
Green Ext Time (p_c), s	4.0	0.0	0.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	296.4
HCM 6th LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	310	67	1026	181	105	728
Future Volume (veh/h)	310	67	1026	181	105	728
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	337	0	1115	0	114	791
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	361		1250		206	1360
Arrive On Green	0.20	0.00	0.66	0.00	0.04	0.73
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	337	0	1115	0	114	791
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	25.1	0.0	66.2	0.0	2.7	26.9
Cycle Q Clear(g_c), s	25.1	0.0	66.2	0.0	2.7	26.9
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	361		1250		206	1360
V/C Ratio(X)	0.93		0.89		0.55	0.58
Avail Cap(c_a), veh/h	377		1250		375	1538
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	53.4	0.0	18.9	0.0	28.1	8.4
Incr Delay (d2), s/veh	29.7	0.0	9.9	0.0	2.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.0	0.0	29.0	0.0	2.4	9.5
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	83.1	0.0	28.8	0.0	30.4	8.9
LnGrp LOS	F		C		C	A
Approach Vol, veh/h	337		1115			905
Approach Delay, s/veh	83.1		28.8			11.6
Approach LOS	F		C			B

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	9.5	94.5		31.8		104.0
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	18.0	90.0		28.5		112.5
Max Q Clear Time (g_c+I1), s	4.7	68.2		27.1		28.9
Green Ext Time (p_c), s	0.2	6.0		0.2		3.6

Intersection Summary	
HCM 6th Ctrl Delay	29.9
HCM 6th LOS	C

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	163	194	148	96	113	211
Future Vol, veh/h	163	194	148	96	113	211
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	177	211	161	104	123	229

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	161	0	-	0	726	-
Stage 1	-	-	-	-	161	-
Stage 2	-	-	-	-	565	-
Critical Hdwy	4.11	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	-
Pot Cap-1 Maneuver	1424	-	-	0	393	0
Stage 1	-	-	-	0	870	0
Stage 2	-	-	-	0	571	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1424	-	-	-	338	-
Mov Cap-2 Maneuver	-	-	-	-	338	-
Stage 1	-	-	-	-	747	-
Stage 2	-	-	-	-	571	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	21.6
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1424	-	-	338
HCM Lane V/C Ratio	0.124	-	-	0.363
HCM Control Delay (s)	7.9	0	-	21.6
HCM Lane LOS	A	A	-	C
HCM 95th %tile Q(veh)	0.4	-	-	1.6

Intersection	
Int Delay, s/veh	5.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	202	59	221	138	36	155
Future Vol, veh/h	202	59	221	138	36	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	220	64	240	150	39	168

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	284	0	882	252
Stage 1	-	-	-	-	252	-
Stage 2	-	-	-	-	630	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1284	-	318	789
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	533	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1284	-	253	789
Mov Cap-2 Maneuver	-	-	-	-	253	-
Stage 1	-	-	-	-	792	-
Stage 2	-	-	-	-	424	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.2	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	564	-	-	1284	-
HCM Lane V/C Ratio	0.368	-	-	0.187	-
HCM Control Delay (s)	15.1	-	-	8.4	0
HCM Lane LOS	C	-	-	A	A
HCM 95th %tile Q(veh)	1.7	-	-	0.7	-

Intersection	
Int Delay, s/veh	38.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	85	431	300	158	205	106
Future Vol, veh/h	85	431	300	158	205	106
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	92	468	326	172	223	115

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	498	0	-	0	1064	412
Stage 1	-	-	-	-	412	-
Stage 2	-	-	-	-	652	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1066	-	-	-	248	642
Stage 1	-	-	-	-	671	-
Stage 2	-	-	-	-	520	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1066	-	-	-	~ 219	642
Mov Cap-2 Maneuver	-	-	-	-	~ 219	-
Stage 1	-	-	-	-	592	-
Stage 2	-	-	-	-	520	-

Approach	EB	WB	SB
HCM Control Delay, s	1.4	0	156.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1066	-	-	-	282
HCM Lane V/C Ratio	0.087	-	-	-	1.199
HCM Control Delay (s)	8.7	0	-	-	156.7
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.3	-	-	-	15.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	5	508	123	13	366	2	87	9	9	0	3	5
Future Vol, veh/h	5	508	123	13	366	2	87	9	9	0	3	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	3	3	3
Mvmt Flow	5	552	134	14	398	2	95	10	10	0	3	5

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	400	0	0	686	0	0	1060	1057	619	1066	1123	399
Stage 1	-	-	-	-	-	-	629	629	-	427	427	-
Stage 2	-	-	-	-	-	-	431	428	-	639	696	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.527	4.027	3.327
Pot Cap-1 Maneuver	1164	-	-	912	-	-	203	226	490	199	205	649
Stage 1	-	-	-	-	-	-	472	477	-	604	584	-
Stage 2	-	-	-	-	-	-	605	586	-	463	442	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1164	-	-	912	-	-	195	220	490	184	199	649
Mov Cap-2 Maneuver	-	-	-	-	-	-	195	220	-	184	199	-
Stage 1	-	-	-	-	-	-	469	474	-	600	572	-
Stage 2	-	-	-	-	-	-	585	574	-	441	439	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	41.5	15.5
HCM LOS			E	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	208	1164	-	-	912	-	-	351
HCM Lane V/C Ratio	0.549	0.005	-	-	0.015	-	-	0.025
HCM Control Delay (s)	41.5	8.1	0	-	9	0	-	15.5
HCM Lane LOS	E	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	2.9	0	-	-	0	-	-	0.1

Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	21	85	49	105	78	10
Future Vol, veh/h	21	85	49	105	78	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	23	92	53	114	85	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	167	0	-	0	248	110
Stage 1	-	-	-	-	110	-
Stage 2	-	-	-	-	138	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1417	-	-	-	743	946
Stage 1	-	-	-	-	917	-
Stage 2	-	-	-	-	891	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1417	-	-	-	730	946
Mov Cap-2 Maneuver	-	-	-	-	730	-
Stage 1	-	-	-	-	901	-
Stage 2	-	-	-	-	891	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	10.5
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1417	-	-	-	749
HCM Lane V/C Ratio	0.016	-	-	-	0.128
HCM Control Delay (s)	7.6	0	-	-	10.5
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	90	0	13	46	1	16
Future Vol, veh/h	90	0	13	46	1	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	98	0	14	50	1	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	98	0	176	98
Stage 1	-	-	-	-	98	-
Stage 2	-	-	-	-	78	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1501	-	816	961
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	948	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1501	-	808	961
Mov Cap-2 Maneuver	-	-	-	-	808	-
Stage 1	-	-	-	-	928	-
Stage 2	-	-	-	-	939	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.6	8.9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	950	-	-	1501	-
HCM Lane V/C Ratio	0.019	-	-	0.009	-
HCM Control Delay (s)	8.9	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

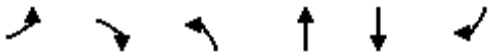
Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1067	32	121	817	32	9	4	102	9	5	6
Future Vol, veh/h	4	1067	32	121	817	32	9	4	102	9	5	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	4	1160	35	132	888	35	10	4	111	10	5	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	923	0	0	1195	0	0	1897	2373	598	1760	2373	462
Stage 1	-	-	-	-	-	-	1186	1186	-	1170	1170	-
Stage 2	-	-	-	-	-	-	711	1187	-	590	1203	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	730	-	-	574	-	-	43	35	448	54	35	549
Stage 1	-	-	-	-	-	-	202	262	-	207	267	-
Stage 2	-	-	-	-	-	-	392	262	-	463	258	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	730	-	-	574	-	-	30	27	448	29	27	549
Mov Cap-2 Maneuver	-	-	-	-	-	-	30	27	-	29	27	-
Stage 1	-	-	-	-	-	-	201	261	-	206	206	-
Stage 2	-	-	-	-	-	-	290	202	-	341	257	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.6	69.4	179.6
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	170	730	-	-	574	-	-	39
HCM Lane V/C Ratio	0.735	0.006	-	-	0.229	-	-	0.557
HCM Control Delay (s)	69.4	10	-	-	13.1	-	-	179.6
HCM Lane LOS	F	A	-	-	B	-	-	F
HCM 95th %tile Q(veh)	4.6	0	-	-	0.9	-	-	2



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	338	798	0	1646	536	0
Future Volume (vph)	338	798	0	1646	536	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.94	0.85		1.00	1.00	
Flt Protected	0.97	1.00		1.00	1.00	
Satd. Flow (prot)	1679	1490		3574	3574	
Flt Permitted	0.97	1.00		1.00	1.00	
Satd. Flow (perm)	1679	1490		3574	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	367	867	0	1789	583	0
RTOR Reduction (vph)	22	166	0	0	0	0
Lane Group Flow (vph)	614	432	0	1789	583	0
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	45.3	45.3		65.1	65.1	
Effective Green, g (s)	45.3	45.3		65.1	65.1	
Actuated g/C Ratio	0.38	0.38		0.55	0.55	
Clearance Time (s)	4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	642	570		1965	1965	
v/s Ratio Prot	c0.37			c0.50	0.16	
v/s Ratio Perm		0.29				
v/c Ratio	0.96	0.76		0.91	0.30	
Uniform Delay, d1	35.6	31.8		24.0	14.3	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	24.9	5.7		7.8	0.4	
Delay (s)	60.4	37.5		31.8	14.7	
Level of Service	E	D		C	B	
Approach Delay (s)	49.3			31.8	14.7	
Approach LOS	D			C	B	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	118.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	950	1034	536	856
Future Volume (veh/h)	0	0	950	1034	536	856
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1885	1885	1885	1885
Adj Flow Rate, veh/h			1033	1124	583	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			1	1	1	1
Cap, veh/h			1080	3462	2222	
Arrive On Green			0.31	0.97	0.62	0.00
Sat Flow, veh/h			1795	3676	3770	0
Grp Volume(v), veh/h			1033	1124	583	0
Grp Sat Flow(s),veh/h/ln			1795	1791	1791	0
Q Serve(g_s), s			30.1	1.8	8.9	0.0
Cycle Q Clear(g_c), s			30.1	1.8	8.9	0.0
Prop In Lane			1.00			0.00
Lane Grp Cap(c), veh/h			1080	3462	2222	
V/C Ratio(X)			0.96	0.32	0.26	
Avail Cap(c_a), veh/h			1431	3462	2222	
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh			13.6	0.1	10.3	0.0
Incr Delay (d2), s/veh			12.6	0.2	0.3	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			22.0	0.1	3.1	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			26.1	0.3	10.6	0.0
LnGrp LOS			C	A	B	
Approach Vol, veh/h				2157	583	A
Approach Delay, s/veh				12.7	10.6	
Approach LOS				B	B	

Timer - Assigned Phs	2		5	6
Phs Duration (G+Y+Rc), s	120.0		41.6	78.4
Change Period (Y+Rc), s	4.0		4.0	4.0
Max Green Setting (Gmax), s	116.0		61.0	51.0
Max Q Clear Time (g_c+I1), s	3.8		32.1	10.9
Green Ext Time (p_c), s	5.4		5.4	2.3

Intersection Summary	
HCM 6th Ctrl Delay	12.2
HCM 6th LOS	B

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

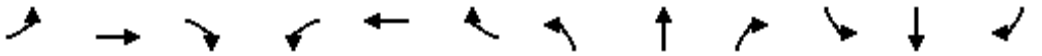
Intersection	
Int Delay, s/veh	46.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	171	230	415	111	41	416
Future Vol, veh/h	171	230	415	111	41	416
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	186	250	451	121	45	452

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1054	512	0	0	572	0
Stage 1	512	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	251	564	-	-	1001	-
Stage 1	604	-	-	-	-	-
Stage 2	585	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	236	564	-	-	1001	-
Mov Cap-2 Maneuver	236	-	-	-	-	-
Stage 1	604	-	-	-	-	-
Stage 2	550	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	158.5	0	0.8
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	354	1001	-
HCM Lane V/C Ratio	-	-	1.231	0.045	-
HCM Control Delay (s)	-	-	158.5	8.8	0
HCM Lane LOS	-	-	F	A	A
HCM 95th %tile Q(veh)	-	-	18.9	0.1	-



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	157	790	29	161	231	69	69	853	95	87	1200	161
Future Volume (veh/h)	157	790	29	161	231	69	69	853	95	87	1200	161
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	171	859	32	175	251	75	75	927	103	95	1304	175
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	478	752	28	165	561	168	137	1064	118	115	1249	557
Arrive On Green	0.07	0.42	0.42	0.06	0.40	0.40	0.04	0.33	0.33	0.06	0.35	0.35
Sat Flow, veh/h	1795	1806	67	1795	1394	416	1795	3250	361	1795	3582	1598
Grp Volume(v), veh/h	171	0	891	175	0	326	75	511	519	95	1304	175
Grp Sat Flow(s),veh/h/ln	1795	0	1873	1795	0	1810	1795	1791	1820	1795	1791	1598
Q Serve(g_s), s	6.6	0.0	50.0	7.0	0.0	15.7	3.6	32.2	32.2	6.3	41.9	9.6
Cycle Q Clear(g_c), s	6.6	0.0	50.0	7.0	0.0	15.7	3.6	32.2	32.2	6.3	41.9	9.6
Prop In Lane	1.00		0.04	1.00		0.23	1.00		0.20	1.00		1.00
Lane Grp Cap(c), veh/h	478	0	780	165	0	729	137	587	596	115	1249	557
V/C Ratio(X)	0.36	0.00	1.14	1.06	0.00	0.45	0.55	0.87	0.87	0.82	1.04	0.31
Avail Cap(c_a), veh/h	504	0	780	165	0	729	142	587	596	115	1249	557
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	19.5	0.0	35.0	31.7	0.0	26.1	34.0	38.0	38.0	55.5	39.1	28.6
Incr Delay (d2), s/veh	0.5	0.0	78.8	87.6	0.0	0.4	4.0	16.2	16.0	36.4	37.7	1.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	39.2	7.0	0.0	6.9	1.7	16.6	16.8	4.0	24.6	3.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.0	0.0	113.8	119.3	0.0	26.6	38.1	54.2	53.9	91.9	76.7	30.0
LnGrp LOS	B	A	F	F	A	C	D	D	D	F	F	C
Approach Vol, veh/h		1062			501			1105			1574	
Approach Delay, s/veh		98.7			59.0			53.0			72.5	
Approach LOS		F			E			D			E	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	11.7	43.3	11.0	54.0	9.1	45.9	12.7	52.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	7.7	39.3	7.0	50.0	5.5	41.5	10.4	46.6
Max Q Clear Time (g_c+I1), s	8.3	34.2	9.0	52.0	5.6	43.9	8.6	17.7
Green Ext Time (p_c), s	0.0	2.1	0.0	0.0	0.0	0.0	0.1	1.2

Intersection Summary	
HCM 6th Ctrl Delay	72.4
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	41	79	164	15	79	135	70	850	19	68	1304	30
Future Volume (veh/h)	41	79	164	15	79	135	70	850	19	68	1304	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	45	86	178	16	86	147	76	924	21	74	1417	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	166	321	272	45	107	168	285	2423	55	468	2421	56
Arrive On Green	0.17	0.17	0.17	0.17	0.17	0.17	0.04	0.68	0.68	0.04	0.68	0.68
Sat Flow, veh/h	1156	1885	1598	56	629	986	1795	3580	81	1795	3578	83
Grp Volume(v), veh/h	45	86	178	249	0	0	76	462	483	74	709	741
Grp Sat Flow(s),veh/h/ln	1156	1885	1598	1670	0	0	1795	1791	1871	1795	1791	1870
Q Serve(g_s), s	0.0	4.3	11.2	6.9	0.0	0.0	1.6	12.1	12.1	0.0	22.8	22.8
Cycle Q Clear(g_c), s	9.1	4.3	11.2	15.6	0.0	0.0	1.6	12.1	12.1	0.0	22.8	22.8
Prop In Lane	1.00		1.00	0.06		0.59	1.00		0.04	1.00		0.04
Lane Grp Cap(c), veh/h	166	321	272	320	0	0	285	1212	1266	468	1212	1265
V/C Ratio(X)	0.27	0.27	0.66	0.78	0.00	0.00	0.27	0.38	0.38	0.16	0.58	0.59
Avail Cap(c_a), veh/h	282	508	431	483	0	0	377	1212	1266	497	1212	1265
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	40.8	38.8	41.7	43.4	0.0	0.0	10.2	7.6	7.6	10.4	9.3	9.3
Incr Delay (d2), s/veh	0.9	0.4	2.7	4.6	0.0	0.0	0.5	0.9	0.9	0.2	2.1	2.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.0	4.6	6.8	0.0	0.0	0.6	4.5	4.7	0.8	8.6	9.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	41.7	39.3	44.4	48.0	0.0	0.0	10.7	8.5	8.4	10.6	11.4	11.3
LnGrp LOS	D	D	D	D	A	A	B	A	A	B	B	B
Approach Vol, veh/h		309			249			1021			1524	
Approach Delay, s/veh		42.5			48.0			8.6			11.3	
Approach LOS		D			D			A			B	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	8.5	76.8		22.3	8.5	76.8		22.3
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0
Max Green Setting (Gmax), s	6.3	72.8		29.0	10.0	69.0		29.0
Max Q Clear Time (g_c+I1), s	2.6	14.1		13.2	3.6	24.8		17.6
Green Ext Time (p_c), s	0.1	4.1		1.1	0.1	7.8		0.7

Intersection Summary	
HCM 6th Ctrl Delay	16.5
HCM 6th LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	60	232	30	114	157	90	24	846	168	237	1265	35
Future Volume (veh/h)	60	232	30	114	157	90	24	846	168	237	1265	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	65	252	33	124	171	98	26	920	183	258	1375	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	70	270	35	298	187	107	147	1156	230	303	1875	52
Arrive On Green	0.21	0.21	0.21	0.17	0.17	0.17	0.39	0.39	0.39	0.10	0.53	0.53
Sat Flow, veh/h	338	1312	172	1781	1116	639	380	2954	587	1795	3560	98
Grp Volume(v), veh/h	350	0	0	124	0	269	26	553	550	258	691	722
Grp Sat Flow(s),veh/h/ln	1823	0	0	1781	0	1755	380	1777	1765	1795	1791	1867
Q Serve(g_s), s	22.6	0.0	0.0	7.5	0.0	18.0	6.8	32.9	33.0	9.8	35.6	35.7
Cycle Q Clear(g_c), s	22.6	0.0	0.0	7.5	0.0	18.0	26.3	32.9	33.0	9.8	35.6	35.7
Prop In Lane	0.19		0.09	1.00		0.36	1.00		0.33	1.00		0.05
Lane Grp Cap(c), veh/h	375	0	0	298	0	293	147	695	690	303	943	983
V/C Ratio(X)	0.93	0.00	0.00	0.42	0.00	0.92	0.18	0.80	0.80	0.85	0.73	0.73
Avail Cap(c_a), veh/h	381	0	0	298	0	293	147	695	690	360	943	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	46.7	0.0	0.0	44.6	0.0	49.0	38.3	32.2	32.2	25.1	21.8	21.9
Incr Delay (d2), s/veh	29.4	0.0	0.0	0.9	0.0	31.8	2.6	9.2	9.3	15.5	5.0	4.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	0.0	3.4	0.0	10.5	0.7	15.7	15.6	5.3	15.8	16.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	76.0	0.0	0.0	45.5	0.0	80.8	40.9	41.4	41.5	40.6	26.9	26.7
LnGrp LOS	E	A	A	D	A	F	D	D	D	D	C	C
Approach Vol, veh/h		350			393			1129			1671	
Approach Delay, s/veh		76.0			69.7			41.4			28.9	
Approach LOS		E			E			D			C	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	16.2	50.8		28.6		67.0		24.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	16.0	43.0		25.0		63.0		20.0				
Max Q Clear Time (g_c+I1), s	11.6	35.0		24.6		37.7		20.0				
Green Ext Time (p_c), s	0.4	3.3		0.1		6.9		0.0				

Intersection Summary		
HCM 6th Ctrl Delay	42.1	
HCM 6th LOS	D	

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	231	81	979	2	40	46	1120	775	3	67	1183	216
Future Volume (veh/h)	231	81	979	2	40	46	1120	775	3	67	1183	216
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1856	1856	1856	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	251	88	1064	2	43	50	1217	842	3	73	1286	235
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	3	3	3	5	5	5	2	2	2
Cap, veh/h	252	88	1238	4	86	77	854	2309	8	232	1084	196
Arrive On Green	0.19	0.19	0.19	0.05	0.05	0.05	0.25	0.65	0.65	0.36	0.36	0.36
Sat Flow, veh/h	1346	472	2812	82	1769	1572	3374	3546	13	652	3005	544
Grp Volume(v), veh/h	339	0	1064	45	0	50	1217	412	433	73	755	766
Grp Sat Flow(s),veh/h/ln	1818	0	1406	1851	0	1572	1687	1735	1824	652	1777	1772
Q Serve(g_s), s	19.9	0.0	9.3	2.5	0.0	3.3	27.0	11.6	11.6	10.1	38.5	38.5
Cycle Q Clear(g_c), s	19.9	0.0	9.3	2.5	0.0	3.3	27.0	11.6	11.6	21.7	38.5	38.5
Prop In Lane	0.74		1.00	0.04		1.00	1.00		0.01	1.00		0.31
Lane Grp Cap(c), veh/h	341	0	1238	90	0	77	854	1130	1188	232	641	640
V/C Ratio(X)	0.99	0.00	0.86	0.50	0.00	0.65	1.43	0.36	0.36	0.31	1.18	1.20
Avail Cap(c_a), veh/h	341	0	1238	321	0	273	854	1130	1188	232	641	640
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	43.3	0.0	26.9	49.5	0.0	49.9	39.9	8.5	8.5	33.6	34.1	34.1
Incr Delay (d2), s/veh	47.3	0.0	6.3	4.2	0.0	9.0	198.4	0.9	0.9	3.5	95.6	103.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.3	0.0	12.8	1.3	0.0	1.5	34.5	4.3	4.5	1.8	33.1	34.5
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	90.6	0.0	33.2	53.7	0.0	58.8	238.2	9.4	9.4	37.1	129.7	137.7
LnGrp LOS	F	A	C	D	A	E	F	A	A	D	F	F
Approach Vol, veh/h		1403			95			2062			1594	
Approach Delay, s/veh		47.0			56.4			144.5			129.3	
Approach LOS		D			E			F			F	

Timer - Assigned Phs	2		4	5	6		8					
Phs Duration (G+Y+Rc), s	73.5		24.0	31.0	42.5		9.2					
Change Period (Y+Rc), s	4.0		4.0	4.0	4.0		4.0					
Max Green Setting (Gmax), s	69.5		20.0	27.0	38.5		18.5					
Max Q Clear Time (g_c+I1), s	13.6		21.9	29.0	40.5		5.3					
Green Ext Time (p_c), s	3.5		0.0	0.0	0.0		0.2					

Intersection Summary		
HCM 6th Ctrl Delay	111.6	
HCM 6th LOS	F	

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	605	131	709	157	91	1042
Future Volume (veh/h)	605	131	709	157	91	1042
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	658	0	771	0	99	1133
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	628		960		250	1082
Arrive On Green	0.35	0.00	0.51	0.00	0.04	0.58
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	658	0	771	0	99	1133
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	42.0	0.0	40.8	0.0	3.1	70.0
Cycle Q Clear(g_c), s	42.0	0.0	40.8	0.0	3.1	70.0
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	628		960		250	1082
V/C Ratio(X)	1.05		0.80		0.40	1.05
Avail Cap(c_a), veh/h	628		960		260	1082
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	39.0	0.0	24.5	0.0	20.8	25.0
Incr Delay (d2), s/veh	48.8	0.0	7.1	0.0	1.0	40.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	26.0	0.0	18.9	0.0	1.2	39.6
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	87.8	0.0	31.6	0.0	21.8	65.4
LnGrp LOS	F		C		C	F
Approach Vol, veh/h	658	A	771	A		1232
Approach Delay, s/veh	87.8		31.6			61.9
Approach LOS	F		C			E

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	8.9	65.1		46.0		74.0
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0
Max Green Setting (Gmax), s	5.6	60.4		42.0		70.0
Max Q Clear Time (g_c+I1), s	5.1	42.8		44.0		72.0
Green Ext Time (p_c), s	0.0	3.1		0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	59.5
HCM 6th LOS	E

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	10.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	303	158	325	179	93	174
Future Vol, veh/h	303	158	325	179	93	174
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	329	172	353	195	101	189

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	353	0	-	0	1183	-
Stage 1	-	-	-	-	353	-
Stage 2	-	-	-	-	830	-
Critical Hdwy	4.11	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	-
Pot Cap-1 Maneuver	1211	-	-	0	210	0
Stage 1	-	-	-	0	713	0
Stage 2	-	-	-	0	430	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1211	-	-	-	147	-
Mov Cap-2 Maneuver	-	-	-	-	147	-
Stage 1	-	-	-	-	499	-
Stage 2	-	-	-	-	430	-

Approach	EB	WB	SB
HCM Control Delay, s	6	0	71.1
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1211	-	-	147
HCM Lane V/C Ratio	0.272	-	-	0.688
HCM Control Delay (s)	9.1	0	-	71.1
HCM Lane LOS	A	A	-	F
HCM 95th %tile Q(veh)	1.1	-	-	3.9

Intersection	
Int Delay, s/veh	9.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	170	49	184	315	69	291
Future Vol, veh/h	170	49	184	315	69	291
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	185	53	200	342	75	316

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	238	0	954	212
Stage 1	-	-	-	-	212	-
Stage 2	-	-	-	-	742	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1335	-	288	831
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	473	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1335	-	235	831
Mov Cap-2 Maneuver	-	-	-	-	235	-
Stage 1	-	-	-	-	826	-
Stage 2	-	-	-	-	385	-

Approach	EB	WB	NB
HCM Control Delay, s	0	3	25.1
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	559	-	-	1335	-
HCM Lane V/C Ratio	0.7	-	-	0.15	-
HCM Control Delay (s)	25.1	-	-	8.2	0
HCM Lane LOS	D	-	-	A	A
HCM 95th %tile Q(veh)	5.5	-	-	0.5	-

Intersection	
Int Delay, s/veh	60.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	133	315	491	298	170	87
Future Vol, veh/h	133	315	491	298	170	87
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	145	342	534	324	185	95

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	858	0	-	0	1328	696
Stage 1	-	-	-	-	696	-
Stage 2	-	-	-	-	632	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	783	-	-	-	~ 172	443
Stage 1	-	-	-	-	496	-
Stage 2	-	-	-	-	532	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	783	-	-	-	~ 133	443
Mov Cap-2 Maneuver	-	-	-	-	~ 133	-
Stage 1	-	-	-	-	382	-
Stage 2	-	-	-	-	532	-

Approach	EB	WB	SB
HCM Control Delay, s	3.2	0	$ 345
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	783	-	-	-	174
HCM Lane V/C Ratio	0.185	-	-	-	1.605
HCM Control Delay (s)	10.6	0	-	-	$ 345
HCM Lane LOS	B	A	-	-	F
HCM 95th %tile Q(veh)	0.7	-	-	-	18.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	20.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	3	386	96	11	621	0	153	1	14	0	3	15
Future Vol, veh/h	3	386	96	11	621	0	153	1	14	0	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	3	3	3
Mvmt Flow	3	420	104	12	675	0	166	1	15	0	3	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	675	0	0	524	0	0	1187	1177	472	1185	1229	675
Stage 1	-	-	-	-	-	-	478	478	-	699	699	-
Stage 2	-	-	-	-	-	-	709	699	-	486	530	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.527	4.027	3.327
Pot Cap-1 Maneuver	921	-	-	1048	-	-	~ 166	192	594	165	177	452
Stage 1	-	-	-	-	-	-	570	557	-	429	440	-
Stage 2	-	-	-	-	-	-	427	443	-	561	525	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	921	-	-	1048	-	-	~ 155	188	594	157	173	452
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 155	188	-	157	173	-
Stage 1	-	-	-	-	-	-	567	554	-	427	432	-
Stage 2	-	-	-	-	-	-	401	435	-	543	522	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.1	157.8	15.7
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	165	921	-	-	1048	-	-	356
HCM Lane V/C Ratio	1.107	0.004	-	-	0.011	-	-	0.055
HCM Control Delay (s)	157.8	8.9	0	-	8.5	0	-	15.7
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	9.4	0	-	-	0	-	-	0.2

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	4.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	17	69	91	83	136	19
Future Vol, veh/h	17	69	91	83	136	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	18	75	99	90	148	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	189	0	-	0	255	144
Stage 1	-	-	-	-	144	-
Stage 2	-	-	-	-	111	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1391	-	-	-	736	906
Stage 1	-	-	-	-	886	-
Stage 2	-	-	-	-	916	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1391	-	-	-	726	906
Mov Cap-2 Maneuver	-	-	-	-	726	-
Stage 1	-	-	-	-	874	-
Stage 2	-	-	-	-	916	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1391	-	-	-	744
HCM Lane V/C Ratio	0.013	-	-	-	0.226
HCM Control Delay (s)	7.6	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.9

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	67	0	11	99	1	26
Future Vol, veh/h	67	0	11	99	1	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	73	0	12	108	1	28

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	73	0	205	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	132	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1533	-	786	992
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	897	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1533	-	780	992
Mov Cap-2 Maneuver	-	-	-	-	780	-
Stage 1	-	-	-	-	952	-
Stage 2	-	-	-	-	890	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.7	8.8
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	982	-	-	1533	-
HCM Lane V/C Ratio	0.03	-	-	0.008	-
HCM Control Delay (s)	8.8	-	-	7.4	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	17.4

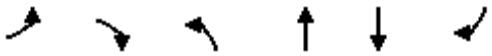
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	2	797	23	89	1371	23	15	7	168	14	3	10
Future Vol, veh/h	2	797	23	89	1371	23	15	7	168	14	3	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	2	866	25	97	1490	25	16	8	183	15	3	11

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1515	0	0	891	0	0	1824	2592	446	2138	2592	758
Stage 1	-	-	-	-	-	-	883	883	-	1697	1697	-
Stage 2	-	-	-	-	-	-	941	1709	-	441	895	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	432	-	-	750	-	-	49	25	563	28	25	352
Stage 1	-	-	-	-	-	-	309	364	-	97	148	-
Stage 2	-	-	-	-	-	-	285	146	-	568	360	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	432	-	-	750	-	-	38	22	563	~ 13	22	352
Mov Cap-2 Maneuver	-	-	-	-	-	-	38	22	-	~ 13	22	-
Stage 1	-	-	-	-	-	-	307	362	-	97	129	-
Stage 2	-	-	-	-	-	-	234	127	-	374	358	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	0.6	146.1	$ 566.1
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	188	432	-	-	750	-	-	22
HCM Lane V/C Ratio	1.099	0.005	-	-	0.129	-	-	1.334
HCM Control Delay (s)	146.1	13.4	-	-	10.5	-	-	$ 566.1
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	10	0	-	-	0.4	-	-	3.8

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	905	1083	0	1486	693	0
Future Volume (vph)	905	1083	0	1486	693	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		0.95	0.95	
Frt	0.98	0.85		1.00	1.00	
Flt Protected	0.96	1.00		1.00	1.00	
Satd. Flow (prot)	1732	1490		3574	3574	
Flt Permitted	0.96	1.00		1.00	1.00	
Satd. Flow (perm)	1732	1490		3574	3574	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	984	1177	0	1615	753	0
RTOR Reduction (vph)	4	42	0	0	0	0
Lane Group Flow (vph)	1133	982	0	1615	753	0
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%
Turn Type	Prot	Perm		NA	NA	
Protected Phases	4			2	6	
Permitted Phases		4				
Actuated Green, G (s)	80.5	80.5		60.5	60.5	
Effective Green, g (s)	80.5	80.5		60.5	60.5	
Actuated g/C Ratio	0.54	0.54		0.40	0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	929	799		1441	1441	
v/s Ratio Prot	0.65			c0.45	0.21	
v/s Ratio Perm		c0.66				
v/c Ratio	1.22	1.23		1.12	0.52	
Uniform Delay, d1	34.8	34.8		44.8	33.8	
Progression Factor	1.00	1.00		1.00	1.00	
Incremental Delay, d2	108.7	113.9		64.2	1.4	
Delay (s)	143.5	148.7		108.9	35.2	
Level of Service	F	F		F	D	
Approach Delay (s)	145.9			108.9	35.2	
Approach LOS	F			F	D	

Intersection Summary			
HCM 2000 Control Delay	114.3	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	120.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	0	0	670	1721	693	619
Future Volume (veh/h)	0	0	670	1721	693	619
Initial Q (Qb), veh			0	0	0	0
Ped-Bike Adj(A_pbT)			1.00			1.00
Parking Bus, Adj			1.00	1.00	1.00	1.00
Work Zone On Approach				No	No	
Adj Sat Flow, veh/h/ln			1885	1885	1885	1885
Adj Flow Rate, veh/h			728	1871	753	0
Peak Hour Factor			0.92	0.92	0.92	0.92
Percent Heavy Veh, %			1	1	1	1
Cap, veh/h			768	3474	3131	
Arrive On Green			0.07	0.97	0.87	0.00
Sat Flow, veh/h			1795	3676	3770	0
Grp Volume(v), veh/h			728	1871	753	0
Grp Sat Flow(s),veh/h/ln			1795	1791	1791	0
Q Serve(g_s), s			4.8	4.9	5.0	0.0
Cycle Q Clear(g_c), s			4.8	4.9	5.0	0.0
Prop In Lane			1.00			0.00
Lane Grp Cap(c), veh/h			768	3474	3131	
V/C Ratio(X)			0.95	0.54	0.24	
Avail Cap(c_a), veh/h			1482	3474	3131	
HCM Platoon Ratio			1.00	1.00	1.00	1.00
Upstream Filter(I)			1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh			7.2	0.1	1.5	0.0
Incr Delay (d2), s/veh			7.1	0.6	0.2	0.0
Initial Q Delay(d3),s/veh			0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln			1.5	0.3	0.7	0.0
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh			14.3	0.7	1.7	0.0
LnGrp LOS			B	A	A	
Approach Vol, veh/h				2599	753	A
Approach Delay, s/veh				4.5	1.7	
Approach LOS				A	A	

Timer - Assigned Phs	2			5	6
Phs Duration (G+Y+Rc), s	150.0			14.4	135.6
Change Period (Y+Rc), s	4.5			4.5	4.5
Max Green Setting (Gmax), s	145.5			69.5	71.5
Max Q Clear Time (g_c+I1), s	6.9			6.8	7.0
Green Ext Time (p_c), s	13.6			3.1	3.2

Intersection Summary	
HCM 6th Ctrl Delay	3.9
HCM 6th LOS	A

Notes

Unsignalized Delay for [SBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	52

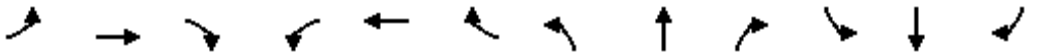
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	87	88	559	400	117	727
Future Vol, veh/h	87	88	559	400	117	727
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	2	2	2	2
Mvmt Flow	95	96	608	435	127	790

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1870	826	0	0	1043	0
Stage 1	826	-	-	-	-	-
Stage 2	1044	-	-	-	-	-
Critical Hdwy	6.41	6.21	-	-	4.12	-
Critical Hdwy Stg 1	5.41	-	-	-	-	-
Critical Hdwy Stg 2	5.41	-	-	-	-	-
Follow-up Hdwy	3.509	3.309	-	-	2.218	-
Pot Cap-1 Maneuver	~ 80	373	-	-	667	-
Stage 1	432	-	-	-	-	-
Stage 2	341	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	~ 53	373	-	-	667	-
Mov Cap-2 Maneuver	~ 53	-	-	-	-	-
Stage 1	432	-	-	-	-	-
Stage 2	225	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	$ 580.5	0	1.6
HCM LOS	F		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	93	667	-
HCM Lane V/C Ratio	-	-	2.045	0.191	-
HCM Control Delay (s)	-	-	$ 580.5	11.7	0
HCM Lane LOS	-	-	F	B	A
HCM 95th %tile Q(veh)	-	-	16.5	0.7	-

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	138	512	95	241	292	53	92	887	182	352	1964	252
Future Volume (veh/h)	138	512	95	241	292	53	92	887	182	352	1964	252
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	150	557	103	262	317	58	100	964	198	383	2135	274
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	332	423	78	269	499	91	114	1016	208	336	1648	735
Arrive On Green	0.07	0.27	0.27	0.12	0.32	0.32	0.04	0.34	0.34	0.15	0.46	0.46
Sat Flow, veh/h	1795	1548	286	1795	1550	284	1795	2960	607	1795	3582	1598
Grp Volume(v), veh/h	150	0	660	262	0	375	100	583	579	383	2135	274
Grp Sat Flow(s),veh/h/ln	1795	0	1834	1795	0	1834	1795	1791	1776	1795	1791	1598
Q Serve(g_s), s	8.9	0.0	41.0	17.8	0.0	26.1	5.5	47.5	47.7	23.0	69.0	16.8
Cycle Q Clear(g_c), s	8.9	0.0	41.0	17.8	0.0	26.1	5.5	47.5	47.7	23.0	69.0	16.8
Prop In Lane	1.00		0.16	1.00		0.15	1.00		0.34	1.00		1.00
Lane Grp Cap(c), veh/h	332	0	501	269	0	591	114	615	610	336	1648	735
V/C Ratio(X)	0.45	0.00	1.32	0.97	0.00	0.63	0.88	0.95	0.95	1.14	1.30	0.37
Avail Cap(c_a), veh/h	420	0	501	269	0	591	114	615	610	336	1648	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	36.2	0.0	54.5	47.6	0.0	43.3	39.4	47.9	48.0	48.1	40.5	26.4
Incr Delay (d2), s/veh	1.0	0.0	156.2	47.0	0.0	2.2	48.9	25.5	26.0	93.0	137.7	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.1	0.0	40.6	10.2	0.0	12.3	4.0	25.5	25.4	16.5	61.4	6.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.2	0.0	210.7	94.6	0.0	45.5	88.2	73.4	74.0	141.1	178.2	27.8
LnGrp LOS	D	A	F	F	A	D	F	E	E	F	F	C
Approach Vol, veh/h		810			637			1262			2792	
Approach Delay, s/veh		178.6			65.7			74.9			158.4	
Approach LOS		F			E			E			F	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	27.0	55.5	22.5	45.0	9.5	73.0	15.2	52.3
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	23.0	51.5	18.5	41.0	5.5	69.0	18.5	41.0
Max Q Clear Time (g_c+I1), s	25.0	49.7	19.8	43.0	7.5	71.0	10.9	28.1
Green Ext Time (p_c), s	0.0	1.0	0.0	0.0	0.0	0.0	0.3	1.2

Intersection Summary	
HCM 6th Ctrl Delay	131.5
HCM 6th LOS	F

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	28	52	109	9	120	90	104	1039	12	101	2153	49
Future Volume (veh/h)	28	52	109	9	120	90	104	1039	12	101	2153	49
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885	1885
Adj Flow Rate, veh/h	30	57	118	10	130	98	113	1129	13	110	2340	53
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	1	1	1	1	1	1	1	1
Cap, veh/h	158	166	141	9	122	92	135	2332	27	352	2259	51
Arrive On Green	0.09	0.09	0.09	0.13	0.13	0.13	0.05	0.64	0.64	0.04	0.63	0.63
Sat Flow, veh/h	1795	1885	1598	74	957	721	1795	3627	42	1795	3581	81
Grp Volume(v), veh/h	30	57	118	238	0	0	113	557	585	110	1166	1227
Grp Sat Flow(s),veh/h/ln	1795	1885	1598	1752	0	0	1795	1791	1878	1795	1791	1871
Q Serve(g_s), s	2.3	4.2	10.7	18.8	0.0	0.0	5.1	23.7	23.7	3.2	92.7	92.7
Cycle Q Clear(g_c), s	2.3	4.2	10.7	18.8	0.0	0.0	5.1	23.7	23.7	3.2	92.7	92.7
Prop In Lane	1.00		1.00	0.04		0.41	1.00		0.02	1.00		0.04
Lane Grp Cap(c), veh/h	158	166	141	224	0	0	135	1151	1207	352	1130	1180
V/C Ratio(X)	0.19	0.34	0.84	1.06	0.00	0.00	0.84	0.48	0.48	0.31	1.03	1.04
Avail Cap(c_a), veh/h	202	212	179	224	0	0	135	1151	1207	403	1130	1180
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	62.1	63.0	66.0	64.1	0.0	0.0	47.5	13.6	13.6	10.8	27.1	27.1
Incr Delay (d2), s/veh	0.6	1.2	23.4	77.4	0.0	0.0	35.3	1.5	1.4	0.5	35.3	37.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	2.1	5.3	13.2	0.0	0.0	5.5	9.9	10.4	1.3	48.4	51.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	62.7	64.2	89.4	141.5	0.0	0.0	82.8	15.1	15.0	11.3	62.4	64.2
LnGrp LOS	E	E	F	F	A	A	F	B	B	B	F	F
Approach Vol, veh/h		205			238			1255			2503	
Approach Delay, s/veh		78.5			141.5			21.1			61.0	
Approach LOS		E			F			C			E	

Timer - Assigned Phs	1	2		4	5	6		8
Phs Duration (G+Y+Rc), s	9.2	98.5		16.4	11.0	96.7		22.8
Change Period (Y+Rc), s	4.0	4.0		3.5	4.0	* 4		4.0
Max Green Setting (Gmax), s	9.4	89.8		16.5	7.0	* 93		18.8
Max Q Clear Time (g_c+I1), s	5.3	25.7		12.7	7.1	94.7		20.8
Green Ext Time (p_c), s	0.1	5.3		0.2	0.0	0.0		0.0

Intersection Summary	
HCM 6th Ctrl Delay	54.5
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	154	20	172	235	136	36	1026	112	355	1956	53
Future Volume (veh/h)	40	154	20	172	235	136	36	1026	112	355	1956	53
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1885	1885	1885
Adj Flow Rate, veh/h	43	167	22	187	255	148	39	1115	122	386	2126	58
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	1	1	1
Cap, veh/h	42	163	21	368	229	133	48	1217	133	403	2099	57
Arrive On Green	0.12	0.12	0.12	0.21	0.21	0.21	0.38	0.38	0.38	0.19	0.59	0.59
Sat Flow, veh/h	338	1312	173	1781	1110	644	180	3231	353	1795	3562	97
Grp Volume(v), veh/h	232	0	0	187	0	403	39	613	624	386	1064	1120
Grp Sat Flow(s),veh/h/ln	1822	0	0	1781	0	1754	180	1777	1807	1795	1791	1868
Q Serve(g_s), s	18.6	0.0	0.0	14.0	0.0	31.0	0.0	49.2	49.4	26.0	88.4	88.4
Cycle Q Clear(g_c), s	18.6	0.0	0.0	14.0	0.0	31.0	56.5	49.2	49.4	26.0	88.4	88.4
Prop In Lane	0.19		0.09	1.00		0.37	1.00		0.20	1.00		0.05
Lane Grp Cap(c), veh/h	226	0	0	368	0	363	48	669	681	403	1055	1101
V/C Ratio(X)	1.03	0.00	0.00	0.51	0.00	1.11	0.81	0.92	0.92	0.96	1.01	1.02
Avail Cap(c_a), veh/h	226	0	0	368	0	363	48	669	681	403	1055	1101
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	65.7	0.0	0.0	52.7	0.0	59.5	75.0	44.5	44.5	46.3	30.8	30.8
Incr Delay (d2), s/veh	67.0	0.0	0.0	1.1	0.0	80.9	82.3	19.3	19.3	33.7	29.7	31.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.9	0.0	0.0	6.4	0.0	21.9	2.6	25.2	25.7	18.2	45.2	47.8
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	132.7	0.0	0.0	53.9	0.0	140.4	157.3	63.8	63.9	80.0	60.5	62.4
LnGrp LOS	F	A	A	D	A	F	F	E	E	E	F	F
Approach Vol, veh/h		232			590			1276			2570	
Approach Delay, s/veh		132.7			113.0			66.7			64.2	
Approach LOS		F			F			E			E	

Timer - Assigned Phs	1	2		4		6		8				
Phs Duration (G+Y+Rc), s	31.9	60.5		22.6		92.4		35.0				
Change Period (Y+Rc), s	4.0	4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s	27.9	56.5		18.6		88.4		31.0				
Max Q Clear Time (g_c+I1), s	28.6	58.5		20.6		90.4		33.0				
Green Ext Time (p_c), s	0.0	0.0		0.0		0.0		0.0				

Intersection Summary	
HCM 6th Ctrl Delay	74.5
HCM 6th LOS	E

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	154	54	1468	2	60	71	748	997	2	46	1853	322
Future Volume (veh/h)	154	54	1468	2	60	71	748	997	2	46	1853	322
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1885	1885	1885	1856	1856	1856	1826	1826	1826	1870	1870	1870
Adj Flow Rate, veh/h	167	59	1596	2	65	77	813	1084	2	50	2014	350
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	3	3	3	5	5	5	2	2	2
Cap, veh/h	258	91	1000	4	116	101	552	2338	4	293	1418	239
Arrive On Green	0.19	0.19	0.19	0.06	0.06	0.06	0.16	0.66	0.66	0.47	0.47	0.47
Sat Flow, veh/h	1343	475	2812	55	1797	1572	3374	3553	7	519	3041	513
Grp Volume(v), veh/h	226	0	1596	67	0	77	813	529	557	50	1152	1212
Grp Sat Flow(s),veh/h/ln	1818	0	1406	1853	0	1572	1687	1735	1825	519	1777	1778
Q Serve(g_s), s	16.1	0.0	27.0	4.9	0.0	6.8	23.0	21.1	21.1	8.0	65.5	65.5
Cycle Q Clear(g_c), s	16.1	0.0	27.0	4.9	0.0	6.8	23.0	21.1	21.1	8.0	65.5	65.5
Prop In Lane	0.74		1.00	0.03		1.00	1.00		0.00	1.00		0.29
Lane Grp Cap(c), veh/h	349	0	1000	119	0	101	552	1142	1201	293	828	829
V/C Ratio(X)	0.65	0.00	1.60	0.56	0.00	0.76	1.47	0.46	0.46	0.17	1.39	1.46
Avail Cap(c_a), veh/h	349	0	1000	244	0	207	552	1142	1201	293	828	829
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	52.4	0.0	45.3	63.8	0.0	64.7	58.8	11.8	11.8	22.2	37.5	37.5
Incr Delay (d2), s/veh	4.1	0.0	272.7	4.1	0.0	11.1	222.3	1.4	1.3	1.3	183.2	215.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	7.8	0.0	55.2	2.5	0.0	3.0	26.9	8.4	8.8	1.1	70.0	77.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	56.5	0.0	317.9	67.9	0.0	75.8	281.1	13.2	13.1	23.4	220.8	252.5
LnGrp LOS	E	A	F	E	A	E	F	B	B	C	F	F
Approach Vol, veh/h		1822			144			1899			2414	
Approach Delay, s/veh		285.5			72.2			127.9			232.6	
Approach LOS		F			E			F			F	

Timer - Assigned Phs	2	4	5	6	8
Phs Duration (G+Y+Rc), s	96.5	31.0	27.0	69.5	13.0
Change Period (Y+Rc), s	4.0	4.0	4.0	4.0	4.0
Max Green Setting (Gmax), s	92.5	27.0	23.0	65.5	18.5
Max Q Clear Time (g_c+I1), s	23.1	29.0	25.0	67.5	8.8
Green Ext Time (p_c), s	5.0	0.0	0.0	0.0	0.3

Intersection Summary	
HCM 6th Ctrl Delay	212.6
HCM 6th LOS	F

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (veh/h)	403	87	1308	236	137	931
Future Volume (veh/h)	403	87	1308	236	137	931
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00	
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No		No			No
Adj Sat Flow, veh/h/ln	1885	1885	1885	1885	1856	1856
Adj Flow Rate, veh/h	438	0	1422	0	149	1012
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	1	1	1	1	3	3
Cap, veh/h	386		1169		175	1339
Arrive On Green	0.21	0.00	0.62	0.00	0.07	0.72
Sat Flow, veh/h	1795	1598	1885	1598	1767	1856
Grp Volume(v), veh/h	438	0	1422	0	149	1012
Grp Sat Flow(s),veh/h/ln	1795	1598	1885	1598	1767	1856
Q Serve(g_s), s	30.5	0.0	88.0	0.0	7.7	47.4
Cycle Q Clear(g_c), s	30.5	0.0	88.0	0.0	7.7	47.4
Prop In Lane	1.00	1.00		1.00	1.00	
Lane Grp Cap(c), veh/h	386		1169		175	1339
V/C Ratio(X)	1.14		1.22		0.85	0.76
Avail Cap(c_a), veh/h	386		1169		275	1444
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	0.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	0.0	27.0	0.0	49.3	12.1
Incr Delay (d2), s/veh	88.1	0.0	105.6	0.0	13.9	2.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	22.9	0.0	70.1	0.0	5.9	17.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	143.8	0.0	132.6	0.0	63.3	14.3
LnGrp LOS	F		F		E	B
Approach Vol, veh/h	438	A	1422	A		1161
Approach Delay, s/veh	143.8		132.6			20.5
Approach LOS	F		F			C

Timer - Assigned Phs	1	2		4		6
Phs Duration (G+Y+Rc), s	14.5	92.5		35.0		107.0
Change Period (Y+Rc), s	4.5	4.5		4.5		4.5
Max Green Setting (Gmax), s	18.0	88.0		30.5		110.5
Max Q Clear Time (g_c+I1), s	9.7	90.0		32.5		49.4
Green Ext Time (p_c), s	0.3	0.0		0.0		5.7

Intersection Summary	
HCM 6th Ctrl Delay	91.1
HCM 6th LOS	F

Notes

Unsignalized Delay for [NBR, WBR] is excluded from calculations of the approach delay and intersection delay.

Intersection	
Int Delay, s/veh	12.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	202	356	219	119	140	261
Future Vol, veh/h	202	356	219	119	140	261
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	Free	-	Free
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	220	387	238	129	152	284

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	238	0	-	0	1065	-
Stage 1	-	-	-	-	238	-
Stage 2	-	-	-	-	827	-
Critical Hdwy	4.11	-	-	-	6.41	-
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	-
Pot Cap-1 Maneuver	1335	-	-	0	248	0
Stage 1	-	-	-	0	804	0
Stage 2	-	-	-	0	431	0
Platoon blocked, %		-	-			
Mov Cap-1 Maneuver	1335	-	-	-	196	-
Mov Cap-2 Maneuver	-	-	-	-	196	-
Stage 1	-	-	-	-	635	-
Stage 2	-	-	-	-	431	-

Approach	EB	WB	SB
HCM Control Delay, s	3	0	67.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	SBLn1
Capacity (veh/h)	1335	-	-	196
HCM Lane V/C Ratio	0.164	-	-	0.776
HCM Control Delay (s)	8.2	0	-	67.7
HCM Lane LOS	A	A	-	F
HCM 95th %tile Q(veh)	0.6	-	-	5.3

Intersection	
Int Delay, s/veh	10.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	384	73	277	203	45	194
Future Vol, veh/h	384	73	277	203	45	194
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	417	79	301	221	49	211

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	496	0	1280	457
Stage 1	-	-	-	-	457	-
Stage 2	-	-	-	-	823	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1073	-	184	606
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	433	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1073	-	125	606
Mov Cap-2 Maneuver	-	-	-	-	125	-
Stage 1	-	-	-	-	640	-
Stage 2	-	-	-	-	294	-

Approach	EB	WB	NB
HCM Control Delay, s	0	5.6	39.5
HCM LOS			E

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	351	-	-	1073	-
HCM Lane V/C Ratio	0.74	-	-	0.281	-
HCM Control Delay (s)	39.5	-	-	9.7	0
HCM Lane LOS	E	-	-	A	A
HCM 95th %tile Q(veh)	5.7	-	-	1.2	-

Intersection	
Int Delay, s/veh	116.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	106	473	327	198	256	132
Future Vol, veh/h	106	473	327	198	256	132
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	1	1	1	1
Mvmt Flow	115	514	355	215	278	143

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	570	0	-	0	1207	463
Stage 1	-	-	-	-	463	-
Stage 2	-	-	-	-	744	-
Critical Hdwy	4.12	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.218	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1002	-	-	-	~ 203	601
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	472	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1002	-	-	-	~ 170	601
Mov Cap-2 Maneuver	-	-	-	-	~ 170	-
Stage 1	-	-	-	-	534	-
Stage 2	-	-	-	-	472	-

Approach	EB	WB	SB
HCM Control Delay, s	1.7	0	$ 446.2
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1002	-	-	-	225
HCM Lane V/C Ratio	0.115	-	-	-	1.874
HCM Control Delay (s)	9.1	0	-	-	-$ 446.2
HCM Lane LOS	A	A	-	-	F
HCM 95th %tile Q(veh)	0.4	-	-	-	29.9

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	9.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		⇕			⇕			⇕			⇕	
Traffic Vol, veh/h	6	579	144	16	417	2	102	9	20	0	5	6
Future Vol, veh/h	6	579	144	16	417	2	102	9	20	0	5	6
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1	1	1	1	3	3	3
Mvmt Flow	7	629	157	17	453	2	111	10	22	0	5	7

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	455	0	0	786	0	0	1216	1211	708	1226	1288	454
Stage 1	-	-	-	-	-	-	722	722	-	488	488	-
Stage 2	-	-	-	-	-	-	494	489	-	738	800	-
Critical Hdwy	4.11	-	-	4.11	-	-	7.11	6.51	6.21	7.13	6.53	6.23
Critical Hdwy Stg 1	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.11	5.51	-	6.13	5.53	-
Follow-up Hdwy	2.209	-	-	2.209	-	-	3.509	4.009	3.309	3.527	4.027	3.327
Pot Cap-1 Maneuver	1111	-	-	837	-	-	159	183	436	155	163	604
Stage 1	-	-	-	-	-	-	420	433	-	559	548	-
Stage 2	-	-	-	-	-	-	559	551	-	408	396	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1111	-	-	837	-	-	149	176	436	137	157	604
Mov Cap-2 Maneuver	-	-	-	-	-	-	149	176	-	137	157	-
Stage 1	-	-	-	-	-	-	415	428	-	552	533	-
Stage 2	-	-	-	-	-	-	533	536	-	374	391	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.1	0.3	88.8	19.3
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	168	1111	-	-	837	-	-	263
HCM Lane V/C Ratio	0.848	0.006	-	-	0.021	-	-	0.045
HCM Control Delay (s)	88.8	8.3	0	-	9.4	0	-	19.3
HCM Lane LOS	F	A	A	-	A	A	-	C
HCM 95th %tile Q(veh)	5.9	0	-	-	0.1	-	-	0.1

Intersection	
Int Delay, s/veh	3.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	25	105	60	123	91	12
Future Vol, veh/h	25	105	60	123	91	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	27	114	65	134	99	13

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	199	0	-	0	300	132
Stage 1	-	-	-	-	132	-
Stage 2	-	-	-	-	168	-
Critical Hdwy	4.11	-	-	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	2.209	-	-	-	3.509	3.309
Pot Cap-1 Maneuver	1379	-	-	-	694	920
Stage 1	-	-	-	-	897	-
Stage 2	-	-	-	-	864	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1379	-	-	-	679	920
Mov Cap-2 Maneuver	-	-	-	-	679	-
Stage 1	-	-	-	-	878	-
Stage 2	-	-	-	-	864	-

Approach	EB	WB	SB
HCM Control Delay, s	1.5	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1379	-	-	-	700
HCM Lane V/C Ratio	0.02	-	-	-	0.16
HCM Control Delay (s)	7.7	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0.1	-	-	-	0.6

Intersection	
Int Delay, s/veh	1.5

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	111	0	16	56	1	19
Future Vol, veh/h	111	0	16	56	1	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	1	1	1	1	1	1
Mvmt Flow	121	0	17	61	1	21

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	121	0	216	121
Stage 1	-	-	-	-	121	-
Stage 2	-	-	-	-	95	-
Critical Hdwy	-	-	4.11	-	6.41	6.21
Critical Hdwy Stg 1	-	-	-	-	5.41	-
Critical Hdwy Stg 2	-	-	-	-	5.41	-
Follow-up Hdwy	-	-	2.209	-	3.509	3.309
Pot Cap-1 Maneuver	-	-	1473	-	774	933
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	931	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1473	-	765	933
Mov Cap-2 Maneuver	-	-	-	-	765	-
Stage 1	-	-	-	-	907	-
Stage 2	-	-	-	-	920	-

Approach	EB	WB	NB
HCM Control Delay, s	0	1.7	9
HCM LOS			A

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	923	-	-	1473	-
HCM Lane V/C Ratio	0.024	-	-	0.012	-
HCM Control Delay (s)	9	-	-	7.5	0
HCM Lane LOS	A	-	-	A	A
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	16.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	4	1195	35	133	915	35	10	4	113	10	5	7
Future Vol, veh/h	4	1195	35	133	915	35	10	4	113	10	5	7
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	100	-	-	100	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	3	3	3	3	3	3	1	1	1	1	1	1
Mvmt Flow	4	1299	38	145	995	38	11	4	123	11	5	8

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	1033	0	0	1337	0	0	2116	2649	669	1964	2649	517
Stage 1	-	-	-	-	-	-	1326	1326	-	1304	1304	-
Stage 2	-	-	-	-	-	-	790	1323	-	660	1345	-
Critical Hdwy	4.16	-	-	4.16	-	-	7.52	6.52	6.92	7.52	6.52	6.92
Critical Hdwy Stg 1	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.52	5.52	-	6.52	5.52	-
Follow-up Hdwy	2.23	-	-	2.23	-	-	3.51	4.01	3.31	3.51	4.01	3.31
Pot Cap-1 Maneuver	662	-	-	506	-	-	29	23	402	38	23	506
Stage 1	-	-	-	-	-	-	166	225	-	171	231	-
Stage 2	-	-	-	-	-	-	352	226	-	421	220	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	662	-	-	506	-	-	17	16	402	16	16	506
Mov Cap-2 Maneuver	-	-	-	-	-	-	17	16	-	16	16	-
Stage 1	-	-	-	-	-	-	165	224	-	170	165	-
Stage 2	-	-	-	-	-	-	239	161	-	285	219	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0	1.8	228.1	$ 441.2
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	113	662	-	-	506	-	-	23
HCM Lane V/C Ratio	1.222	0.007	-	-	0.286	-	-	1.04
HCM Control Delay (s)	228.1	10.5	-	-	14.9	-	-	$ 441.2
HCM Lane LOS	F	B	-	-	B	-	-	F
HCM 95th %tile Q(veh)	8.9	0	-	-	1.2	-	-	3.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	2250	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
8	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
9	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2611	4654	0.56	62.7	20.8	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	2611	907	4600	1900	0.57	0.48	49.5	49.5	26.4	23.1	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.962		1650		4654		0.35		62.1		13.2		B

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.962	1.000	1650	1497	4600	2000	0.36	0.75	51.0	51.0	16.2	14.8	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	60	4654	0.01	61.2	0.5	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	784	724	4600	1900	0.17	0.38	56.7	56.7	6.9	6.3	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	812	4654	0.17	61.9	6.5	A

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	1053	246	4600	2000	0.23	0.12	57.0	57.0	9.2	8.6	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1061	4654	0.23	62.7	8.5	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1117	967	1.41	35.23	58.1	12.1	11.6	3.40	B

Facility Overall Results

Space Mean Speed, mi/h	58.1	Average Density, veh/mi/ln	11.6
Average Travel Time, min	3.40	Average Density, pc/mi/ln	12.1
Total VMT, veh-mi	1117	Total VHD, veh-h	1.41
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	35.23

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	-140 between SR 33 and Relocated SR 115 NB Off Ramp	5280	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
3	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	1000	2
6	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	2250	2
8	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
9	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1572	4654	0.34	62.7	12.5	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	1572	895	4600	1900	0.34	0.47	49.5	49.5	15.9	14.2	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.968		648		4654		0.14		61.0		5.2		A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.962	1.000	652	397	4600	2000	0.14	0.20	53.1	53.1	6.1	6.3	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	230	4654	0.05	61.4	1.8	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1782	1552	4600	1900	0.39	0.82	56.4	56.4	15.8	13.7	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1844	4654	0.40	62.4	14.7	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3089	1245	4600	2000	0.67	0.62	55.4	55.4	27.9	24.1	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	3161	4654	0.68	62.3	25.2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1381	1095	1.31	32.79	59.2	14.6	14.0	3.40	B

Facility Overall Results

Space Mean Speed, mi/h	59.2	Average Density, veh/mi/ln	14.0
Average Travel Time, min	3.40	Average Density, pc/mi/ln	14.6
Total VMT, veh-mi	1381	Total VHD, veh-h	1.31
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	32.79

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3558	4574	0.78	58.4	30.5	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	3451	170	4500	1900	0.79	0.09	35.7	49.1	48.3	31.3	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3141	4574	0.74	21.3	73.9	F

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	4190	1216	4500	1900	1.02	0.64	48.9	48.9	44.6	34.0	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4574	1.02	54.9	38.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1237	1161	10.43	260.66	39.3	48.7	46.2	2.10	F

Facility Overall Results

Space Mean Speed, mi/h	39.3	Average Density, veh/mi/ln	46.2
Average Travel Time, min	2.10	Average Density, pc/mi/ln	48.7
Total VMT, veh-mi	1237	Total VHD, veh-h	10.43
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	260.66

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1939	4574	0.42	58.7	16.5	B

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2194	4503	0.49	46.2	15.8	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1289	4574	0.28	58.0	11.0	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1676	1521	0.85	21.23	57.0	15.9	15.0	3.90	B

Facility Overall Results

Space Mean Speed, mi/h	57.0	Average Density, veh/mi/ln	15.0
Average Travel Time, min	3.90	Average Density, pc/mi/ln	15.9
Total VMT, veh-mi	1676	Total VHD, veh-h	0.85

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	21.23

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2772	4574	0.61	58.7	23.6	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2772	816	4500	1900	0.62	0.43	48.2	48.2	28.8	24.5	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1923	4574	0.42	58.0	16.4	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3352	1429	4500	1900	0.74	0.75	52.2	52.2	32.1	26.0	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3409	4574	0.75	57.1	29.1	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2724	2416	1.24	31.02	57.2	24.0	23.1	4.30	C

Facility Overall Results

Space Mean Speed, mi/h	57.2	Average Density, veh/mi/ln	23.1
Average Travel Time, min	4.30	Average Density, pc/mi/ln	24.0
Total VMT, veh-mi	2724	Total VHD, veh-h	1.24
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	31.02

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	973	4574	0.21	58.7	8.3	A

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	973	377	4500	1900	0.22	0.20	48.8	48.8	10.0	9.0	A

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	589	4574	0.13	58.0	5.0	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	1228	639	4500	1900	0.27	0.34	53.8	53.8	11.4	9.8	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1262	4574	0.28	58.7	10.7	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	974	856	0.37	9.19	57.4	10.1	9.6	3.70	A

Facility Overall Results

Space Mean Speed, mi/h	57.4	Average Density, veh/mi/ln	9.6
Average Travel Time, min	3.70	Average Density, pc/mi/ln	10.1
Total VMT, veh-mi	974	Total VHD, veh-h	0.37
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	9.19

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3010	4586	0.66	59.3	25.4	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.949	1.000	3010	1145	4500	2000	0.67	0.57	50.1	50.1	30.0	26.5	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1778	4586	0.39	59.1	15.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	816	751	0.64	16.03	56.7	21.5	20.4	1.50	C

Facility Overall Results

Space Mean Speed, mi/h	56.7	Average Density, veh/mi/ln	20.4
Average Travel Time, min	1.50	Average Density, pc/mi/ln	21.5
Total VMT, veh-mi	816	Total VHD, veh-h	0.64

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	16.03

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2210	4564	0.48	58.2	19.0	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2210	1705	4500	1900	0.49	0.90	46.7	46.7	23.7	19.7	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	437	4564	0.10	56.7	3.7	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	1.000	1.000	826	405	4500	1900	0.18	0.21	53.5	53.5	7.7	6.8	A

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1854	995	4500	1900	0.41	0.52	53.2	53.2	17.4	14.5	B

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1893	4564	0.41	58.2	16.3	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1761	1531	0.94	23.53	56.4	15.7	15.2	4.40	B

Facility Overall Results

Space Mean Speed, mi/h	56.4	Average Density, veh/mi/ln	15.2
Average Travel Time, min	4.40	Average Density, pc/mi/ln	15.7
Total VMT, veh-mi	1761	Total VHD, veh-h	0.94
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	23.53

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	939	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.55

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	16.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.8

Vehicle Results

Average Speed, mi/h	42.8	Percent Followers, %	76.1
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	16.7
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	710	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.42

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	11.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.9

Vehicle Results

Average Speed, mi/h	40.9	Percent Followers, %	66.8
Segment Travel Time, minutes	2.73	Follower Density (FD), followers/mi/ln	11.6
Vehicle LOS	D		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	579	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.34

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.9

Vehicle Results

Average Speed, mi/h	41.9	Percent Followers, %	60.9
Segment Travel Time, minutes	1.81	Follower Density (FD), followers/mi/ln	8.4
Vehicle LOS	C		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1299	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.76

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.0
Speed Slope Coefficient (m)	2.96479	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44615	PF Power Coefficient (p)	0.70846
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	25.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.8

Vehicle Results

Average Speed, mi/h	41.8	Percent Followers, %	82.5
Segment Travel Time, minutes	0.63	Follower Density (FD), followers/mi/ln	25.6
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	2032	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.20

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	-

Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1751	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.03

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

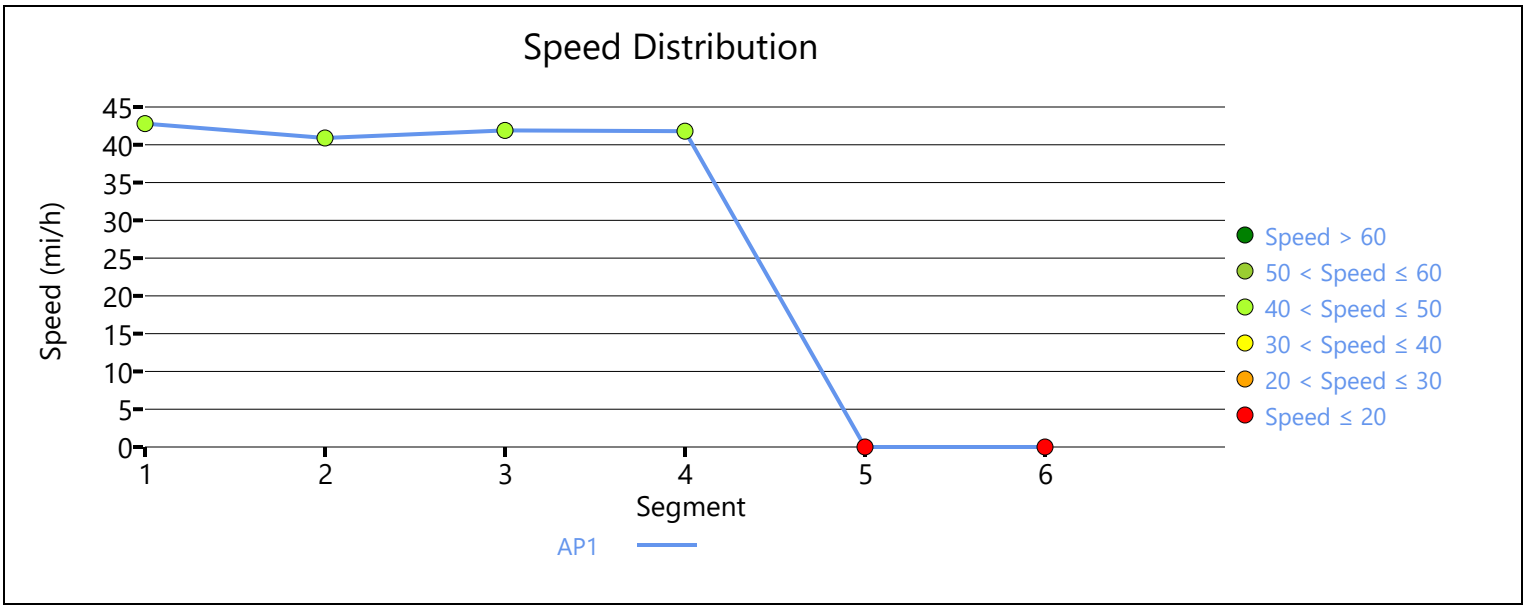
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	-

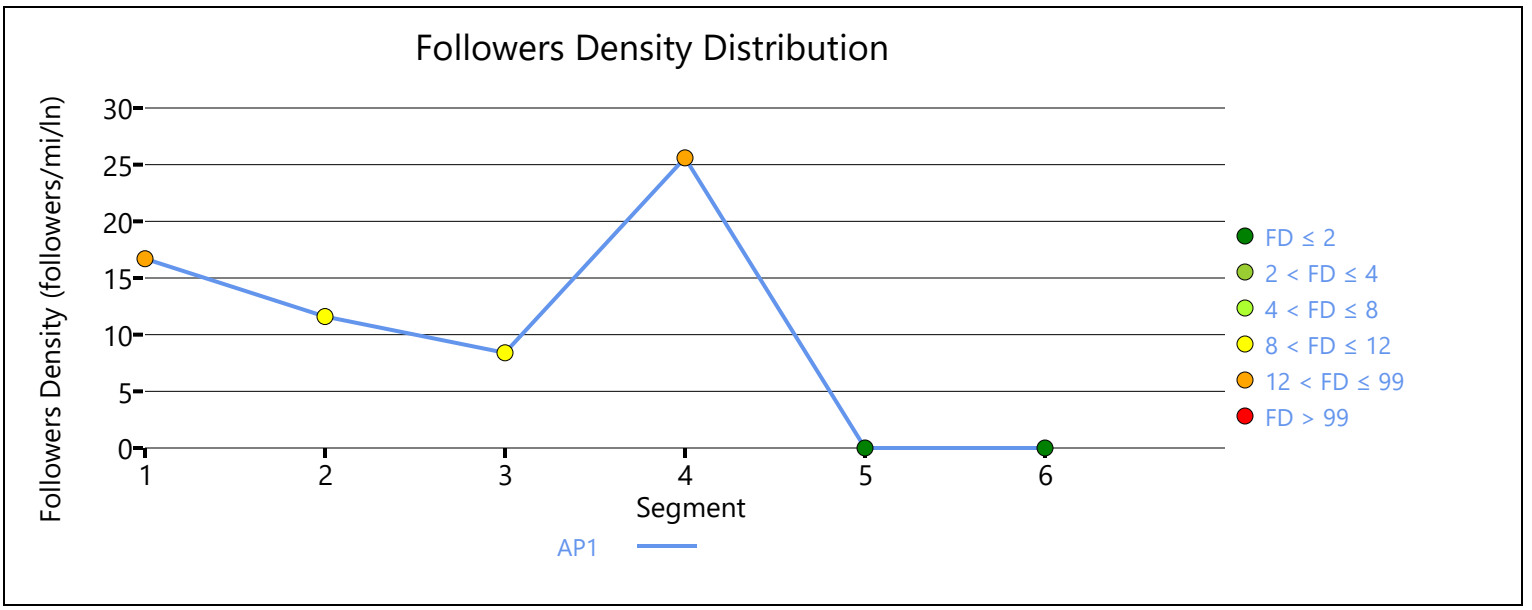
Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	-	-	-	F





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	22800
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	571	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.34

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	13.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	22800	-	-	27.4

Vehicle Results

Average Speed, mi/h	27.4	Percent Followers, %	64.7
Segment Travel Time, minutes	9.45	Follower Density (FD), followers/mi/ln	13.5
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11000
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	532	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.31

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.4
Speed Slope Coefficient (m)	3.44347	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36591	PF Power Coefficient (p)	0.70816
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

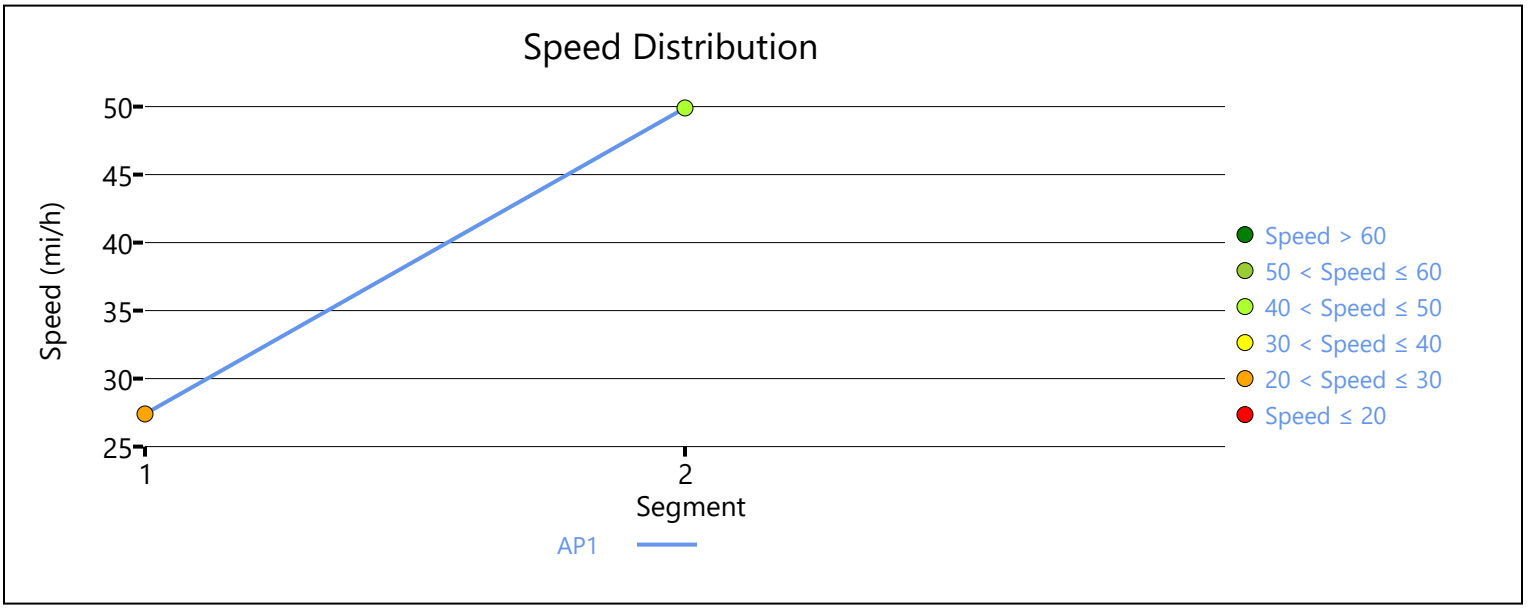
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11000	-	-	49.9

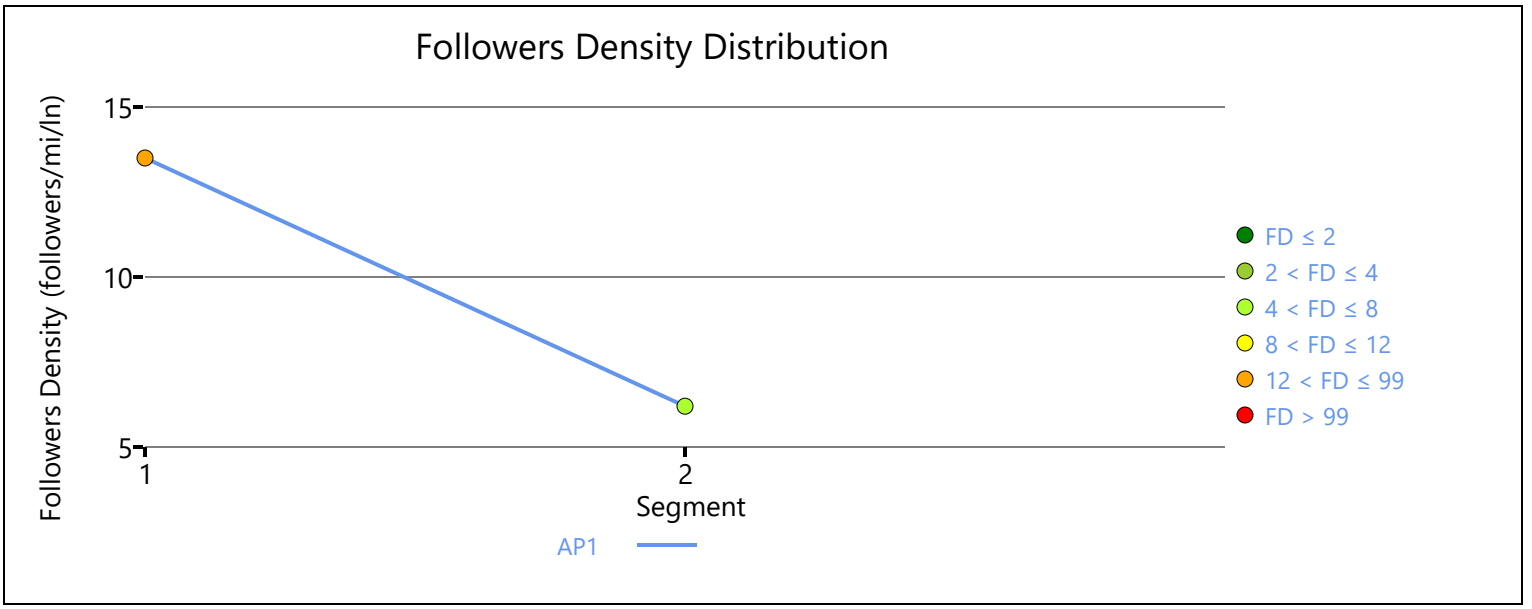
Vehicle Results

Average Speed, mi/h	49.9	Percent Followers, %	58.2
Segment Travel Time, minutes	2.50	Follower Density (FD), followers/mi/ln	6.2
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	821	1.39	11.1	D





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1172	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	667
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	15.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data			
Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1311	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	746
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.9
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between Jones Avenue and Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1919	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1064
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	20.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1631	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	904
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	17.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	847	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	472
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	8.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1246	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	696
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	12.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13939
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	854	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.50

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.19114	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42590	PF Power Coefficient (p)	0.66617
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	13.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13939	-	-	44.5

Vehicle Results

Average Speed, mi/h	44.5	Percent Followers, %	72.3
Segment Travel Time, minutes	3.56	Follower Density (FD), followers/mi/ln	13.9
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	519	0.70	13.9	D

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	351	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.21

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.6

Vehicle Results

Average Speed, mi/h	43.6	Percent Followers, %	50.8
Segment Travel Time, minutes	3.47	Follower Density (FD), followers/mi/ln	4.1
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6394
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	488	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.29

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75779	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39045	PF Power Coefficient (p)	0.69607
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

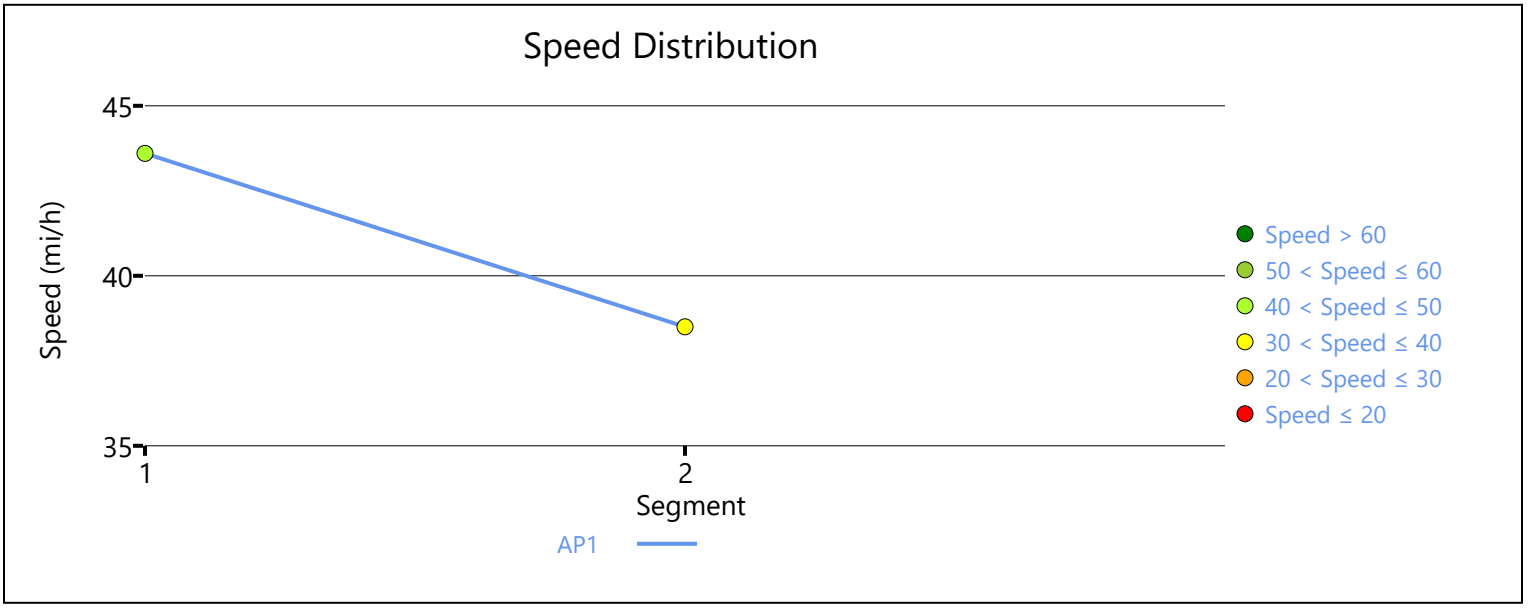
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.5

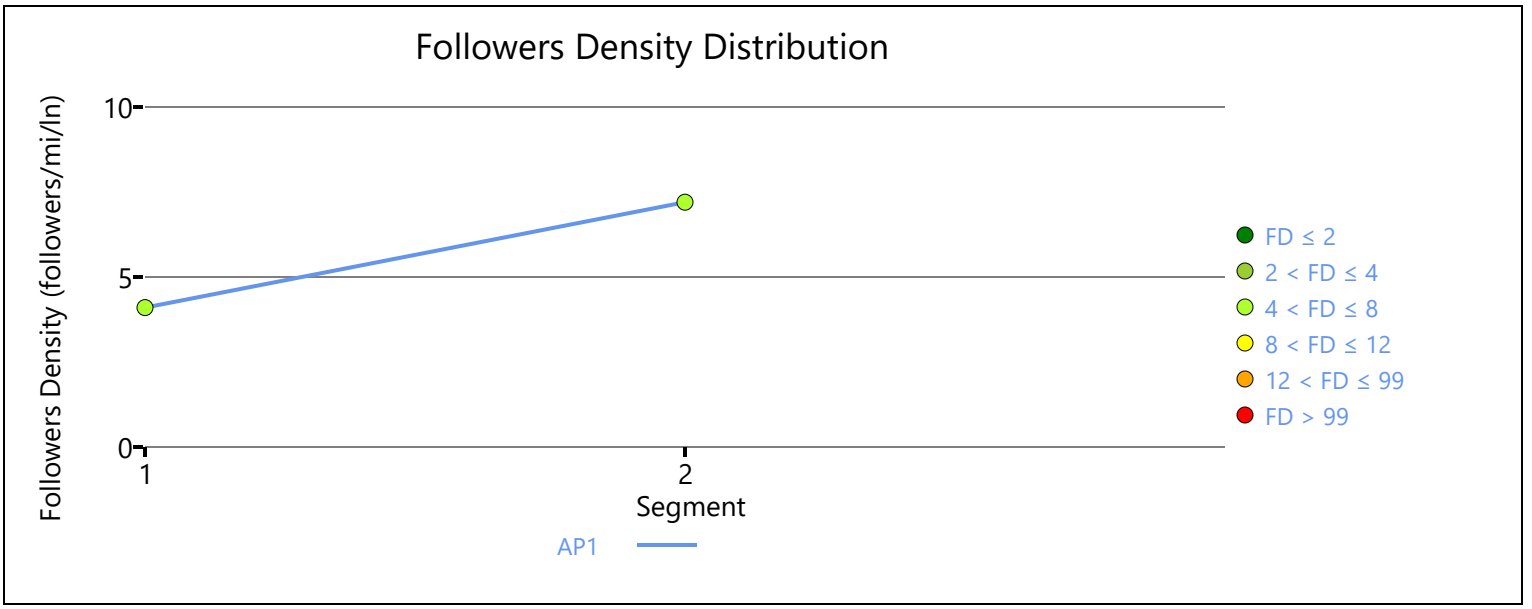
Vehicle Results

Average Speed, mi/h	38.5	Percent Followers, %	57.0
Segment Travel Time, minutes	1.89	Follower Density (FD), followers/mi/ln	7.2
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	339	0.34	5.1	C





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	766	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.45

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	16.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	32.5

Vehicle Results

Average Speed, mi/h	32.5	Percent Followers, %	68.6
Segment Travel Time, minutes	2.01	Follower Density (FD), followers/mi/ln	16.1
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	192	0.35	16.1	E

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	454	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.27

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35030	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37615	PF Power Coefficient (p)	0.66321
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	31.3

Vehicle Results

Average Speed, mi/h	31.3	Percent Followers, %	55.8
Segment Travel Time, minutes	2.28	Follower Density (FD), followers/mi/ln	8.1
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	124	0.18	8.1	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	139	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	33.9

Vehicle Results

Average Speed, mi/h	33.9	Percent Followers, %	33.8
Segment Travel Time, minutes	0.43	Follower Density (FD), followers/mi/ln	1.4
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1400
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	151	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38318	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.48997	PF Power Coefficient (p)	0.65382
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

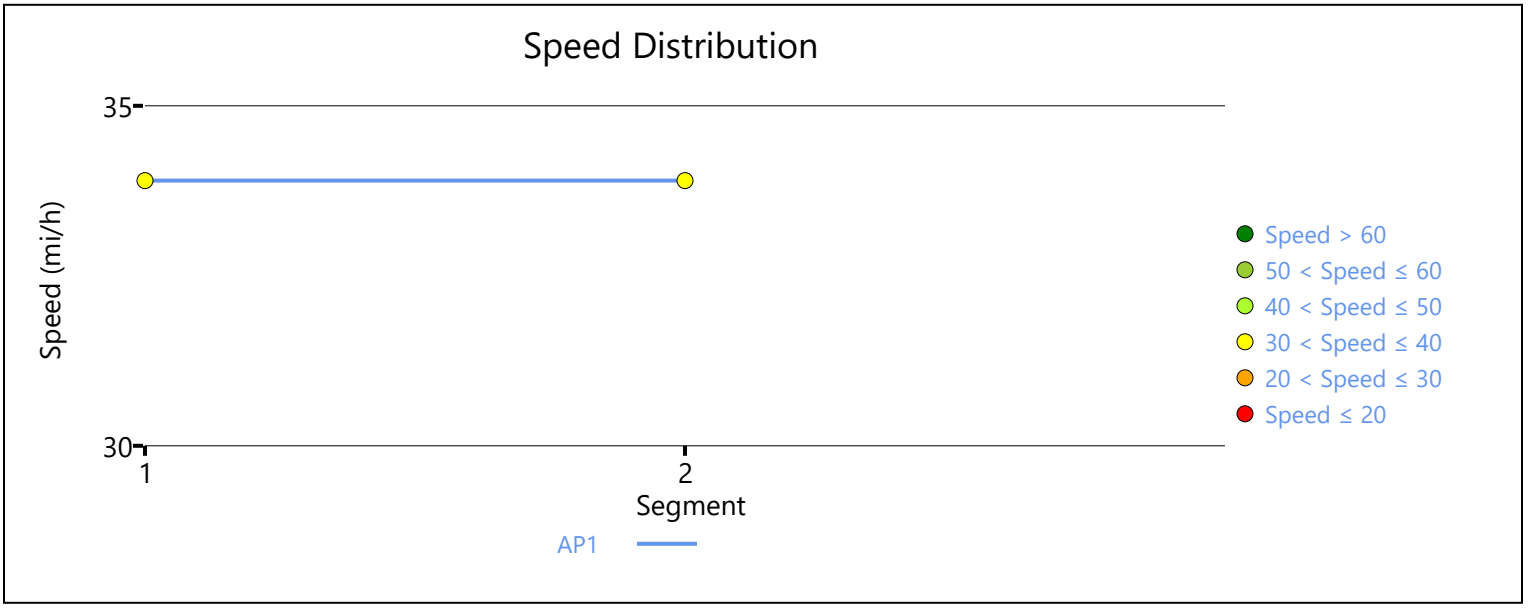
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1400	-	-	33.9

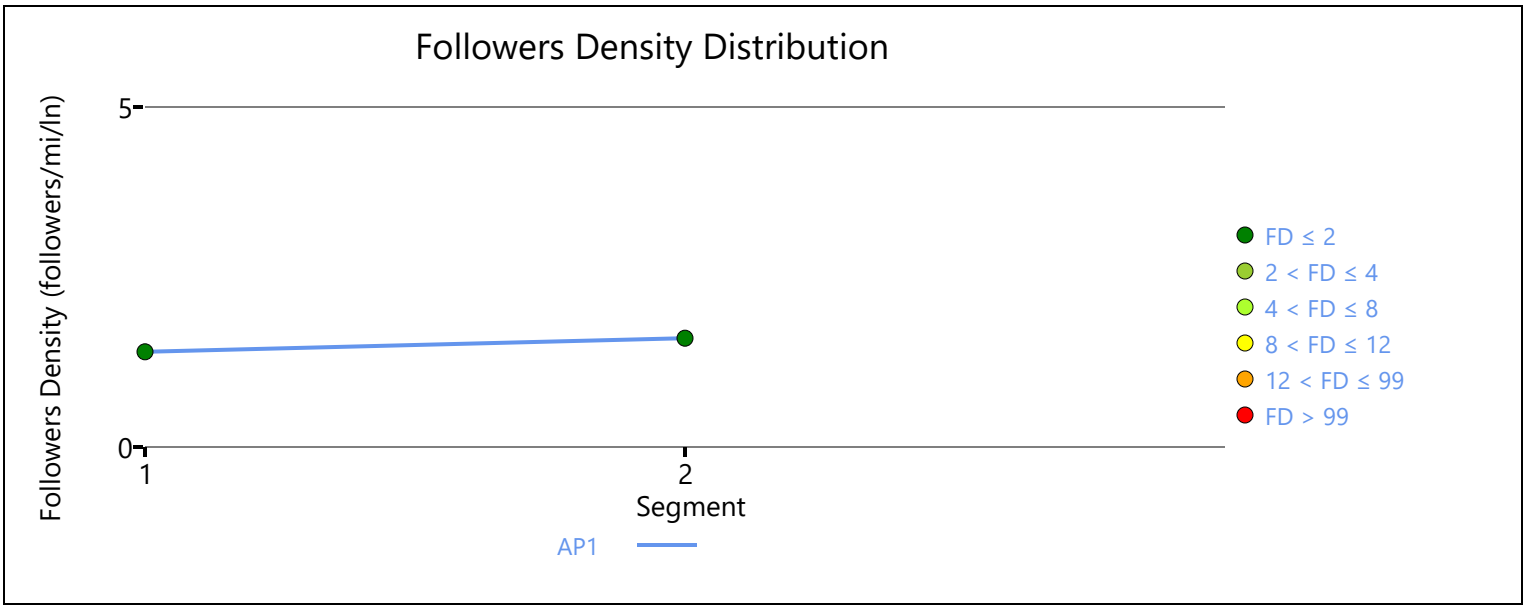
Vehicle Results

Average Speed, mi/h	33.9	Percent Followers, %	35.1
Segment Travel Time, minutes	0.47	Follower Density (FD), followers/mi/ln	1.6
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	17	0.01	1.5	A





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	483	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.28

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80795	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28905	PF Power Coefficient (p)	0.60652
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	12.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	21.5

Vehicle Results

Average Speed, mi/h	21.5	Percent Followers, %	56.3
Segment Travel Time, minutes	3.62	Follower Density (FD), followers/mi/ln	12.6
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	144	0.36	12.6	D

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	2250	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
8	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
9	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	3273	4654	0.70	62.4	26.2	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	3273	1212	4600	1900	0.71	0.64	48.9	48.9	33.5	28.8	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.962		1990		4654		0.43		62.0		15.9		B

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.962	1.000	1990	1704	4600	2000	0.43	0.85	50.7	50.7	19.6	17.8	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	180	4654	0.04	61.1	1.4	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	1031	852	4600	1900	0.22	0.45	56.7	56.7	9.1	8.2	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1059	4654	0.23	61.9	8.5	A

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	1493	434	4600	2000	0.32	0.22	56.9	56.9	13.1	12.0	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1507	4654	0.32	62.7	12.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1453	1255	1.87	46.80	58.0	15.7	15.1	3.40	B

Facility Overall Results

Space Mean Speed, mi/h	58.0	Average Density, veh/mi/ln	15.1
Average Travel Time, min	3.40	Average Density, pc/mi/ln	15.7
Total VMT, veh-mi	1453	Total VHD, veh-h	1.87
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	46.80

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	-140 between SR 33 and Relocated SR 115 NB Off Ramp	5280	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
3	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	1000	2
6	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	2250	2
8	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
9	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1304	4654	0.28	62.7	10.4	A

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	1304	867	4600	1900	0.28	0.46	49.5	49.5	13.2	11.9	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.968		408		4654		0.09		61.0		3.3		A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.962	1.000	410	352	4600	2000	0.09	0.18	53.2	53.2	3.9	4.2	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	36	4654	0.01	61.4	0.3	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1687	1651	4600	1900	0.37	0.87	56.4	56.4	15.0	12.9	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1752	4654	0.38	62.4	14.0	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2544	792	4600	2000	0.55	0.40	56.2	56.2	22.6	20.0	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2595	4654	0.56	62.3	20.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1157	911	1.03	25.82	59.4	12.2	11.7	3.40	B

Facility Overall Results

Space Mean Speed, mi/h	59.4	Average Density, veh/mi/ln	11.7
Average Travel Time, min	3.40	Average Density, pc/mi/ln	12.2
Total VMT, veh-mi	1157	Total VHD, veh-h	1.03
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	25.82

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2581	4574	0.56	58.7	22.0	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	2581	130	4500	1900	0.57	0.07	49.2	49.2	26.2	22.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2443	4574	0.53	57.9	20.8	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	3709	1266	4500	1900	0.82	0.67	51.4	51.4	36.1	28.9	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3777	4574	0.83	57.6	32.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1042	880	1.36	33.89	54.5	29.3	27.8	1.50	D

Facility Overall Results

Space Mean Speed, mi/h	54.5	Average Density, veh/mi/ln	27.8
Average Travel Time, min	1.50	Average Density, pc/mi/ln	29.3
Total VMT, veh-mi	1042	Total VHD, veh-h	1.36
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	33.89

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1435	4574	0.31	58.7	12.2	B

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1785	4589	0.39	48.0	12.4	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1212	4574	0.26	58.1	10.3	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1275	1145	0.57	14.34	57.2	12.1	11.4	3.90	B

Facility Overall Results

Space Mean Speed, mi/h	57.2	Average Density, veh/mi/ln	11.4
Average Travel Time, min	3.90	Average Density, pc/mi/ln	12.1
Total VMT, veh-mi	1275	Total VHD, veh-h	0.57

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	14.34

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2297	4574	0.50	58.7	19.6	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2297	1329	4500	1900	0.51	0.70	47.4	47.4	24.2	20.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	915	4574	0.20	57.9	7.8	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2615	1700	4500	1900	0.58	0.89	53.1	53.1	24.6	20.1	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2682	4574	0.59	57.3	22.8	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2189	1907	0.99	24.70	57.2	19.3	18.6	4.30	C

Facility Overall Results

Space Mean Speed, mi/h	57.2	Average Density, veh/mi/ln	18.6
Average Travel Time, min	4.30	Average Density, pc/mi/ln	19.3
Total VMT, veh-mi	2189	Total VHD, veh-h	0.99
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	24.70

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1536	4574	0.34	58.7	13.1	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1536	239	4500	1900	0.34	0.13	49.0	49.0	15.7	13.9	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1305	4574	0.29	58.0	11.1	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	2159	854	4500	1900	0.48	0.45	53.4	53.4	20.2	17.0	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2205	4574	0.48	58.7	18.8	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1711	1521	0.62	15.52	57.5	17.8	16.9	3.70	B

Facility Overall Results

Space Mean Speed, mi/h	57.5	Average Density, veh/mi/ln	16.9
Average Travel Time, min	3.70	Average Density, pc/mi/ln	17.8
Total VMT, veh-mi	1711	Total VHD, veh-h	0.62
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	15.52

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4586	1.03	36.4	57.5	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.949	1.000	4190	1521	4500	2000	1.05	0.76	49.5	49.5	42.3	36.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2669	4586	0.67	59.1	22.5	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1167	1221	5.95	148.74	45.5	38.2	36.3	1.90	F

Facility Overall Results

Space Mean Speed, mi/h	45.5	Average Density, veh/mi/ln	36.3
Average Travel Time, min	1.90	Average Density, pc/mi/ln	38.2
Total VMT, veh-mi	1167	Total VHD, veh-h	5.95

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	148.74

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3195	4564	0.70	58.2	27.5	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3195	1608	4500	1900	0.71	0.85	46.8	46.8	34.1	28.1	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1524	4564	0.33	56.7	13.1	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	1.000	1.000	1826	360	4500	1900	0.41	0.19	53.3	53.3	17.1	14.6	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2807	909	4500	1900	0.62	0.48	52.6	52.6	26.7	22.0	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2843	4564	0.62	58.2	24.4	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2718	2419	1.50	37.53	56.4	24.2	23.4	4.40	C

Facility Overall Results

Space Mean Speed, mi/h	56.4	Average Density, veh/mi/ln	23.4
Average Travel Time, min	4.40	Average Density, pc/mi/ln	24.2
Total VMT, veh-mi	2718	Total VHD, veh-h	1.50
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	37.53

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	989	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.58

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	17.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.7

Vehicle Results

Average Speed, mi/h	42.7	Percent Followers, %	77.3
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	17.9
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	973	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.57

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	17.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.5

Vehicle Results

Average Speed, mi/h	40.5	Percent Followers, %	74.6
Segment Travel Time, minutes	2.76	Follower Density (FD), followers/mi/ln	17.9
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	846	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.50

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.4

Vehicle Results

Average Speed, mi/h	41.4	Percent Followers, %	70.7
Segment Travel Time, minutes	1.83	Follower Density (FD), followers/mi/ln	14.4
Vehicle LOS	D		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1541	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.91

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.0
Speed Slope Coefficient (m)	2.96479	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44615	PF Power Coefficient (p)	0.70846
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	31.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.6

Vehicle Results

Average Speed, mi/h	41.6	Percent Followers, %	86.0
Segment Travel Time, minutes	0.63	Follower Density (FD), followers/mi/ln	31.9
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	2134	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.26

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	-

Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1688	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.99

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	35.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

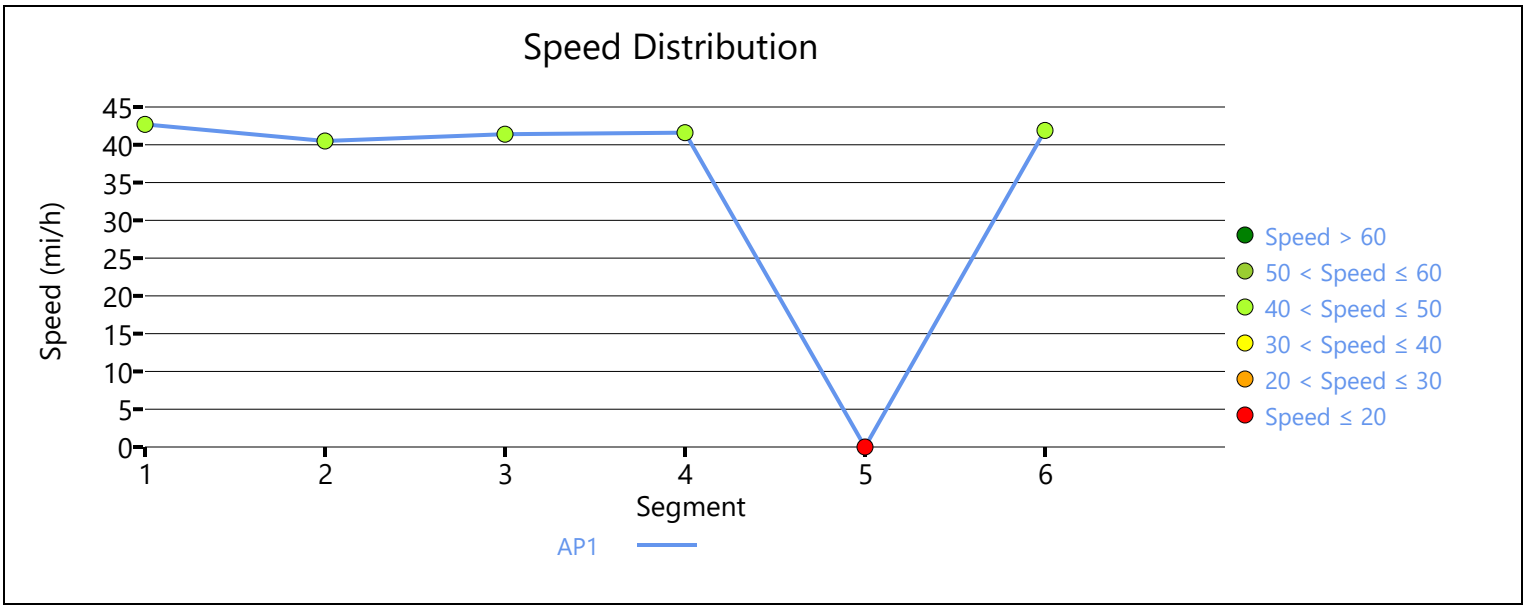
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	41.9

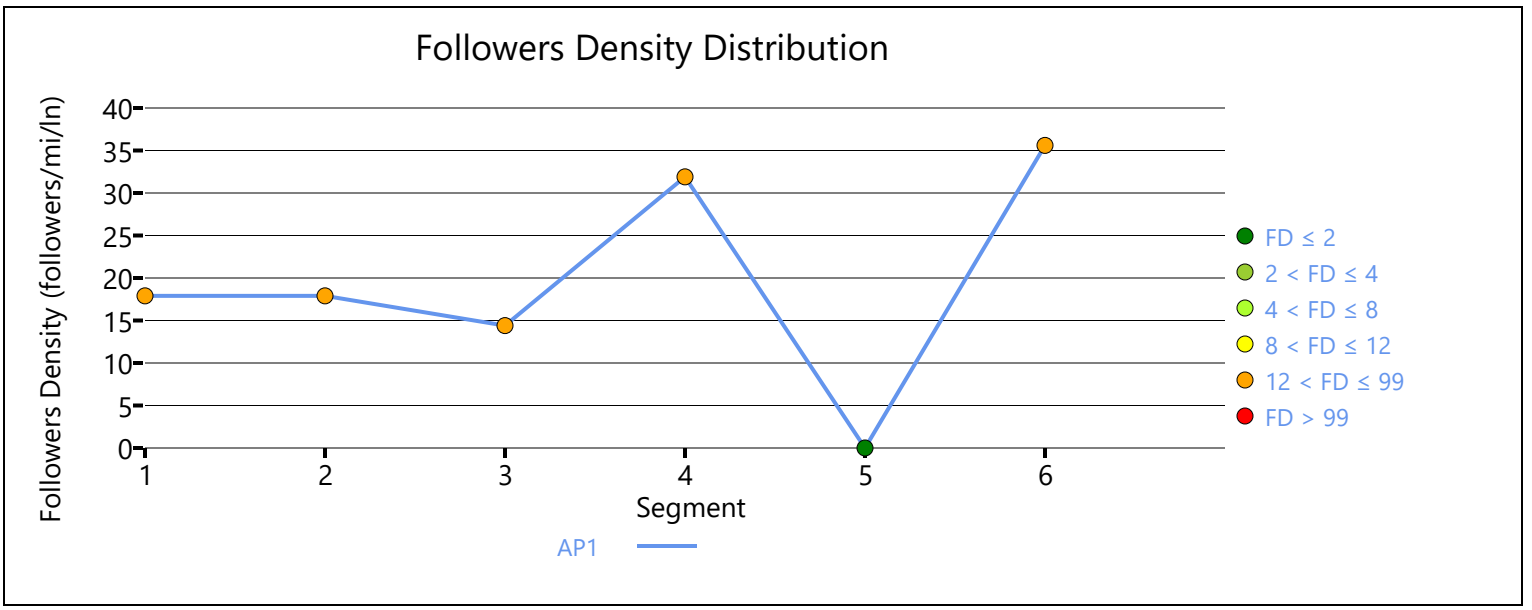
Vehicle Results

Average Speed, mi/h	41.9	Percent Followers, %	88.4
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	35.6
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	-	-	-	F





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	22800
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	589	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.35

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	22800	-	-	27.4

Vehicle Results

Average Speed, mi/h	27.4	Percent Followers, %	65.4
Segment Travel Time, minutes	9.46	Follower Density (FD), followers/mi/ln	14.1
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11000
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	599	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.35

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.4
Speed Slope Coefficient (m)	3.44347	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36591	PF Power Coefficient (p)	0.70816
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

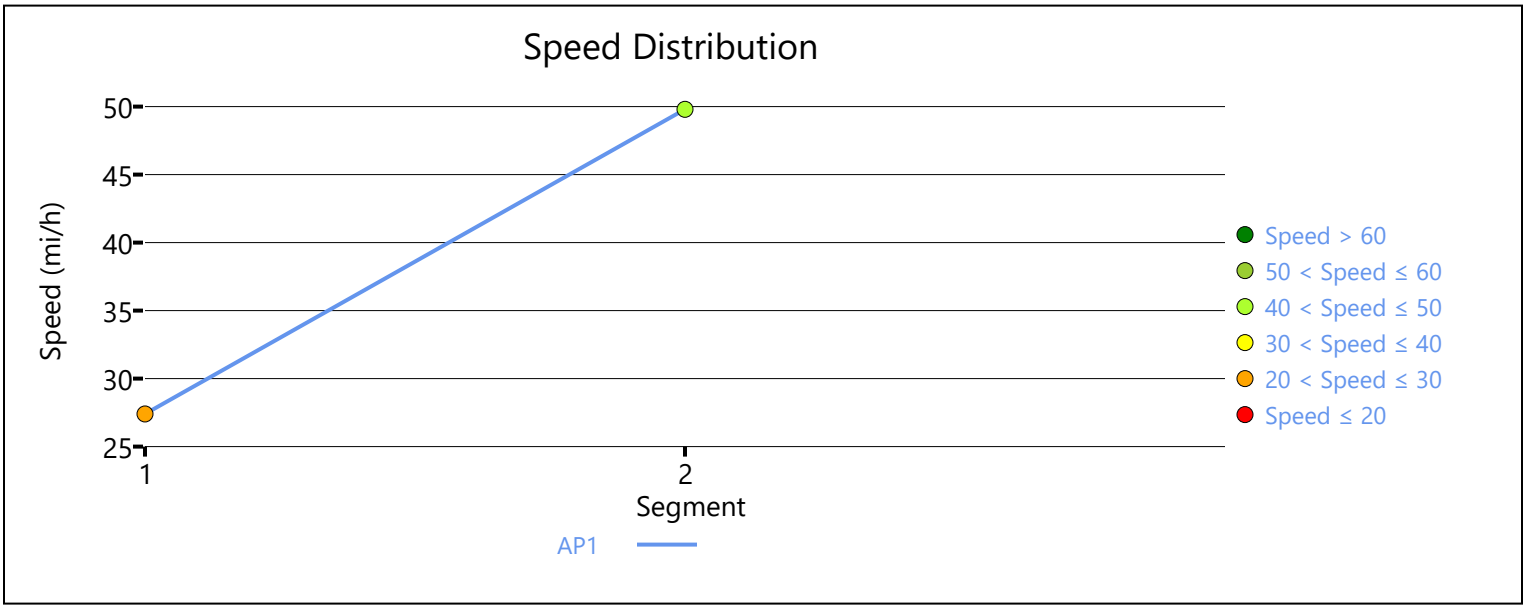
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11000	-	-	49.8

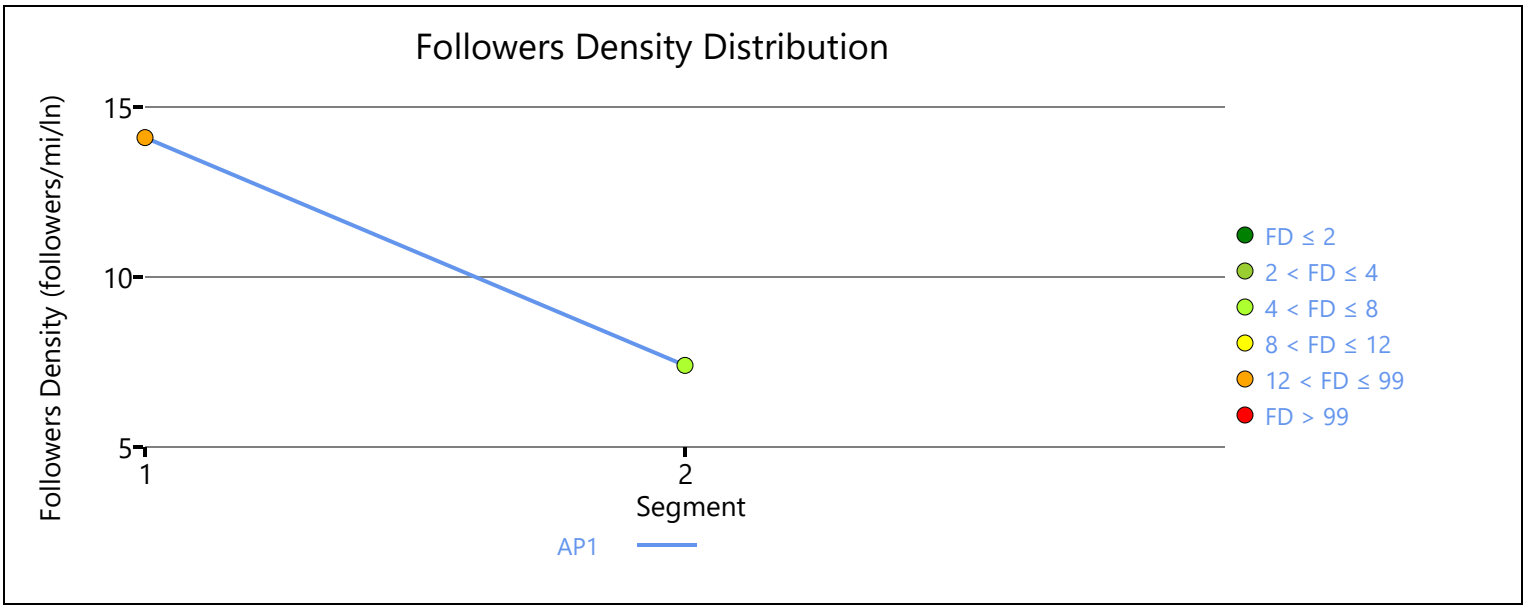
Vehicle Results

Average Speed, mi/h	49.8	Percent Followers, %	61.3
Segment Travel Time, minutes	2.51	Follower Density (FD), followers/mi/ln	7.4
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	872	1.49	11.9	D





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1520	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	865
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	19.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1029	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	586
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	13.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between Jones Avenue to Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	2931	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1626
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.80

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	50.4
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	32.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	D
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1415	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	784
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	15.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1095	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	611
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	10.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	943	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	526
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.24

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	9.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	707	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.42

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.13620	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37437	PF Power Coefficient (p)	0.72181
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	10.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	44.8

Vehicle Results

Average Speed, mi/h	44.8	Percent Followers, %	65.7
Segment Travel Time, minutes	1.59	Follower Density (FD), followers/mi/ln	10.4
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	193	0.23	10.4	D

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	386	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.23

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.5

Vehicle Results

Average Speed, mi/h	43.5	Percent Followers, %	53.1
Segment Travel Time, minutes	3.48	Follower Density (FD), followers/mi/ln	4.7
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6394
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	451	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.27

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75779	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39045	PF Power Coefficient (p)	0.69607
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

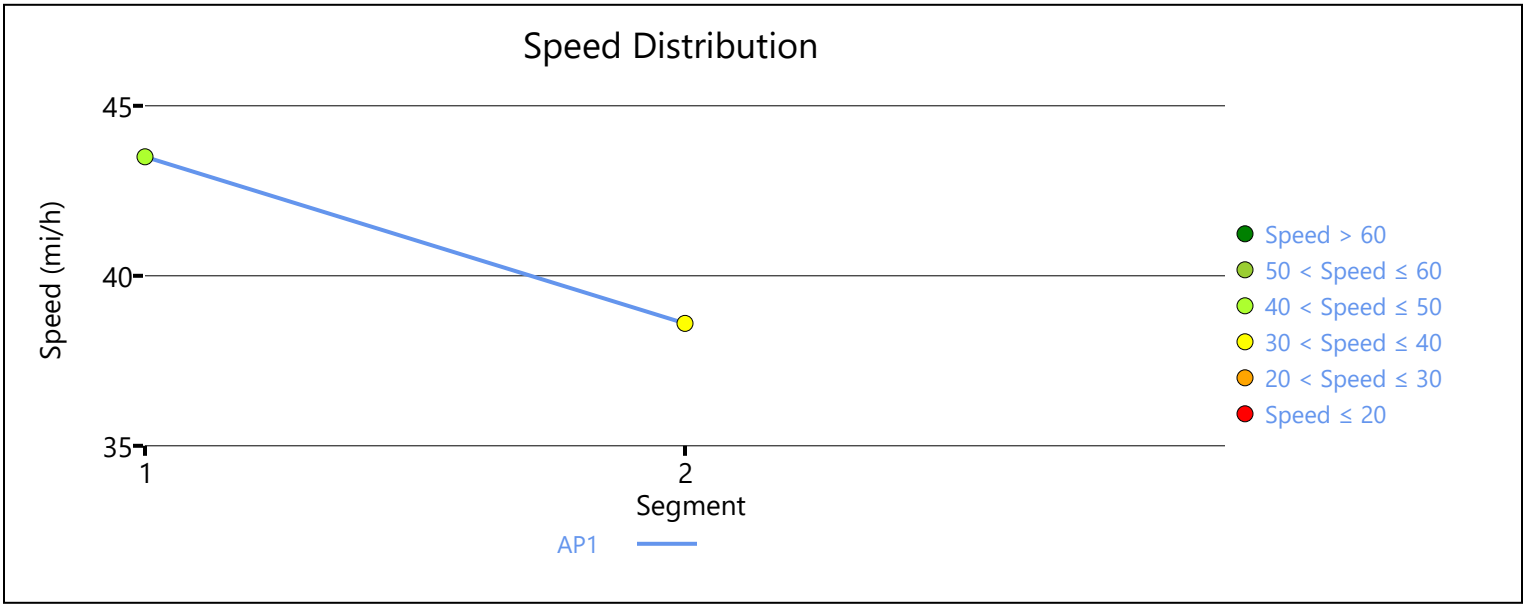
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.6

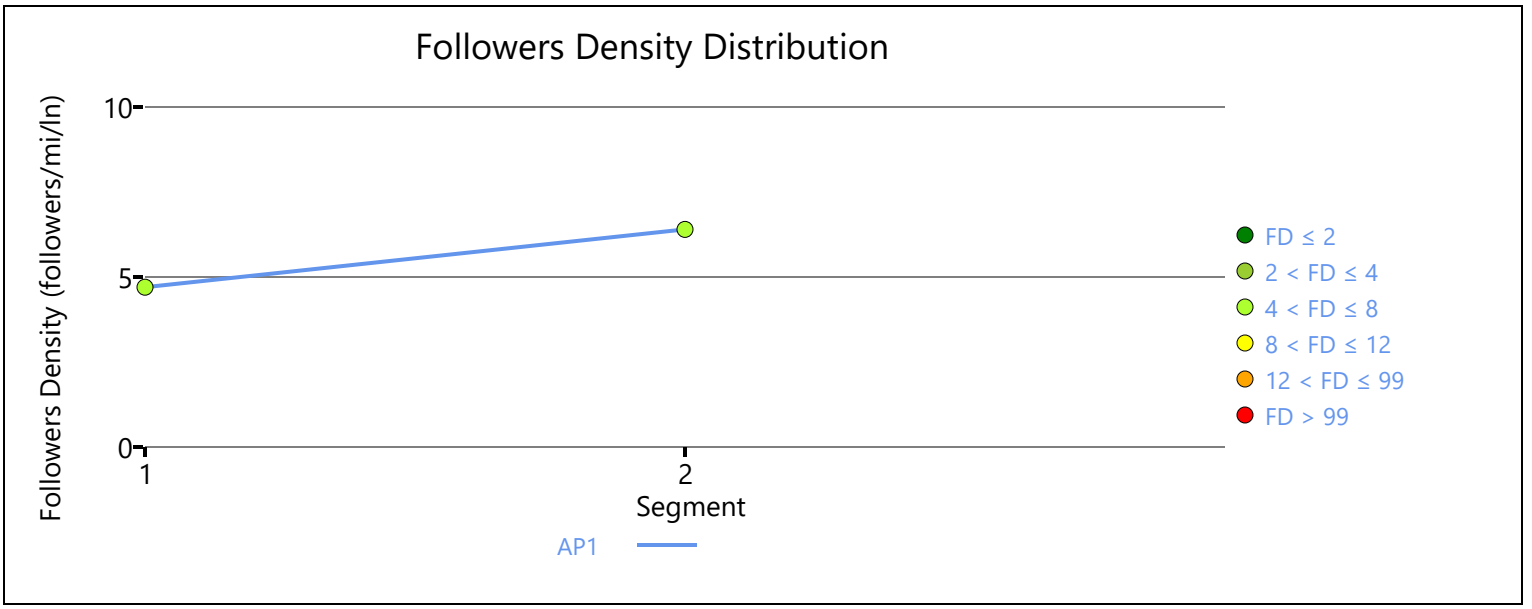
Vehicle Results

Average Speed, mi/h	38.6	Percent Followers, %	55.0
Segment Travel Time, minutes	1.88	Follower Density (FD), followers/mi/ln	6.4
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	349	0.35	5.3	C





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	674	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.40

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	13.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	32.7

Vehicle Results

Average Speed, mi/h	32.7	Percent Followers, %	65.4
Segment Travel Time, minutes	2.00	Follower Density (FD), followers/mi/ln	13.5
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	169	0.29	13.5	D

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	461	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.27

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35030	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37615	PF Power Coefficient (p)	0.66321
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	31.3

Vehicle Results

Average Speed, mi/h	31.3	Percent Followers, %	56.1
Segment Travel Time, minutes	2.28	Follower Density (FD), followers/mi/ln	8.3
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	126	0.19	8.3	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	112	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	34.2

Vehicle Results

Average Speed, mi/h	34.2	Percent Followers, %	30.1
Segment Travel Time, minutes	0.43	Follower Density (FD), followers/mi/ln	1.0
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1400
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	133	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38318	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.48997	PF Power Coefficient (p)	0.65382
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

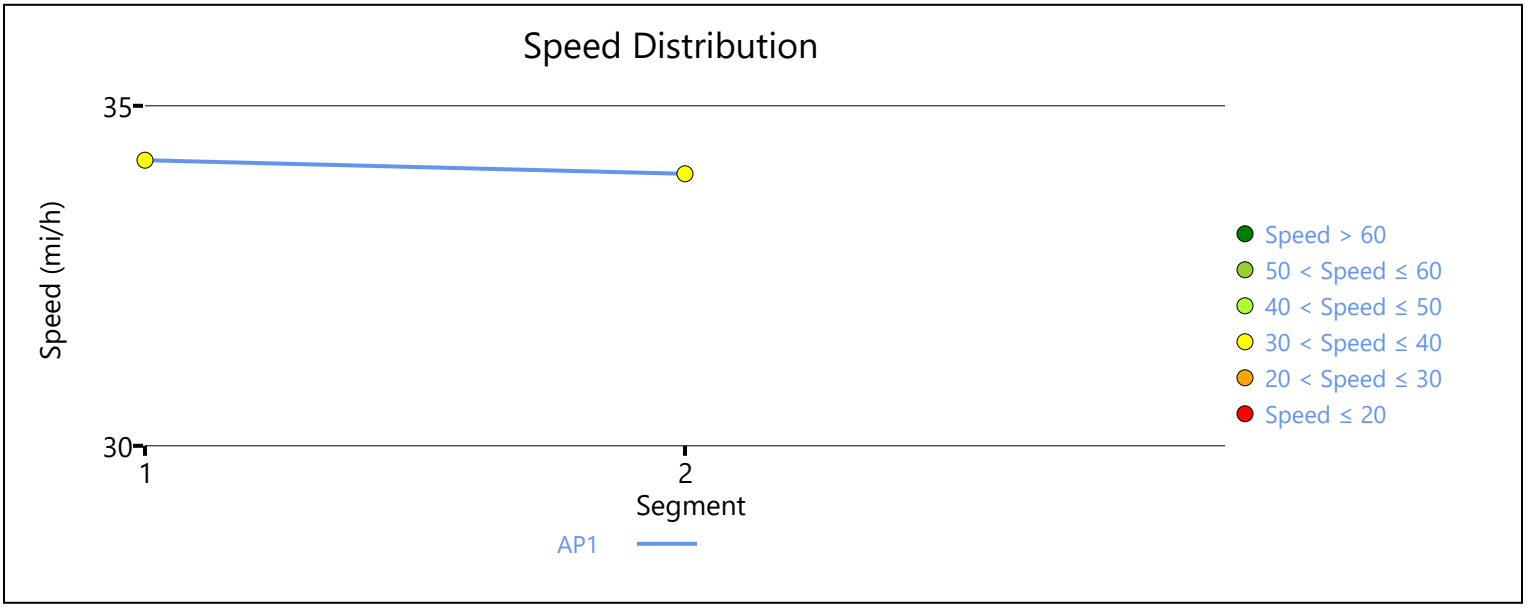
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1400	-	-	34.0

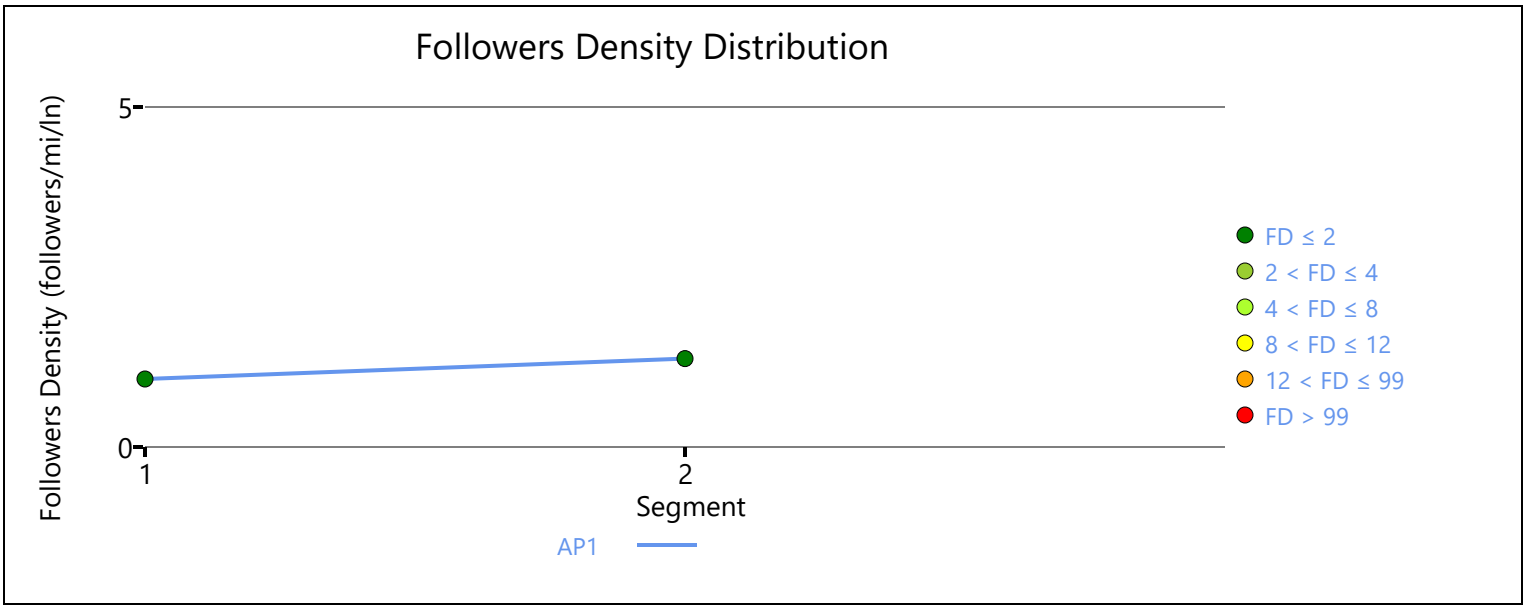
Vehicle Results

Average Speed, mi/h	34.0	Percent Followers, %	32.8
Segment Travel Time, minutes	0.47	Follower Density (FD), followers/mi/ln	1.3
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	14	0.01	1.1	A





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	485	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.29

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80795	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28905	PF Power Coefficient (p)	0.60652
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	12.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	21.5

Vehicle Results

Average Speed, mi/h	21.5	Percent Followers, %	56.4
Segment Travel Time, minutes	3.62	Follower Density (FD), followers/mi/ln	12.7
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	145	0.36	12.7	D

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.90		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	1250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	3852	4686	0.82	60.7	31.7	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	3852	1447	4600	1900	0.84	0.76	49.0	49.0	39.3	33.8	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2320	4686	0.50	62.7	18.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	742	682	1.64	41.11	56.3	30.5	29.2	1.00	D

Facility Overall Results

Space Mean Speed, mi/h	56.3	Average Density, veh/mi/ln	29.2
Average Travel Time, min	1.00	Average Density, pc/mi/ln	30.5
Total VMT, veh-mi	742	Total VHD, veh-h	1.64

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	41.11

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	2.42		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
2	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
3	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
4	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
6	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2601	4664	0.56	63.2	20.6	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.962	1.000	2601	2369	4600	2000	0.57	1.18	49.6	49.6	26.2	23.0	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	232	4664	0.02	61.4	1.8	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1380	1148	4600	1900	0.27	0.60	56.9	56.9	12.1	10.8	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1380	4664	0.27	62.4	10.9	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	1768	388	4600	2000	0.36	0.19	57.1	57.1	15.5	14.1	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1768	4664	0.36	63.2	14.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1013	787	1.16	29.06	58.9	14.7	14.2	2.50	F

Facility Overall Results

Space Mean Speed, mi/h	58.9	Average Density, veh/mi/ln	14.2
Average Travel Time, min	2.50	Average Density, pc/mi/ln	14.7
Total VMT, veh-mi	1013	Total VHD, veh-h	1.16
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	29.06

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.90		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	1250	2
2	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
3	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3271	4686	0.70	63.7	25.7	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	4428	1133	4600	2000	0.96	0.57	51.1	51.1	43.3	34.5	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	4481	4686	0.96	54.7	41.0	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	892	750	2.34	58.50	55.0	37.7	36.1	1.00	E

Facility Overall Results

Space Mean Speed, mi/h	55.0	Average Density, veh/mi/ln	36.1
Average Travel Time, min	1.00	Average Density, pc/mi/ln	37.7
Total VMT, veh-mi	892	Total VHD, veh-h	2.34

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	58.50

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	2.42		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	-140 between SR 33 and Relocated SR 115 NB Off Ramp	5280	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
3	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	1000	2
6	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	1000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	2531	4664	0.54	63.2	20.0	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	2531	1413	4600	1900	0.55	0.74	48.7	48.7	26.0	22.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1078	4664	0.23	61.3	8.5	A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1078	640	4600	1900	0.23	0.34	50.1	50.1	10.8	9.9	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	412	4664	0.09	61.5	3.3	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	2874	2459	4600	1900	0.62	1.29	55.8	55.8	25.8	21.8	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2387	4664	0.51	62.2	18.9	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1232	980	1.59	39.83	58.4	18.0	17.4	2.50	C

Facility Overall Results

Space Mean Speed, mi/h	58.4	Average Density, veh/mi/ln	17.4
Average Travel Time, min	2.50	Average Density, pc/mi/ln	18.0
Total VMT, veh-mi	1232	Total VHD, veh-h	1.59
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	39.83

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3578	4574	0.87	23.4	76.6	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	3484	215	4500	1900	0.88	0.11	24.7	49.1	70.6	34.9	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3137	4574	0.82	18.4	85.0	F

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	4190	1459	4500	1900	1.16	0.77	47.6	47.6	48.3	35.7	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4574	1.16	54.9	38.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1240	1301	16.08	402.10	33.3	58.0	55.0	2.50	F

Facility Overall Results

Space Mean Speed, mi/h	33.3	Average Density, veh/mi/ln	55.0
Average Travel Time, min	2.50	Average Density, pc/mi/ln	58.0
Total VMT, veh-mi	1240	Total VHD, veh-h	16.08
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	402.10

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2584	4574	0.56	58.7	22.0	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2885	5391	0.54	45.1	21.3	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1963	4574	0.43	57.9	16.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2250	2045	1.25	31.15	56.9	21.5	20.2	3.90	C

Facility Overall Results

Space Mean Speed, mi/h	56.9	Average Density, veh/mi/ln	20.2
Average Travel Time, min	3.90	Average Density, pc/mi/ln	21.5
Total VMT, veh-mi	2250	Total VHD, veh-h	1.25

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	31.15

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4314	4574	0.94	53.7	40.2	E

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	4314	1289	4500	1900	0.96	0.68	47.4	47.4	45.5	37.8	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3025	4574	0.65	57.9	25.8	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	4479	2262	4500	1900	1.16	1.19	47.5	47.5	55.7	40.7	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4479	4574	1.08	52.0	43.1	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4181	3753	7.80	195.00	52.9	40.5	38.9	4.70	F

Facility Overall Results

Space Mean Speed, mi/h	52.9	Average Density, veh/mi/ln	38.9
Average Travel Time, min	4.70	Average Density, pc/mi/ln	40.5
Total VMT, veh-mi	4181	Total VHD, veh-h	7.80
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	195.00

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1559	4574	0.34	58.7	13.3	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1559	255	4500	1900	0.35	0.13	49.0	49.0	15.9	14.1	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1311	4574	0.29	58.0	11.2	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	2445	1134	4500	1900	0.54	0.60	53.3	53.3	22.9	19.1	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2506	4574	0.55	58.7	21.3	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1915	1692	0.66	16.61	57.5	19.9	18.9	3.70	C

Facility Overall Results

Space Mean Speed, mi/h	57.5	Average Density, veh/mi/ln	18.9
Average Travel Time, min	3.70	Average Density, pc/mi/ln	19.9
Total VMT, veh-mi	1915	Total VHD, veh-h	0.66
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	16.61

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3441	4586	0.75	59.1	29.1	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.949	1.000	3441	1371	4500	2000	0.76	0.69	49.8	49.8	34.5	30.2	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1964	4586	0.43	59.1	16.6	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	923	849	0.78	19.58	56.5	24.4	23.2	1.50	C

Facility Overall Results

Space Mean Speed, mi/h	56.5	Average Density, veh/mi/ln	23.2
Average Travel Time, min	1.50	Average Density, pc/mi/ln	24.4
Total VMT, veh-mi	923	Total VHD, veh-h	0.78

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	19.58

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3454	4564	0.76	58.1	29.7	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3454	2705	4500	1900	0.77	1.42	45.2	45.2	38.2	30.4	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	749	4564	0.14	56.5	6.4	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1389	640	4500	1900	0.28	0.34	53.4	53.4	13.0	11.1	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2961	1572	4500	1900	0.64	0.83	52.4	52.4	28.3	22.9	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2961	4564	0.64	58.2	25.4	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2765	2375	1.72	42.91	56.2	24.8	23.9	4.40	F

Facility Overall Results

Space Mean Speed, mi/h	56.2	Average Density, veh/mi/ln	23.9
Average Travel Time, min	4.40	Average Density, pc/mi/ln	24.8
Total VMT, veh-mi	2765	Total VHD, veh-h	1.72
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	42.91

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1005	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.59

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	18.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.7

Vehicle Results

Average Speed, mi/h	42.7	Percent Followers, %	77.7
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	18.3
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	850	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.50

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.7

Vehicle Results

Average Speed, mi/h	40.7	Percent Followers, %	71.3
Segment Travel Time, minutes	2.74	Follower Density (FD), followers/mi/ln	14.9
Vehicle LOS	D		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	623	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.37

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	9.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.8

Vehicle Results

Average Speed, mi/h	41.8	Percent Followers, %	62.8
Segment Travel Time, minutes	1.81	Follower Density (FD), followers/mi/ln	9.4
Vehicle LOS	C		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1672	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.98

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.0
Speed Slope Coefficient (m)	2.96479	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44615	PF Power Coefficient (p)	0.70846
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	35.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.4

Vehicle Results

Average Speed, mi/h	41.4	Percent Followers, %	87.5
Segment Travel Time, minutes	0.63	Follower Density (FD), followers/mi/ln	35.3
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	2148	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.26

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	-

Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1714	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.01

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

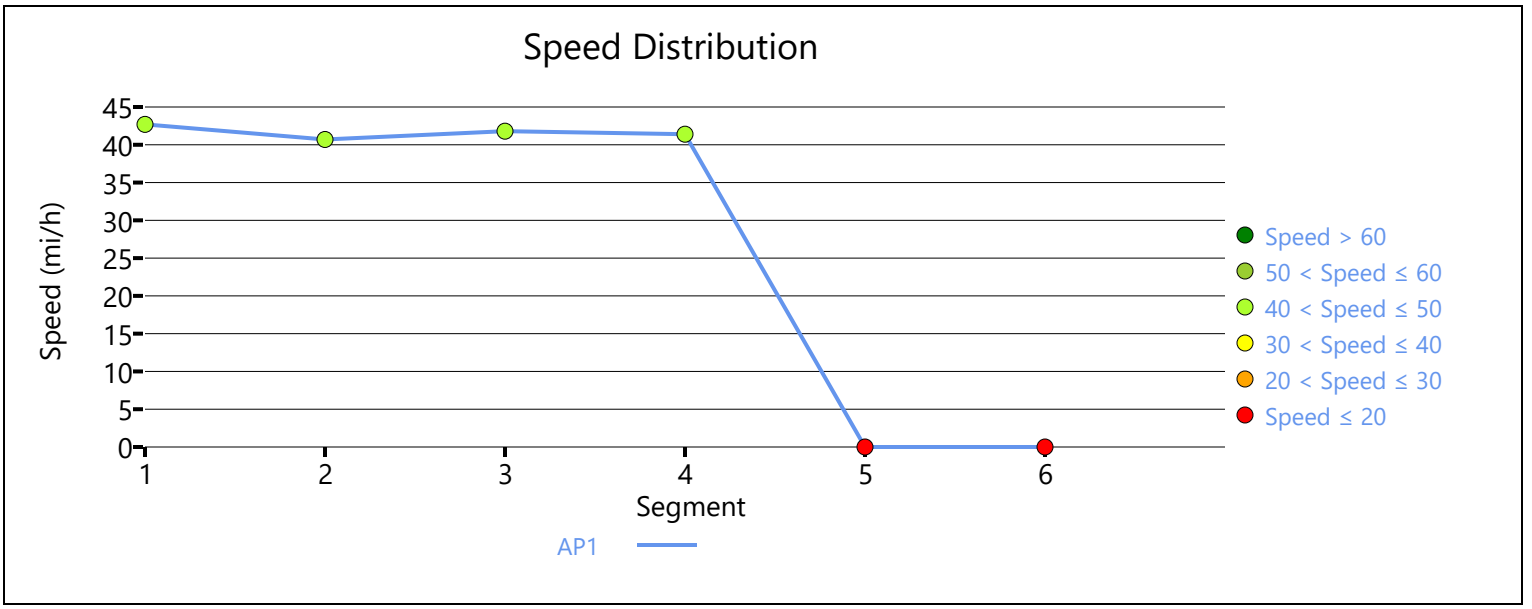
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	-

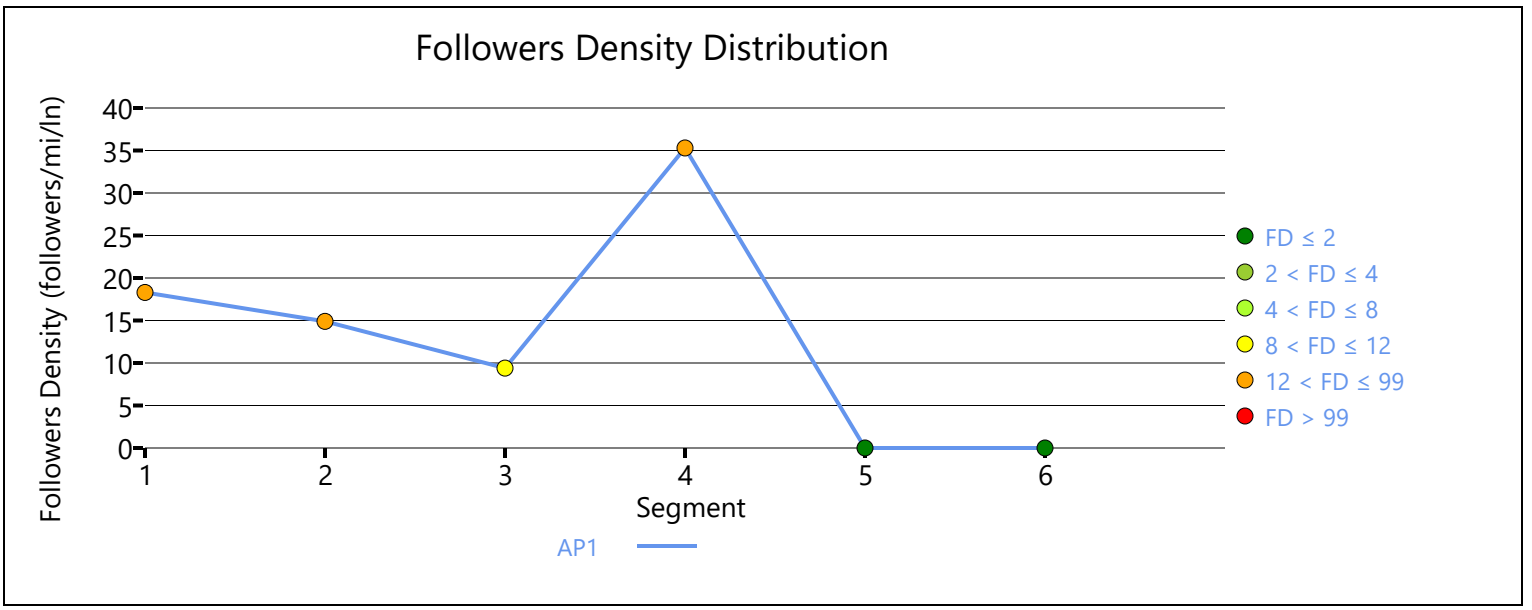
Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	-	-	-	F





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	22800
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	753	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.44

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	19.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	22800	-	-	27.2

Vehicle Results

Average Speed, mi/h	27.2	Percent Followers, %	70.5
Segment Travel Time, minutes	9.53	Follower Density (FD), followers/mi/ln	19.5
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11000
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	774	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.46

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.4
Speed Slope Coefficient (m)	3.44347	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36591	PF Power Coefficient (p)	0.70816
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	10.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

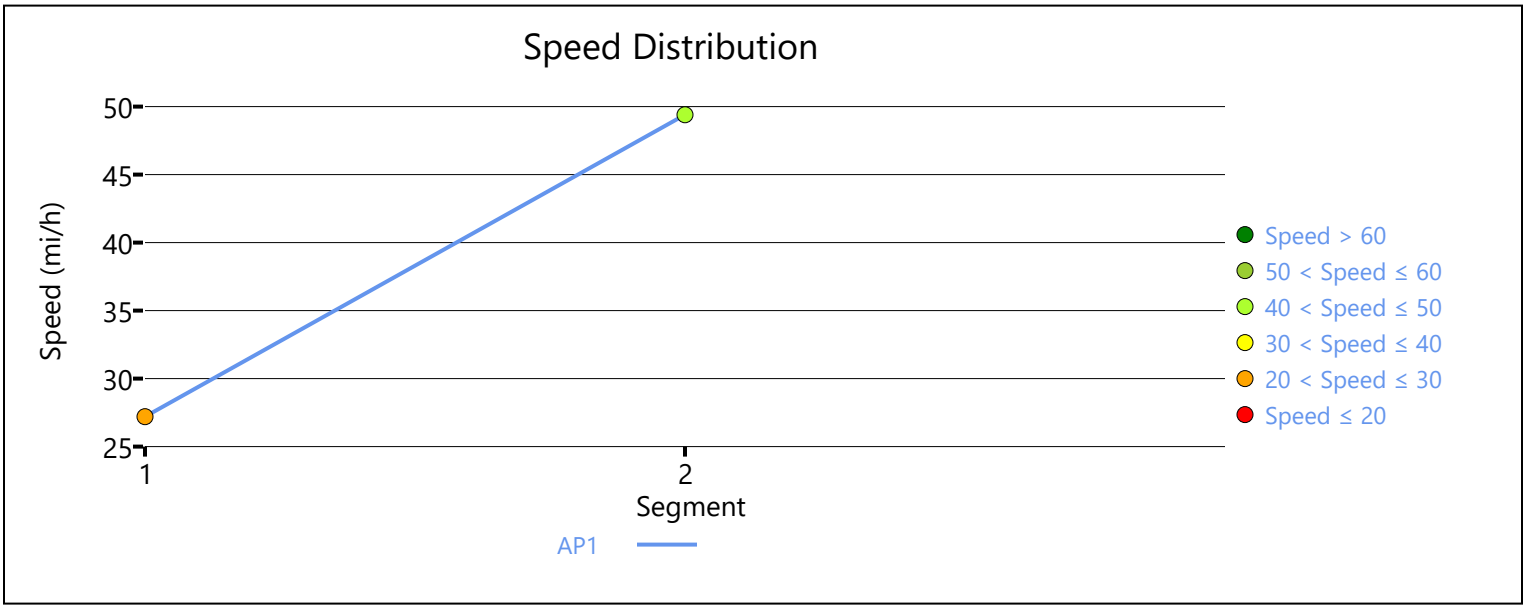
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11000	-	-	49.4

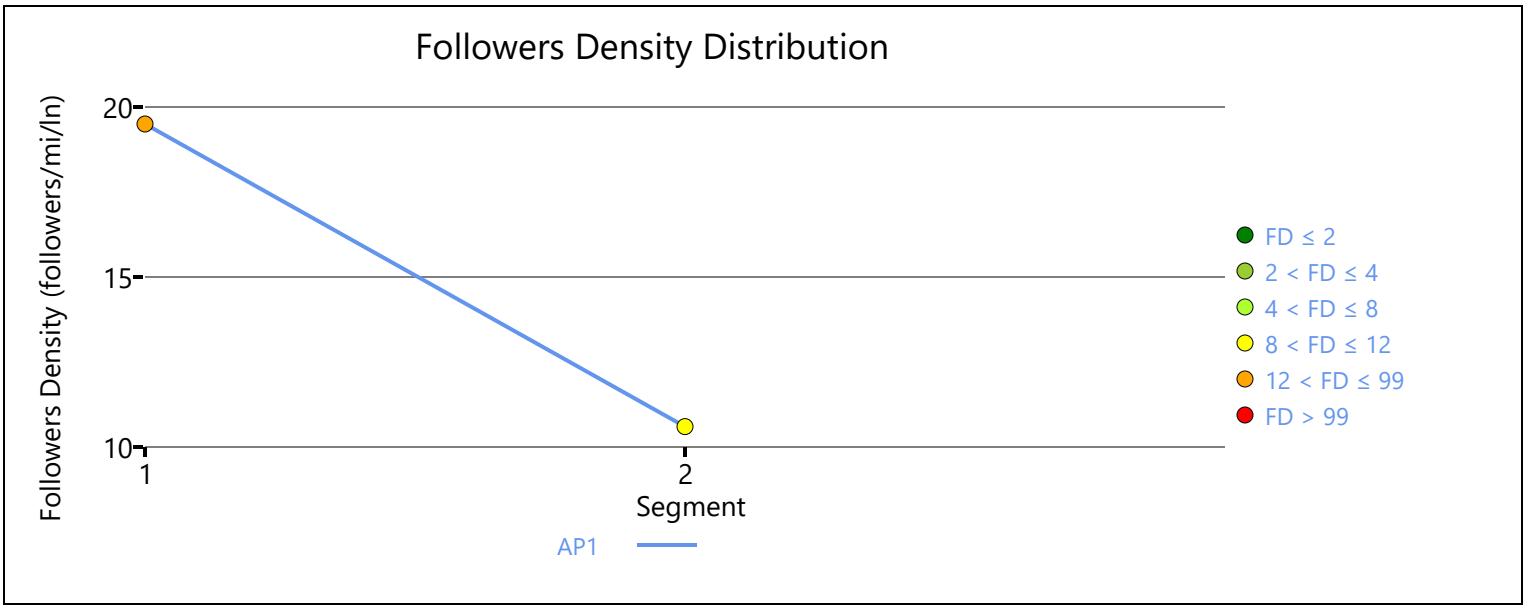
Vehicle Results

Average Speed, mi/h	49.4	Percent Followers, %	68.0
Segment Travel Time, minutes	2.53	Follower Density (FD), followers/mi/ln	10.6
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	1119	2.17	16.6	E





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1090	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	620
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.33

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	14.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1427	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	812
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	18.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between Jones Avenue and Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	2006	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1112
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	21.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1833	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1016
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	19.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1220	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	680
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	11.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1825	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1018
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.47

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	17.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13939
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1299	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.76

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.19114	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42590	PF Power Coefficient (p)	0.66617
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	24.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13939	-	-	43.9

Vehicle Results

Average Speed, mi/h	43.9	Percent Followers, %	81.7
Segment Travel Time, minutes	3.61	Follower Density (FD), followers/mi/ln	24.2
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	789	1.31	24.2	E

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	386	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.23

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.5

Vehicle Results

Average Speed, mi/h	43.5	Percent Followers, %	53.1
Segment Travel Time, minutes	3.48	Follower Density (FD), followers/mi/ln	4.7
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6394
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	512	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.30

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75779	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39045	PF Power Coefficient (p)	0.69607
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

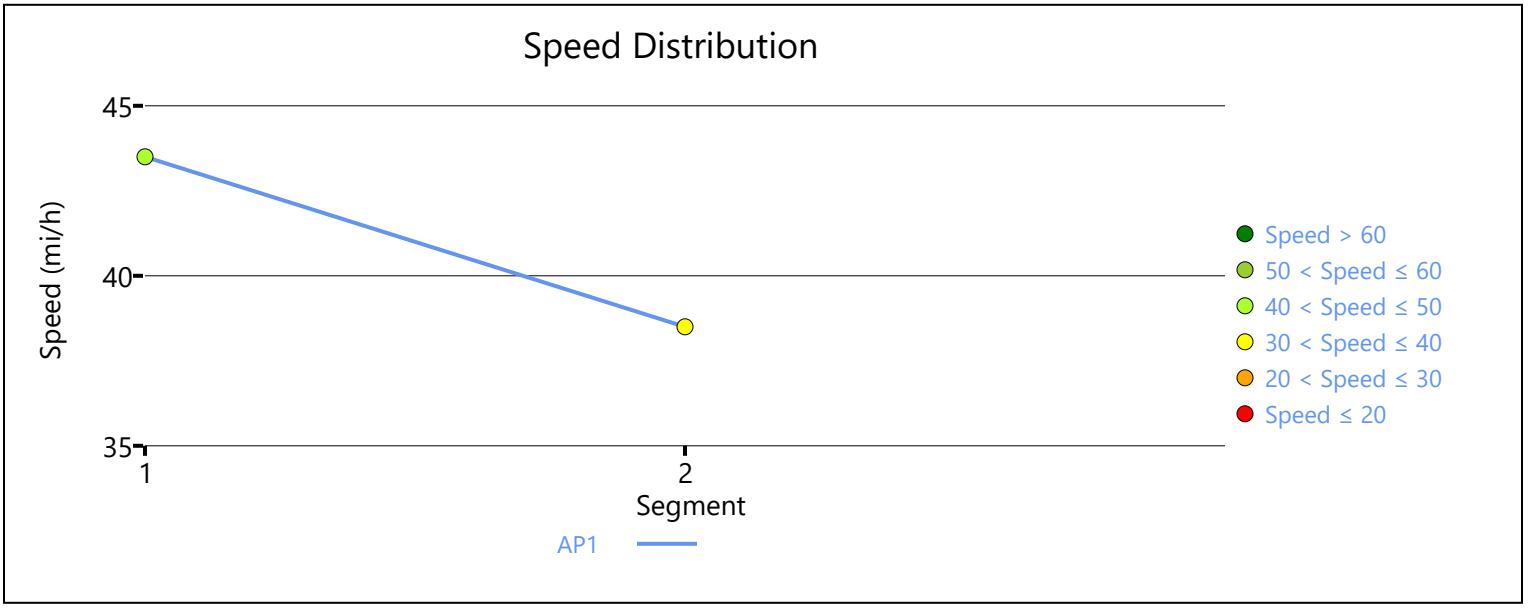
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.5

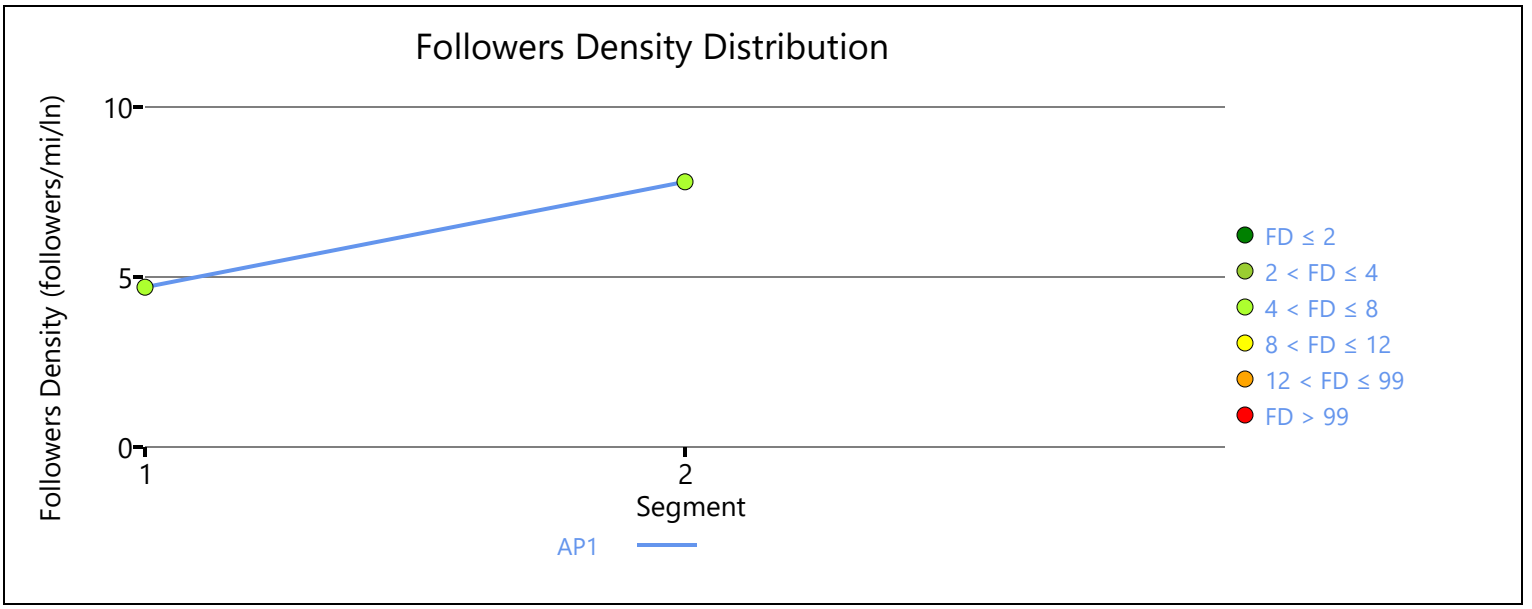
Vehicle Results

Average Speed, mi/h	38.5	Percent Followers, %	58.2
Segment Travel Time, minutes	1.89	Follower Density (FD), followers/mi/ln	7.8
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	366	0.38	5.7	C





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1172	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.69

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	28.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	32.1

Vehicle Results

Average Speed, mi/h	32.1	Percent Followers, %	78.6
Segment Travel Time, minutes	2.04	Follower Density (FD), followers/mi/ln	28.7
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	294	0.66	28.7	E

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	696	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.41

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35030	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37615	PF Power Coefficient (p)	0.66321
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	31.0

Vehicle Results

Average Speed, mi/h	31.0	Percent Followers, %	66.1
Segment Travel Time, minutes	2.31	Follower Density (FD), followers/mi/ln	14.9
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	190	0.35	14.9	D

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	222	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.13

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	33.6

Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	42.9
Segment Travel Time, minutes	0.43	Follower Density (FD), followers/mi/ln	2.8
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1400
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	234	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.14

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38318	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.48997	PF Power Coefficient (p)	0.65382
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	3.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

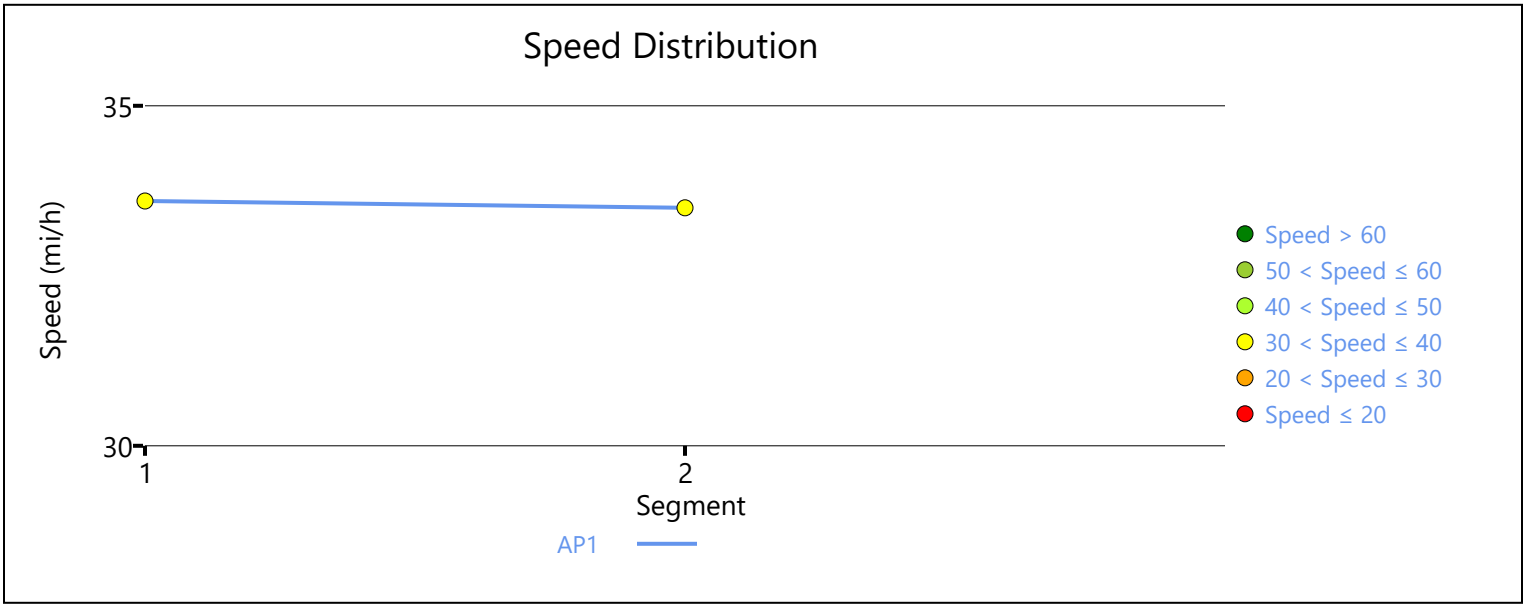
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1400	-	-	33.5

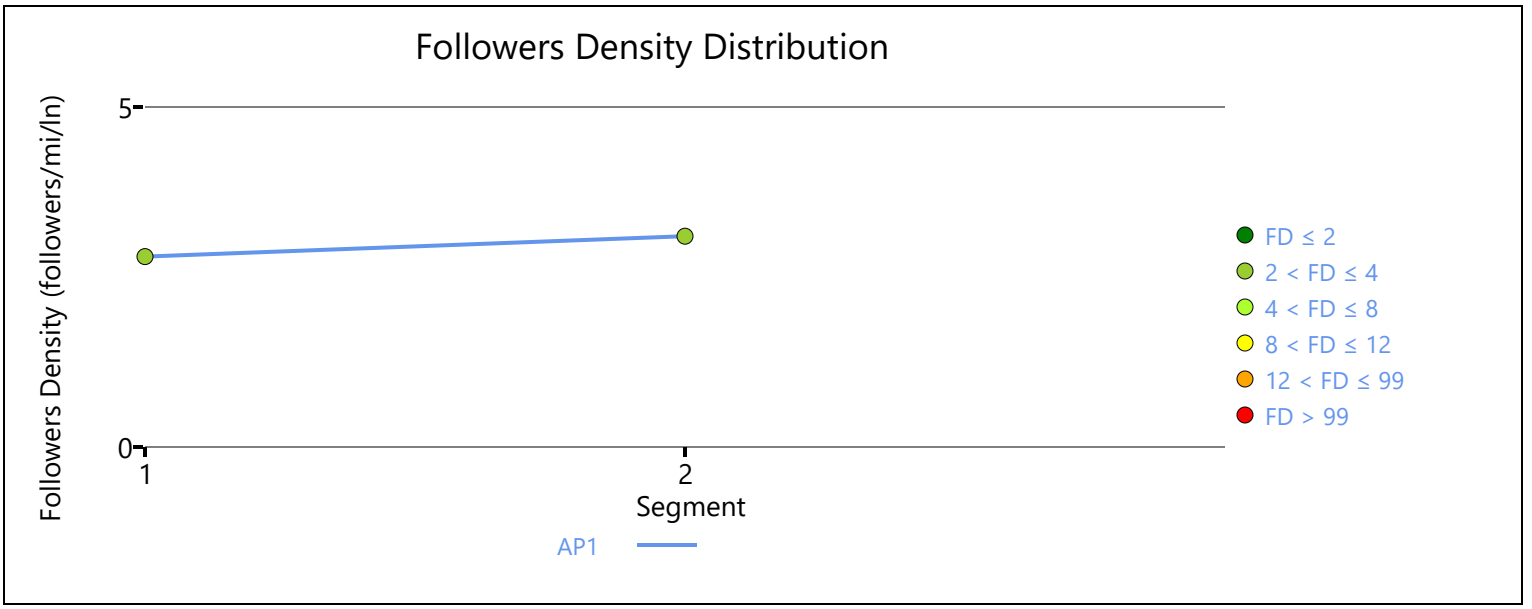
Vehicle Results

Average Speed, mi/h	33.5	Percent Followers, %	43.8
Segment Travel Time, minutes	0.47	Follower Density (FD), followers/mi/ln	3.1
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	27	0.02	2.9	B





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	749	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.44

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80795	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28905	PF Power Coefficient (p)	0.60652
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	23.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	21.2

Vehicle Results

Average Speed, mi/h	21.2	Percent Followers, %	66.1
Segment Travel Time, minutes	3.67	Follower Density (FD), followers/mi/ln	23.3
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	224	0.70	23.3	E

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.90		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	1250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	4283	4686	1.03	37.3	57.5	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	4283	1530	4600	1900	1.05	0.81	48.8	48.8	43.9	37.5	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2753	4686	0.68	62.6	21.4	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	835	871	5.87	146.77	44.3	43.7	41.8	1.20	F

Facility Overall Results

Space Mean Speed, mi/h	44.3	Average Density, veh/mi/ln	41.8
Average Travel Time, min	1.20	Average Density, pc/mi/ln	43.7
Total VMT, veh-mi	835	Total VHD, veh-h	5.87

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	146.77

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	2.42		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
2	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
3	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
4	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
6	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3121	4664	0.67	63.1	24.7	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.962	1.000	3121	2699	4600	2000	0.68	1.35	49.0	49.0	31.8	27.5	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	422	4664	0.05	61.3	3.3	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1773	1351	4600	1900	0.35	0.71	56.8	56.8	15.6	13.7	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1773	4664	0.36	62.4	14.0	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	2458	685	4600	2000	0.51	0.34	56.6	56.6	21.7	19.4	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	2458	4664	0.51	63.2	19.4	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1340	1052	1.54	38.49	58.9	19.4	18.8	2.50	F

Facility Overall Results

Space Mean Speed, mi/h	58.9	Average Density, veh/mi/ln	18.8
Average Travel Time, min	2.50	Average Density, pc/mi/ln	19.4
Total VMT, veh-mi	1340	Total VHD, veh-h	1.54
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	38.49

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	0.90		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	1250	2
2	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
3	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2445	4686	0.52	64.3	19.0	C

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	3624	1161	4600	2000	0.79	0.58	55.1	55.1	32.9	28.3	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	3679	4686	0.79	61.8	29.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	718	588	0.85	21.19	59.8	27.9	26.7	0.90	D

Facility Overall Results

Space Mean Speed, mi/h	59.8	Average Density, veh/mi/ln	26.7
Average Travel Time, min	0.90	Average Density, pc/mi/ln	27.9
Total VMT, veh-mi	718	Total VHD, veh-h	0.85

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	21.19

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	2.42		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	-140 between SR 33 and Relocated SR 115 NB Off Ramp	5280	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
3	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	1000	2
6	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	1000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	2067	4664	0.44	63.2	16.4	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	2067	1371	4600	1900	0.45	0.72	48.8	48.8	21.2	18.4	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	651	4664	0.14	61.3	5.2	A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.962	1.000	655	556	4600	2000	0.14	0.28	53.1	53.1	6.2	6.3	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	64	4664	0.01	61.9	0.5	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	2675	2610	4600	1900	0.58	1.37	56.0	56.0	23.9	20.2	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2054	4664	0.44	62.2	16.2	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	994	752	1.21	30.14	58.7	14.5	14.0	2.50	B

Facility Overall Results

Space Mean Speed, mi/h	58.7	Average Density, veh/mi/ln	14.0
Average Travel Time, min	2.50	Average Density, pc/mi/ln	14.5
Total VMT, veh-mi	994	Total VHD, veh-h	1.21
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	30.14

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2879	4574	0.63	58.7	24.5	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	2879	165	4500	1900	0.64	0.09	49.1	49.1	29.3	25.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2705	4574	0.59	57.9	23.0	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	4223	1518	4500	1900	0.94	0.80	49.6	49.6	42.6	32.8	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4305	4574	0.94	53.8	40.0	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1177	989	2.33	58.29	52.6	34.3	32.5	1.60	D

Facility Overall Results

Space Mean Speed, mi/h	52.6	Average Density, veh/mi/ln	32.5
Average Travel Time, min	1.60	Average Density, pc/mi/ln	34.3
Total VMT, veh-mi	1177	Total VHD, veh-h	2.33
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	58.29

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2417	4574	0.53	58.7	20.6	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2791	5053	0.55	44.6	20.9	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1846	4574	0.40	57.9	15.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2113	1914	1.26	31.62	56.7	20.2	19.0	3.90	C

Facility Overall Results

Space Mean Speed, mi/h	56.7	Average Density, veh/mi/ln	19.0
Average Travel Time, min	3.90	Average Density, pc/mi/ln	20.2
Total VMT, veh-mi	2113	Total VHD, veh-h	1.26

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	31.62

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3573	4574	0.78	58.3	30.6	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3573	2099	4500	1900	0.79	1.10	46.2	46.2	38.7	31.4	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1474	4574	0.30	57.8	12.6	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3374	2692	4500	1900	0.91	1.42	49.8	49.8	41.8	31.8	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3374	4574	0.74	56.5	28.7	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3352	2952	2.20	55.01	56.5	30.5	29.3	4.40	F

Facility Overall Results

Space Mean Speed, mi/h	56.5	Average Density, veh/mi/ln	29.3
Average Travel Time, min	4.40	Average Density, pc/mi/ln	30.5
Total VMT, veh-mi	3352	Total VHD, veh-h	2.20
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	55.01

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2463	4574	0.54	58.7	21.0	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2463	257	4500	1900	0.55	0.14	49.0	49.0	25.1	21.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2227	4574	0.49	58.0	19.0	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	3370	1143	4500	1900	0.75	0.60	52.1	52.1	32.3	26.3	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3432	4574	0.75	58.6	29.3	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2685	2399	1.15	28.84	57.3	28.1	26.7	3.70	D

Facility Overall Results

Space Mean Speed, mi/h	57.3	Average Density, veh/mi/ln	26.7
Average Travel Time, min	3.70	Average Density, pc/mi/ln	28.1
Total VMT, veh-mi	2685	Total VHD, veh-h	1.15
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	28.84

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4586	1.17	36.4	57.5	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.949	1.000	4190	1823	4500	2000	1.19	0.91	49.1	49.1	42.7	36.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2367	4586	0.74	59.1	20.0	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1120	1374	5.99	149.86	45.0	37.1	35.3	1.90	F

Facility Overall Results

Space Mean Speed, mi/h	45.0	Average Density, veh/mi/ln	35.3
Average Travel Time, min	1.90	Average Density, pc/mi/ln	37.1
Total VMT, veh-mi	1120	Total VHD, veh-h	5.99

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	149.86

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4190	4564	1.09	36.8	56.9	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	4190	2550	4500	1900	1.11	1.34	45.4	45.4	46.1	36.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1640	4564	0.51	56.5	14.1	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2208	568	4500	1900	0.65	0.30	53.1	53.1	20.8	17.5	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3644	1436	4500	1900	0.97	0.76	51.2	51.2	35.6	28.3	D

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3644	4564	0.97	57.7	31.6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3464	3764	3.13	78.25	55.3	31.6	30.4	4.50	F

Facility Overall Results

Space Mean Speed, mi/h	55.3	Average Density, veh/mi/ln	30.4
Average Travel Time, min	4.50	Average Density, pc/mi/ln	31.6
Total VMT, veh-mi	3465	Total VHD, veh-h	3.13
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	78.25

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	982	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.58

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	17.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.7

Vehicle Results

Average Speed, mi/h	42.7	Percent Followers, %	77.1
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	17.7
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1118	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.66

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	21.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.3

Vehicle Results

Average Speed, mi/h	40.3	Percent Followers, %	77.8
Segment Travel Time, minutes	2.77	Follower Density (FD), followers/mi/ln	21.6
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	911	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.54

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	16.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.3

Vehicle Results

Average Speed, mi/h	41.3	Percent Followers, %	72.6
Segment Travel Time, minutes	1.83	Follower Density (FD), followers/mi/ln	16.0
Vehicle LOS	E		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1776	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.04

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	-

Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	2377	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.40

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	-

Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1636	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.96

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	34.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

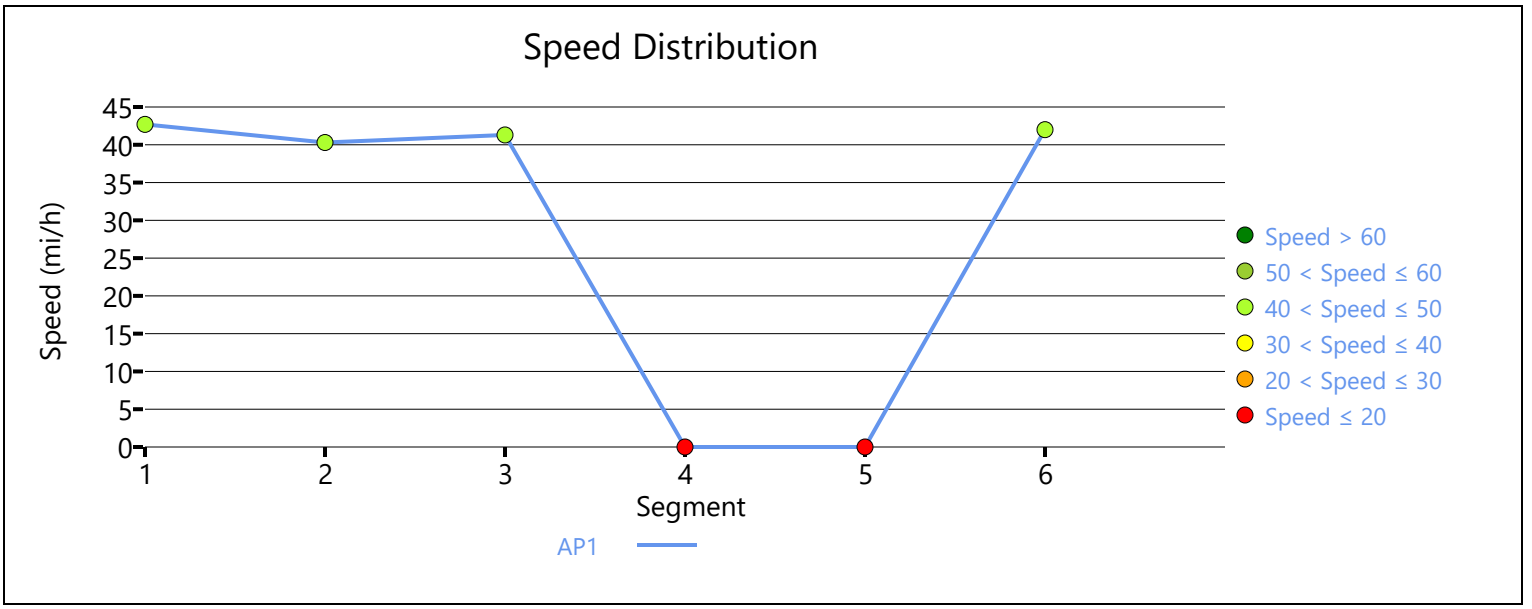
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.0

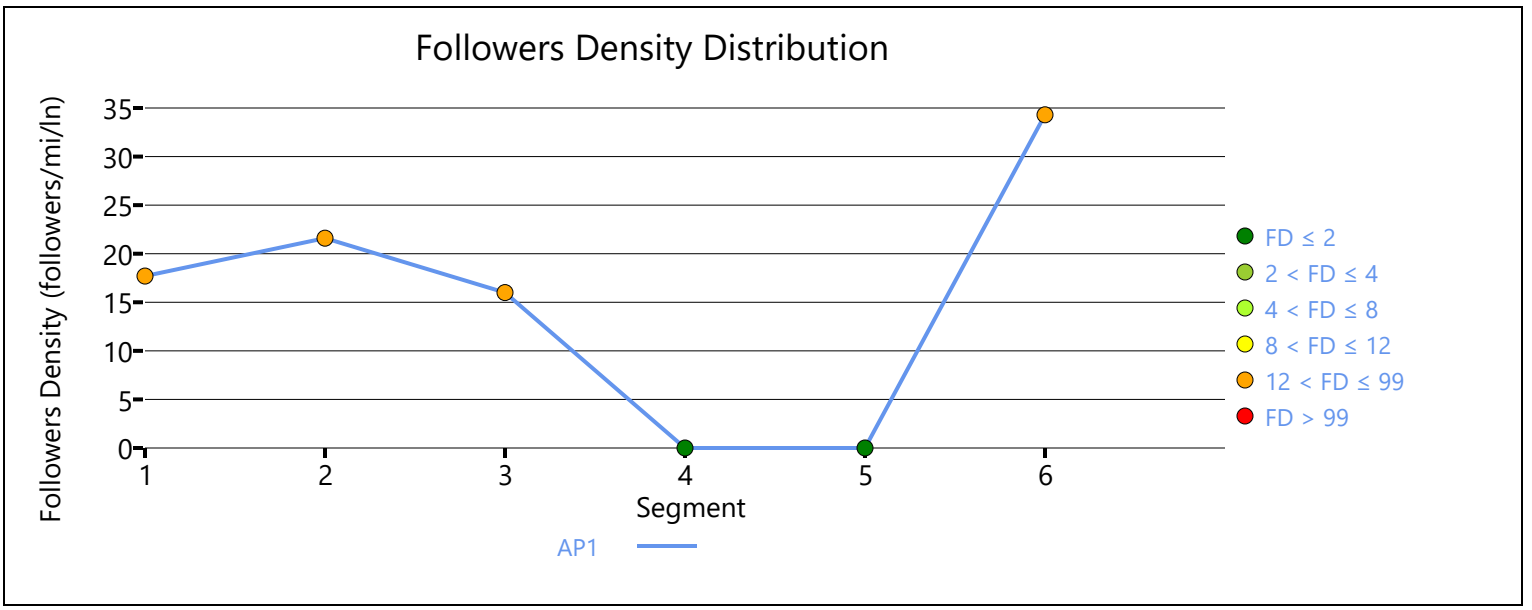
Vehicle Results

Average Speed, mi/h	42.0	Percent Followers, %	87.8
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	34.3
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	-	-	-	F





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	22800
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	904	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.53

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	24.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	22800	-	-	27.0

Vehicle Results

Average Speed, mi/h	27.0	Percent Followers, %	74.2
Segment Travel Time, minutes	9.59	Follower Density (FD), followers/mi/ln	24.8
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11000
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	873	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.51

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.4
Speed Slope Coefficient (m)	3.44347	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36591	PF Power Coefficient (p)	0.70816
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	12.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

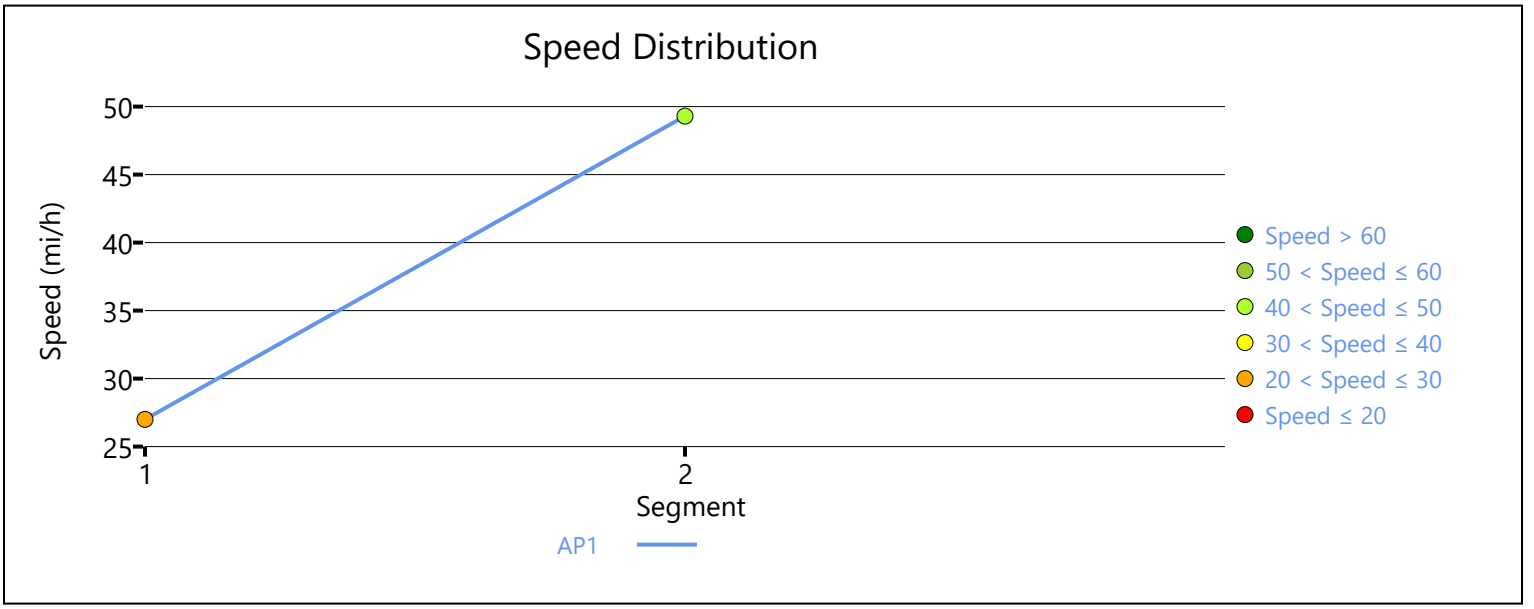
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11000	-	-	49.3

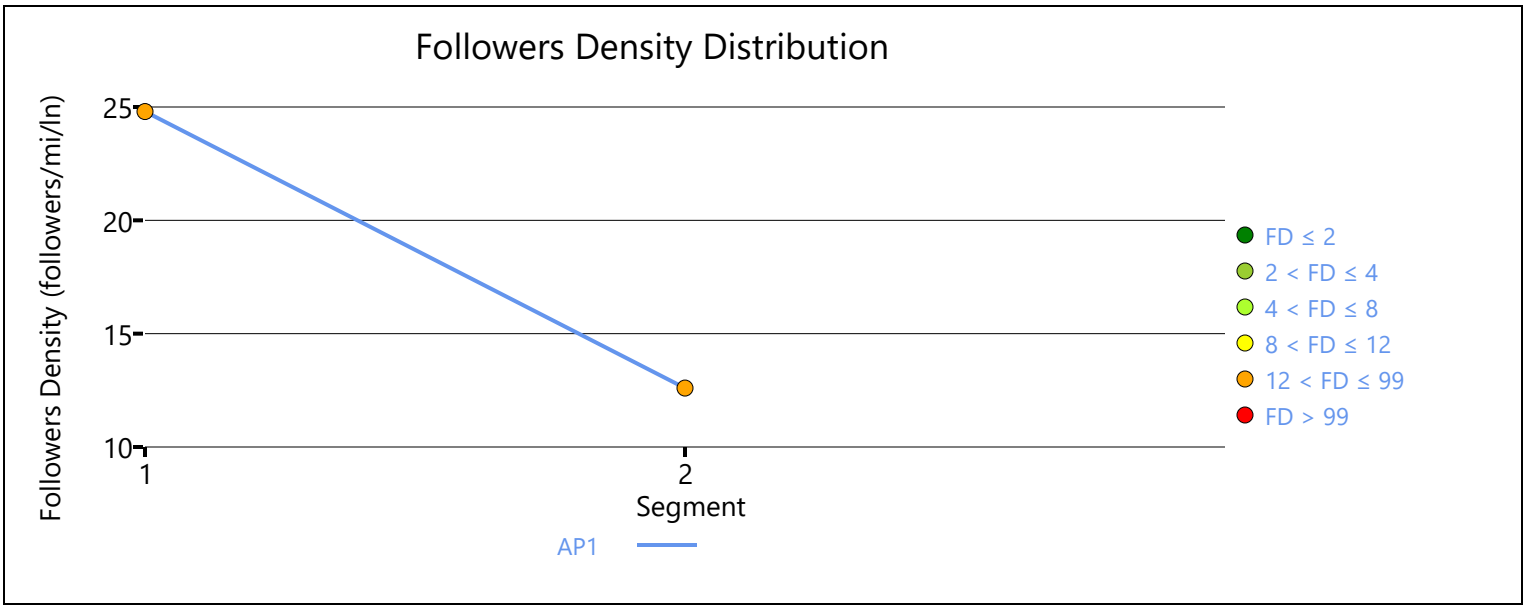
Vehicle Results

Average Speed, mi/h	49.3	Percent Followers, %	71.1
Segment Travel Time, minutes	2.54	Follower Density (FD), followers/mi/ln	12.6
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	1316	2.81	20.9	E





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1654	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	942
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	21.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data			
Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1130	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	643
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	14.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between Jones Avenue to Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	3328	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1846
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.90

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	47.9
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	38.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	E
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data			
Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1606	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	890
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	17.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1597	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	891
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	15.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1363	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	760
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	13.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1076	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.63

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.13620	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37437	PF Power Coefficient (p)	0.72181
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	18.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	44.3

Vehicle Results

Average Speed, mi/h	44.3	Percent Followers, %	76.5
Segment Travel Time, minutes	1.61	Follower Density (FD), followers/mi/ln	18.6
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	295	0.44	18.6	E

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	421	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.25

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	5.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.4

Vehicle Results

Average Speed, mi/h	43.4	Percent Followers, %	55.1
Segment Travel Time, minutes	3.48	Follower Density (FD), followers/mi/ln	5.3
Vehicle LOS	C		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6394
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	476	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.28

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75779	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39045	PF Power Coefficient (p)	0.69607
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

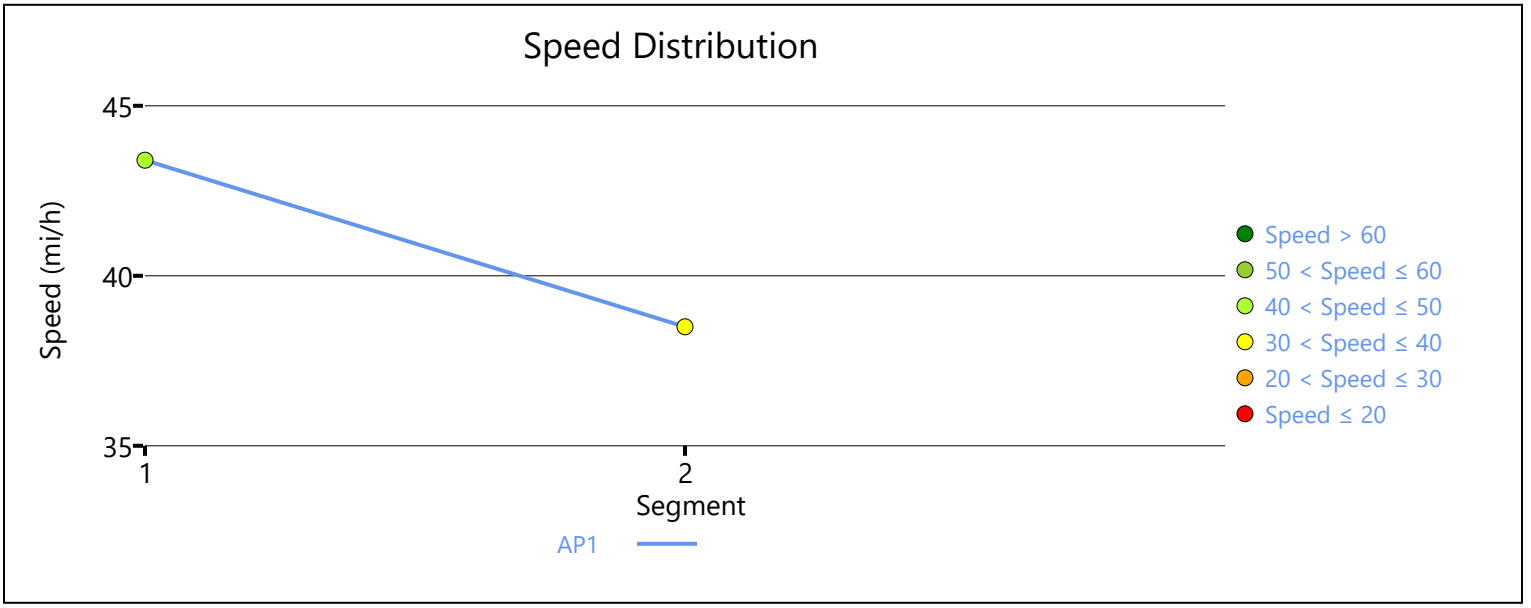
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.5

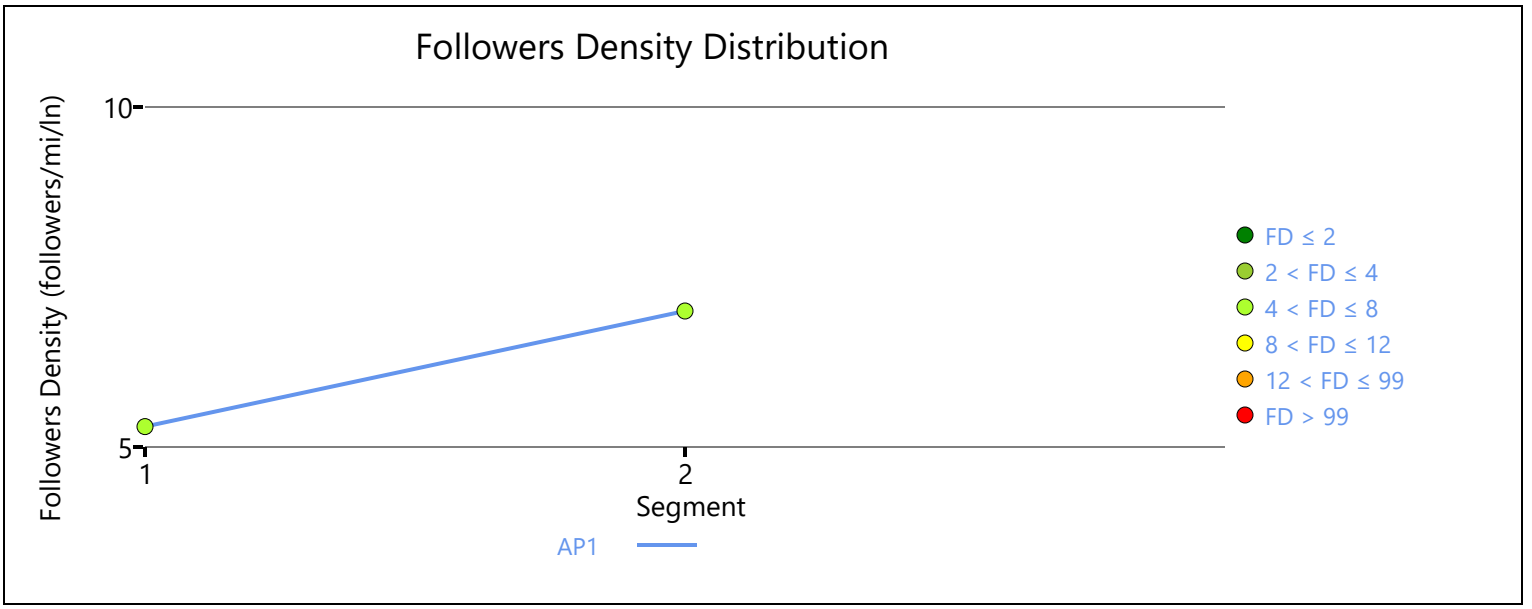
Vehicle Results

Average Speed, mi/h	38.5	Percent Followers, %	56.4
Segment Travel Time, minutes	1.89	Follower Density (FD), followers/mi/ln	7.0
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	376	0.39	5.9	C





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1012	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.60

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	23.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	32.3

Vehicle Results

Average Speed, mi/h	32.3	Percent Followers, %	75.2
Segment Travel Time, minutes	2.03	Follower Density (FD), followers/mi/ln	23.6
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	254	0.53	23.6	E

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	708	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.42

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35030	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37615	PF Power Coefficient (p)	0.66321
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	15.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	30.9

Vehicle Results

Average Speed, mi/h	30.9	Percent Followers, %	66.5
Segment Travel Time, minutes	2.31	Follower Density (FD), followers/mi/ln	15.2
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	194	0.36	15.2	E

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	203	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.12

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	33.6

Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	41.1
Segment Travel Time, minutes	0.43	Follower Density (FD), followers/mi/ln	2.5
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1400
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	230	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.14

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38318	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.48997	PF Power Coefficient (p)	0.65382
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	3.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

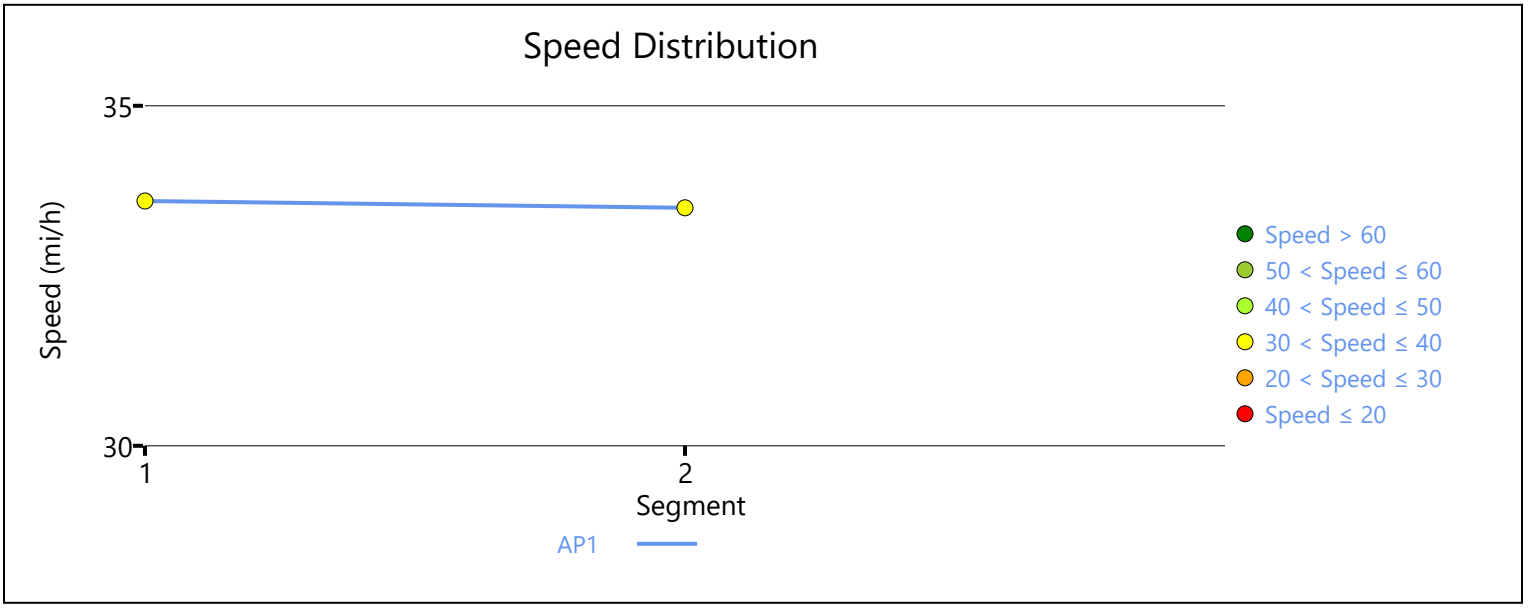
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1400	-	-	33.5

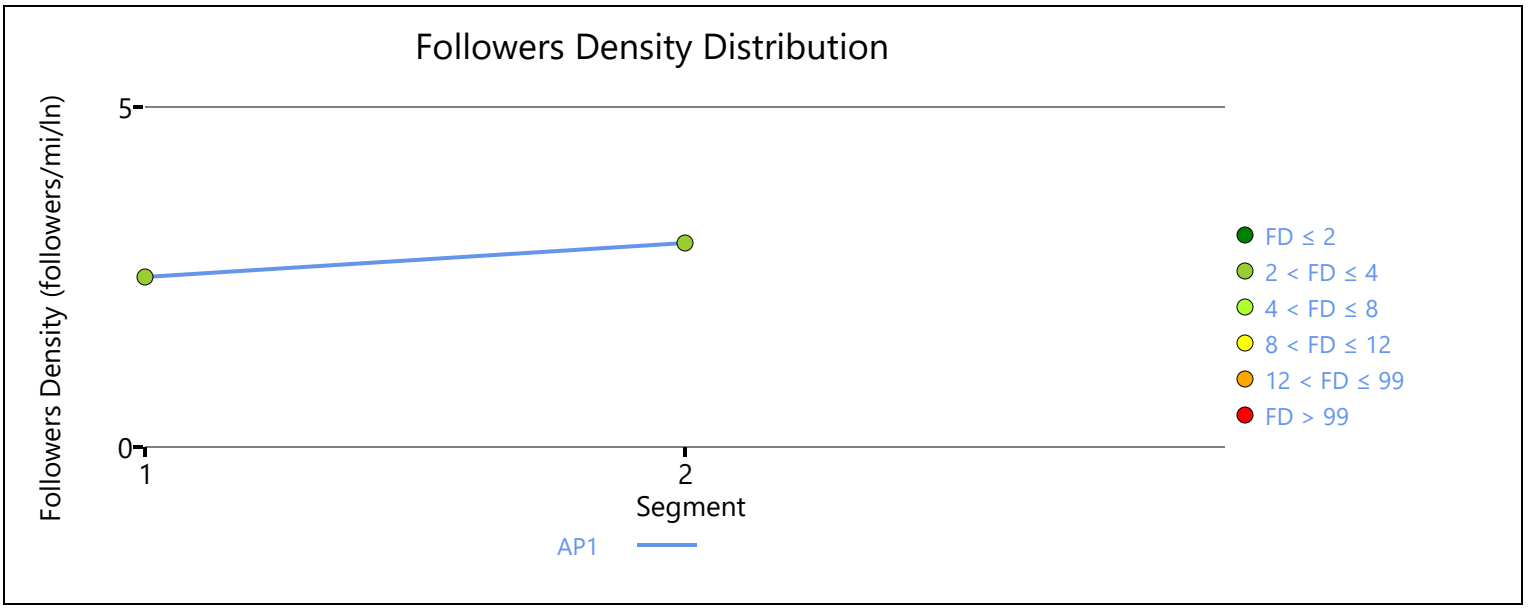
Vehicle Results

Average Speed, mi/h	33.5	Percent Followers, %	43.5
Segment Travel Time, minutes	0.47	Follower Density (FD), followers/mi/ln	3.0
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	25	0.02	2.7	B





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	750	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.44

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80795	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28905	PF Power Coefficient (p)	0.60652
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	23.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	21.2

Vehicle Results

Average Speed, mi/h	21.2	Percent Followers, %	66.1
Segment Travel Time, minutes	3.67	Follower Density (FD), followers/mi/ln	23.3
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	224	0.70	23.3	E

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.68		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	2250	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
8	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
9	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	3280	2
10	Diverge	Diverge	I-140 Off Ramp to SR 33 SB	1500	2
11	Basic	Basic	I-140 between SR 33 SB Off Ramp and SR 33 SB On Ramp	1000	2
12	Merge	Merge	SR 33 SB On Ramp to I-140 EB	1500	2
13	Basic	Basic	I-140 between SR 33 and SR 35	10000	2
14	Diverge	Diverge	I-140 Off Ramp to SR 35 WB	1500	2
15	Basic	Basic	I-140 between SR 35 EB Off Ramp to SR 35 EB On Ramp	1000	2
16	Merge	Merge	SR 35 On Ramp to I-140 SB	1500	2
17	Basic	Basic	I-140 between SR 35 and SR 73	5000	2
18	Diverge	Diverge	I-140 Off Ramp to SR 73 WB	1500	2
19	Basic	Basic	I-140 between SR 73 WB Off Ramp and SR 73 EB Off Ramp	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2580	4644	0.56	62.2	20.7	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	2580	897	4600	1900	0.56	0.47	49.1	49.1	26.3	22.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1647	4636	0.36	61.2	13.3	B

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1647	1581	4600	1900	0.36	0.83	47.9	47.9	17.2	14.8	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	37	4636	0.01	60.0	0.3	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	856	819	4600	1900	0.19	0.43	56.1	56.1	7.6	6.8	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	871	4636	0.19	61.0	7.1	A

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1061	195	4600	2000	0.23	0.10	56.3	56.3	9.4	8.7	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1063	4626	0.23	61.2	8.7	A

Segment 10: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1063	751	4600	1900	0.23	0.40	49.1	49.1	10.8	9.8	A

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	303	4618	0.07	59.3	2.5	A

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	758	453	4600	1900	0.16	0.24	55.4	55.4	6.8	6.2	A

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	766	4626	0.17	61.3	6.2	A

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	766	197	4600	1900	0.17	0.10	50.6	50.6	7.6	7.2	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	565	4644	0.12	60.7	4.5	A

Segment 16: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	783	214	4600	1900	0.17	0.11	56.3	56.3	7.0	6.5	A

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	789	4664	0.17	63.2	6.2	A

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	789	307	4600	1900	0.17	0.16	50.8	50.8	7.8	7.4	A

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	473	4664	0.10	60.7	3.7	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1884	1628	2.40	59.98	57.3	8.9	8.5	8.00	A

Facility Overall Results

Space Mean Speed, mi/h	57.3	Average Density, veh/mi/ln	8.5
Average Travel Time, min	8.00	Average Density, pc/mi/ln	8.9
Total VMT, veh-mi	1884	Total VHD, veh-h	2.40
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	59.98

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.68		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between SR 73 EB On Ramp and SR 73 WB On Ramp	500	2
2	Merge	Merge	SR 73 WB On Ramp to I-140 NB	1500	2
3	Basic	Basic	I-140 between SR 73 and SR 35	5000	2
4	Diverge	Diverge	I-140 Off Ramp to SR 35 EB	1500	2
5	Basic	Basic	I-140 between SR 35 EB Off ramp to Sr 35 WB On Ramp	1000	2
6	Merge	Merge	SR 35 WB On Ramp to I-140 NB	1500	2
7	Basic	Basic	I-140 between SR 35 to SR 33	10000	2
8	Diverge	Diverge	I-140 Off Ramp to SR 33 NB	1500	2
9	Basic	Basic	I-140 between SR 33 NB Off Ramp to SR 33 SB On Ramp	1000	2
10	Merge	Merge	SR 33 SB On Ramp to I-140 WB	1500	2
11	Basic	Basic	-140 between SR 33 and Relocated SR 115 NB Off Ramp	3280	2
12	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
13	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
14	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
15	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and Relocated SR 115 SB On Ramp	1000	2
16	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
17	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and SR 115 SB On Ramp	2250	2
18	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
19	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	753	4664	0.16	63.2	5.9	A

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	1650	897	4600	1900	0.36	0.47	56.8	56.8	14.5	13.0	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	1599	4664	0.34	63.2	12.7	B

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1662	236	4600	1900	0.36	0.12	50.5	50.5	16.5	14.9	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1421	4644	0.31	60.7	11.4	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1837	416	4600	1900	0.40	0.22	56.0	56.0	16.4	14.7	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1845	4626	0.40	61.3	15.0	B

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1845	677	4600	1900	0.40	0.36	49.2	49.2	18.8	16.5	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1156	4618	0.25	59.4	9.5	A

Segment 10: Merge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	2469	1320	4600	1900	0.54	0.69	54.7	54.7	22.6	19.2	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	2485	4626	0.54	61.2	20.3	C

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	2485	1012	4600	1900	0.54	0.53	48.9	48.9	25.4	22.0	C

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1461	4636	0.32	60.1	11.8	B

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1461	284	4600	1900	0.32	0.15	50.2	50.2	14.6	13.2	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1173	4636	0.25	60.3	9.5	A

Segment 16: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2235	1054	4600	1900	0.49	0.55	55.5	55.5	20.1	17.5	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2254	4636	0.49	61.5	18.2	C

Segment 18: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	2983	712	4600	2000	0.65	0.36	55.0	55.0	27.1	23.5	C

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	3001	4644	0.65	61.8	24.1	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3623	3057	3.61	90.27	58.2	16.7	16.2	7.90	B

Facility Overall Results

Space Mean Speed, mi/h	58.2	Average Density, veh/mi/ln	16.2
Average Travel Time, min	7.90	Average Density, pc/mi/ln	16.7
Total VMT, veh-mi	3623	Total VHD, veh-h	3.61
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	90.27

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3530	4574	0.77	58.5	30.2	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	3530	166	4500	1900	0.78	0.09	49.1	49.1	35.9	31.0	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3355	4574	0.73	57.9	28.6	D

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	4489	1134	4500	1900	1.00	0.60	48.2	48.2	46.6	35.0	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4549	4574	0.99	51.1	44.5	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1317	1142	3.27	81.72	51.2	39.4	37.4	1.60	E

Facility Overall Results

Space Mean Speed, mi/h	51.2	Average Density, veh/mi/ln	37.4
Average Travel Time, min	1.60	Average Density, pc/mi/ln	39.4
Total VMT, veh-mi	1317	Total VHD, veh-h	3.27
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	81.72

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1593	4574	0.35	58.7	13.6	B

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1858	5117	0.36	48.5	12.8	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1258	4574	0.28	58.1	10.7	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1398	1265	0.56	14.05	57.4	13.3	12.5	3.90	B

Facility Overall Results

Space Mean Speed, mi/h	57.4	Average Density, veh/mi/ln	12.5
Average Travel Time, min	3.90	Average Density, pc/mi/ln	13.3
Total VMT, veh-mi	1398	Total VHD, veh-h	0.56

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	14.05

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2558	4574	0.56	58.7	21.8	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2558	637	4500	1900	0.57	0.34	48.4	48.4	26.4	22.7	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1896	4574	0.41	58.0	16.1	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3322	1426	4500	1900	0.74	0.75	52.2	52.2	31.8	25.8	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3378	4574	0.74	57.1	28.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2542	2249	1.17	29.14	57.2	22.4	21.6	4.30	C

Facility Overall Results

Space Mean Speed, mi/h	57.2	Average Density, veh/mi/ln	21.6
Average Travel Time, min	4.30	Average Density, pc/mi/ln	22.4
Total VMT, veh-mi	2542	Total VHD, veh-h	1.17
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	29.14

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1000	4574	0.22	58.7	8.5	A

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1000	123	4500	1900	0.22	0.06	49.2	49.2	10.2	9.3	A

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	872	4574	0.19	58.0	7.4	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	1491	607	4500	1900	0.33	0.32	53.7	53.7	13.9	11.9	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1523	4574	0.33	58.7	13.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1175	1044	0.40	9.95	57.6	12.2	11.6	3.70	B

Facility Overall Results

Space Mean Speed, mi/h	57.6	Average Density, veh/mi/ln	11.6
Average Travel Time, min	3.70	Average Density, pc/mi/ln	12.2
Total VMT, veh-mi	1175	Total VHD, veh-h	0.40
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	9.95

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2913	4586	0.64	59.3	24.6	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.949	1.000	2913	1069	4500	2000	0.65	0.53	50.2	50.2	29.0	25.7	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1762	4586	0.38	59.1	14.9	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	797	733	0.61	15.32	56.7	21.0	19.9	1.50	C

Facility Overall Results

Space Mean Speed, mi/h	56.7	Average Density, veh/mi/ln	19.9
Average Travel Time, min	1.50	Average Density, pc/mi/ln	21.0
Total VMT, veh-mi	797	Total VHD, veh-h	0.61

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	15.32

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2228	4564	0.49	58.2	19.1	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2228	1389	4500	1900	0.50	0.73	47.1	47.1	23.7	19.8	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	784	4564	0.17	56.7	6.7	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1062	278	4500	1900	0.24	0.15	53.5	53.5	9.9	8.7	A

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2187	1114	4500	1900	0.49	0.59	53.1	53.1	20.6	17.1	B

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2232	4564	0.49	58.2	19.2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2062	1809	0.99	24.71	56.6	18.4	17.7	4.40	C

Facility Overall Results

Space Mean Speed, mi/h	56.6	Average Density, veh/mi/ln	17.7
Average Travel Time, min	4.40	Average Density, pc/mi/ln	18.4
Total VMT, veh-mi	2062	Total VHD, veh-h	0.99
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	24.71

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	929	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.55

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	16.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.8

Vehicle Results

Average Speed, mi/h	42.8	Percent Followers, %	75.8
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	16.5
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	793	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.47

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	13.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.8

Vehicle Results

Average Speed, mi/h	40.8	Percent Followers, %	69.6
Segment Travel Time, minutes	2.74	Follower Density (FD), followers/mi/ln	13.5
Vehicle LOS	D		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	508	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.30

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	42.0

Vehicle Results

Average Speed, mi/h	42.0	Percent Followers, %	57.5
Segment Travel Time, minutes	1.80	Follower Density (FD), followers/mi/ln	7.0
Vehicle LOS	C		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1114	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.66

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.0
Speed Slope Coefficient (m)	2.96479	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44615	PF Power Coefficient (p)	0.70846
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	20.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	42.0

Vehicle Results

Average Speed, mi/h	42.0	Percent Followers, %	79.0
Segment Travel Time, minutes	0.62	Follower Density (FD), followers/mi/ln	20.9
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1305	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.77

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.6
Speed Slope Coefficient (m)	2.94157	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44398	PF Power Coefficient (p)	0.70754
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	26.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	41.4

Vehicle Results

Average Speed, mi/h	41.4	Percent Followers, %	82.5
Segment Travel Time, minutes	0.66	Follower Density (FD), followers/mi/ln	26.0
Vehicle LOS	E		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	972	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.57

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	17.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

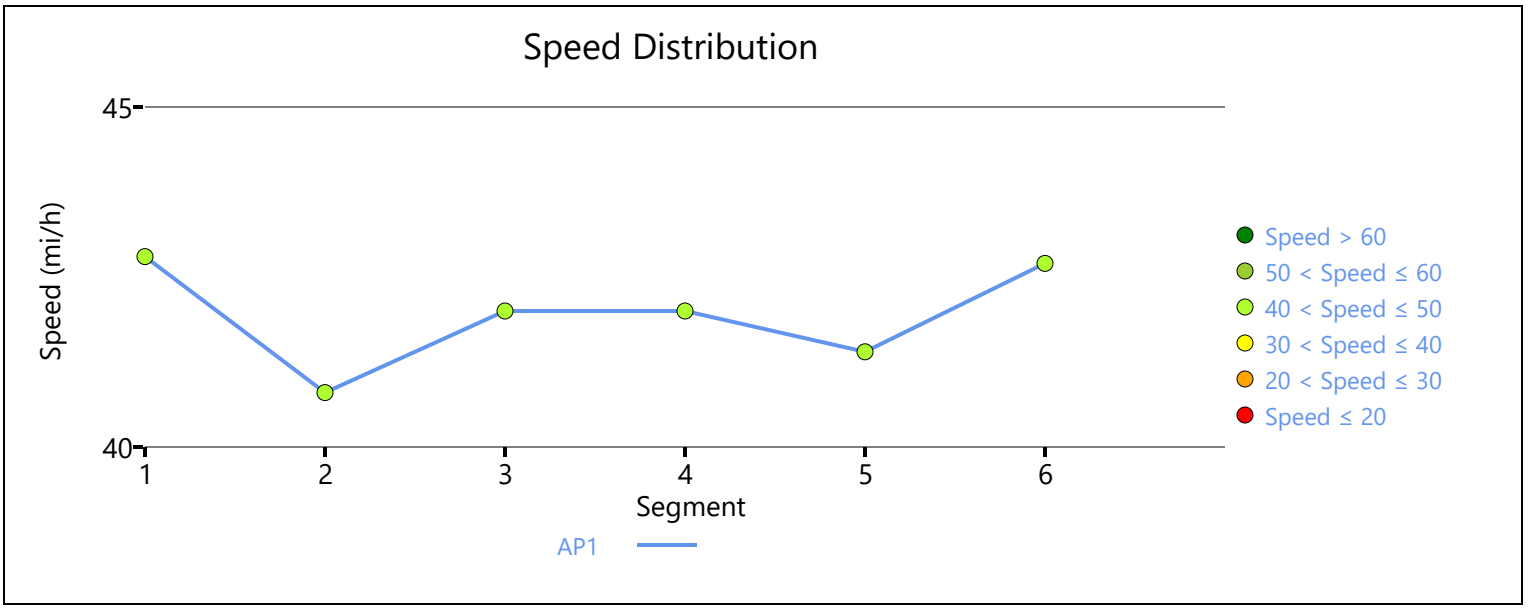
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.7

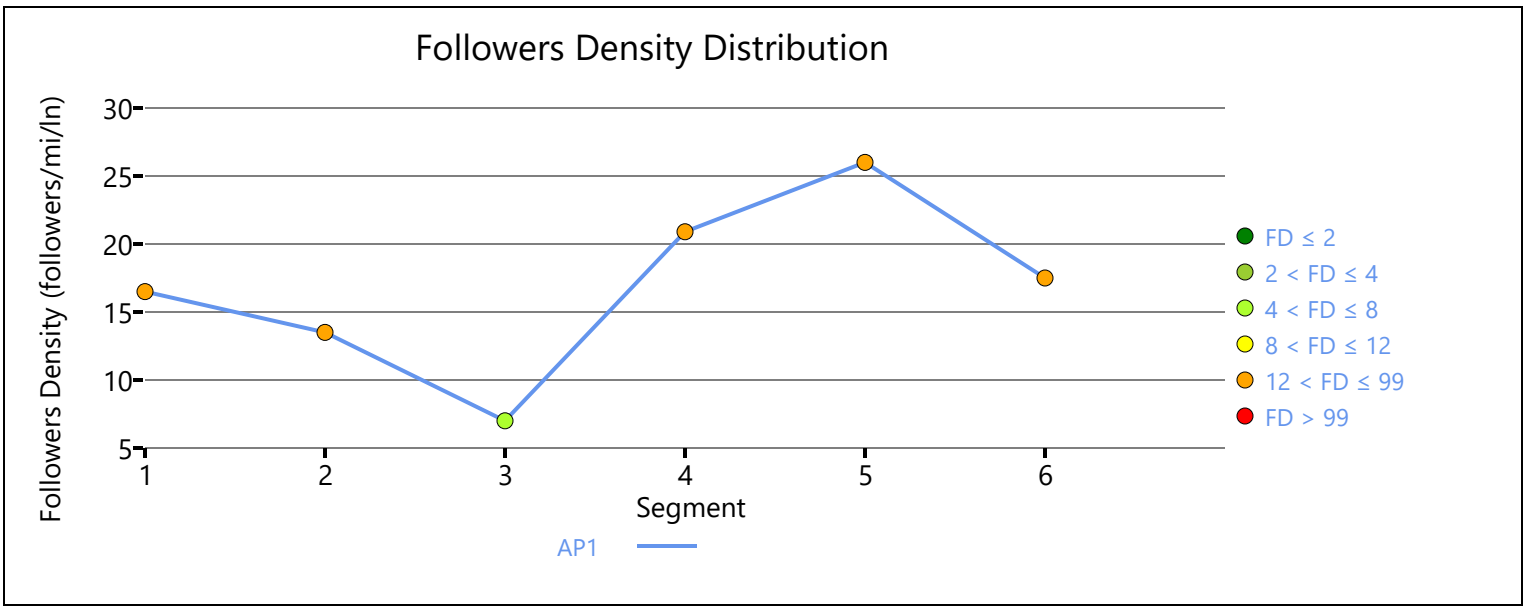
Vehicle Results

Average Speed, mi/h	42.7	Percent Followers, %	76.9
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	17.5
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	755	1.09	13.8	D





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	729	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.43

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	11.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	43.1

Vehicle Results

Average Speed, mi/h	43.1	Percent Followers, %	69.9
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	11.8
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1002	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.59

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	18.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.5

Vehicle Results

Average Speed, mi/h	40.5	Percent Followers, %	75.3
Segment Travel Time, minutes	2.76	Follower Density (FD), followers/mi/ln	18.6
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	763	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.45

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	12.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.5

Vehicle Results

Average Speed, mi/h	41.5	Percent Followers, %	68.1
Segment Travel Time, minutes	1.82	Follower Density (FD), followers/mi/ln	12.5
Vehicle LOS	D		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1402	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.82

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.0
Speed Slope Coefficient (m)	2.96479	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44615	PF Power Coefficient (p)	0.70846
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	28.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.7

Vehicle Results

Average Speed, mi/h	41.7	Percent Followers, %	84.1
Segment Travel Time, minutes	0.63	Follower Density (FD), followers/mi/ln	28.3
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1521	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.89

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.6
Speed Slope Coefficient (m)	2.94157	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44398	PF Power Coefficient (p)	0.70754
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	31.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	41.2

Vehicle Results

Average Speed, mi/h	41.2	Percent Followers, %	85.7
Segment Travel Time, minutes	0.66	Follower Density (FD), followers/mi/ln	31.7
Vehicle LOS	E		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1390	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.82

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	27.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

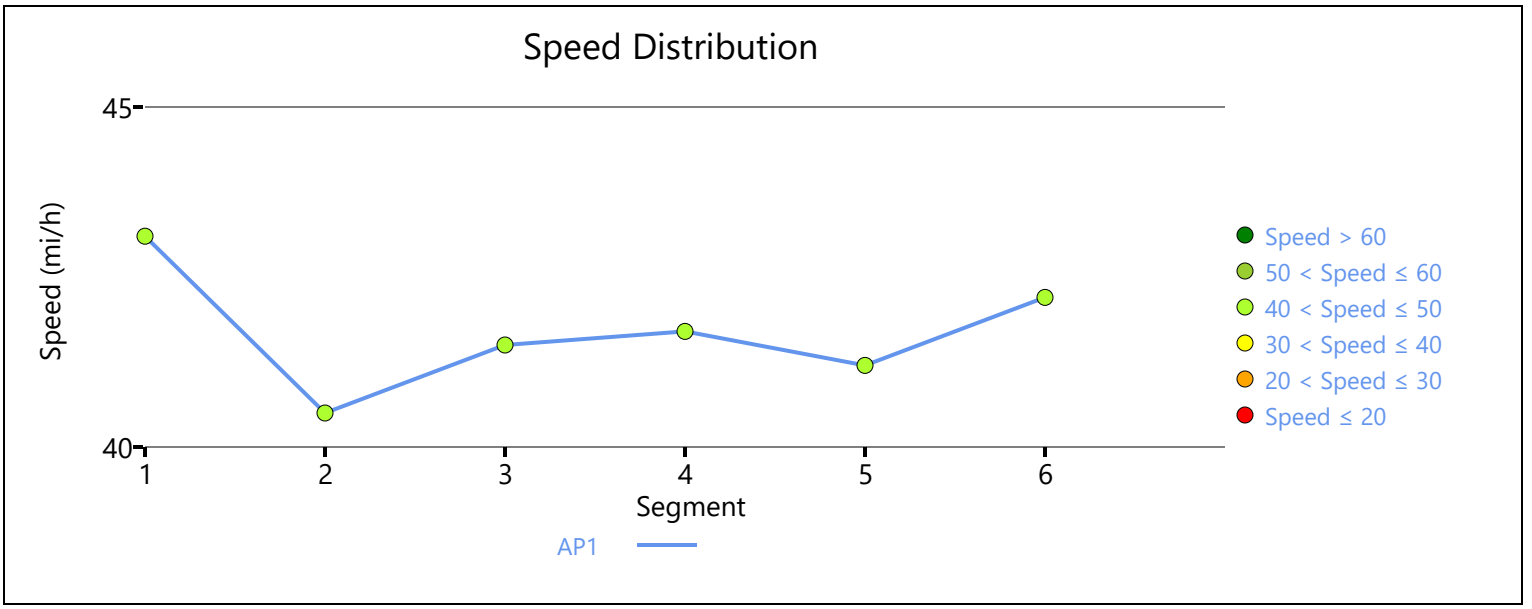
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.2

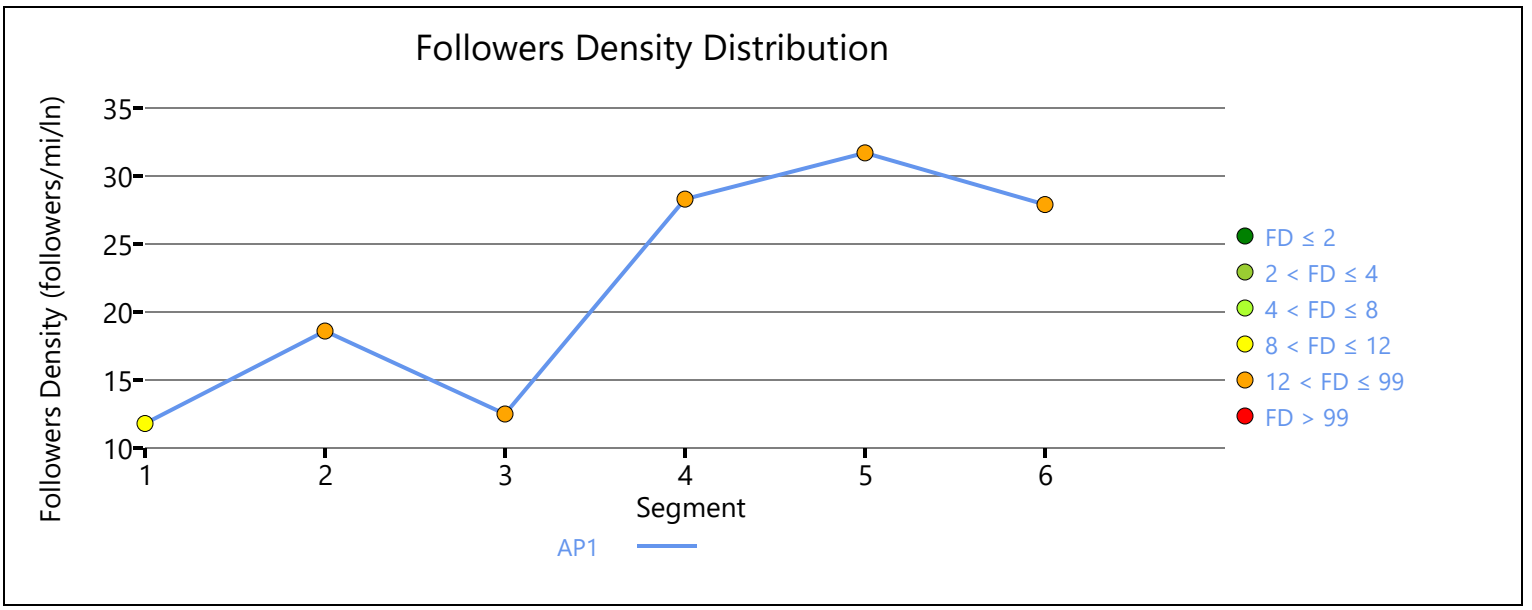
Vehicle Results

Average Speed, mi/h	42.2	Percent Followers, %	84.8
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	27.9
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	972	1.57	19.3	E





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	18893
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	597	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.35

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	18893	-	-	27.4

Vehicle Results

Average Speed, mi/h	27.4	Percent Followers, %	65.7
Segment Travel Time, minutes	7.84	Follower Density (FD), followers/mi/ln	14.3
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	3907
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	798	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.47

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.0
Speed Slope Coefficient (m)	2.17360	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38101	PF Power Coefficient (p)	0.65087
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	19.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3907	-	-	28.2

Vehicle Results

Average Speed, mi/h	28.2	Percent Followers, %	69.6
Segment Travel Time, minutes	1.58	Follower Density (FD), followers/mi/ln	19.7
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	633
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	802	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.47

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.0
Speed Slope Coefficient (m)	2.13653	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46951	PF Power Coefficient (p)	0.62857
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	20.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	633	-	-	28.2

Vehicle Results

Average Speed, mi/h	28.2	Percent Followers, %	72.2
Segment Travel Time, minutes	0.26	Follower Density (FD), followers/mi/ln	20.5
Vehicle LOS	E		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11035
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	673	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.40

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.3
Speed Slope Coefficient (m)	3.44250	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36628	PF Power Coefficient (p)	0.70790
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

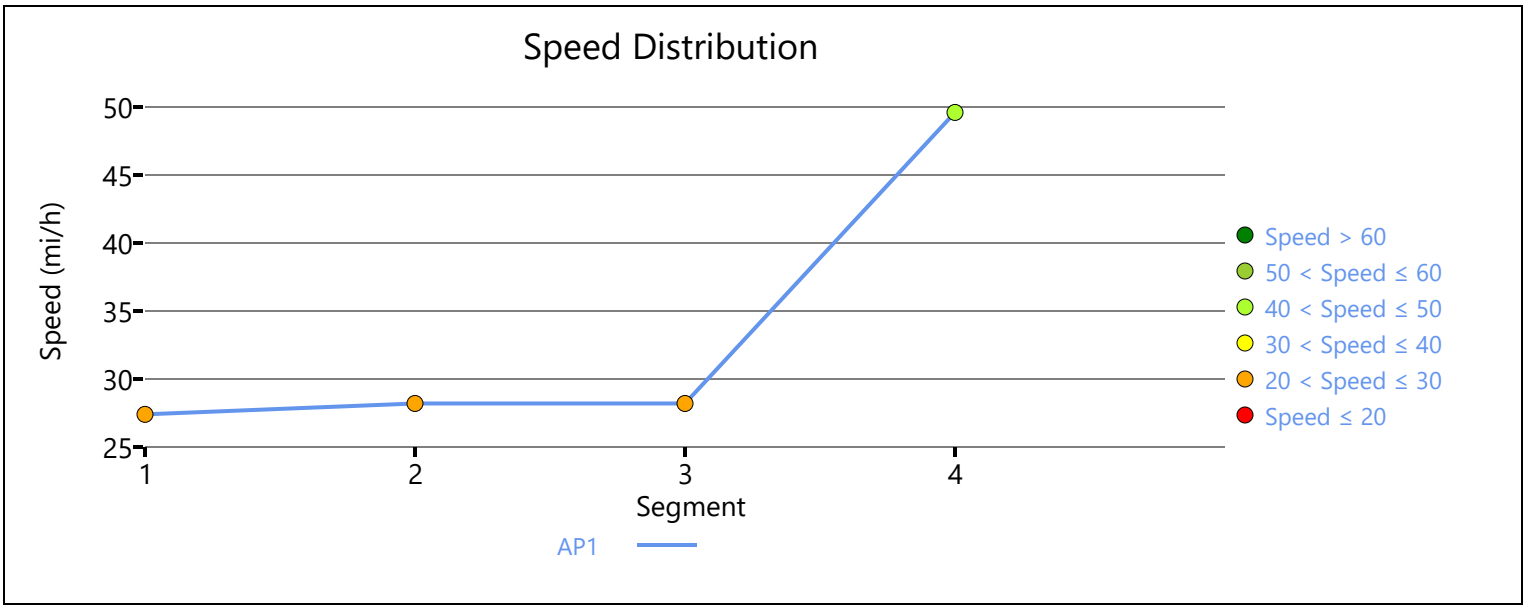
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11035	-	-	49.6

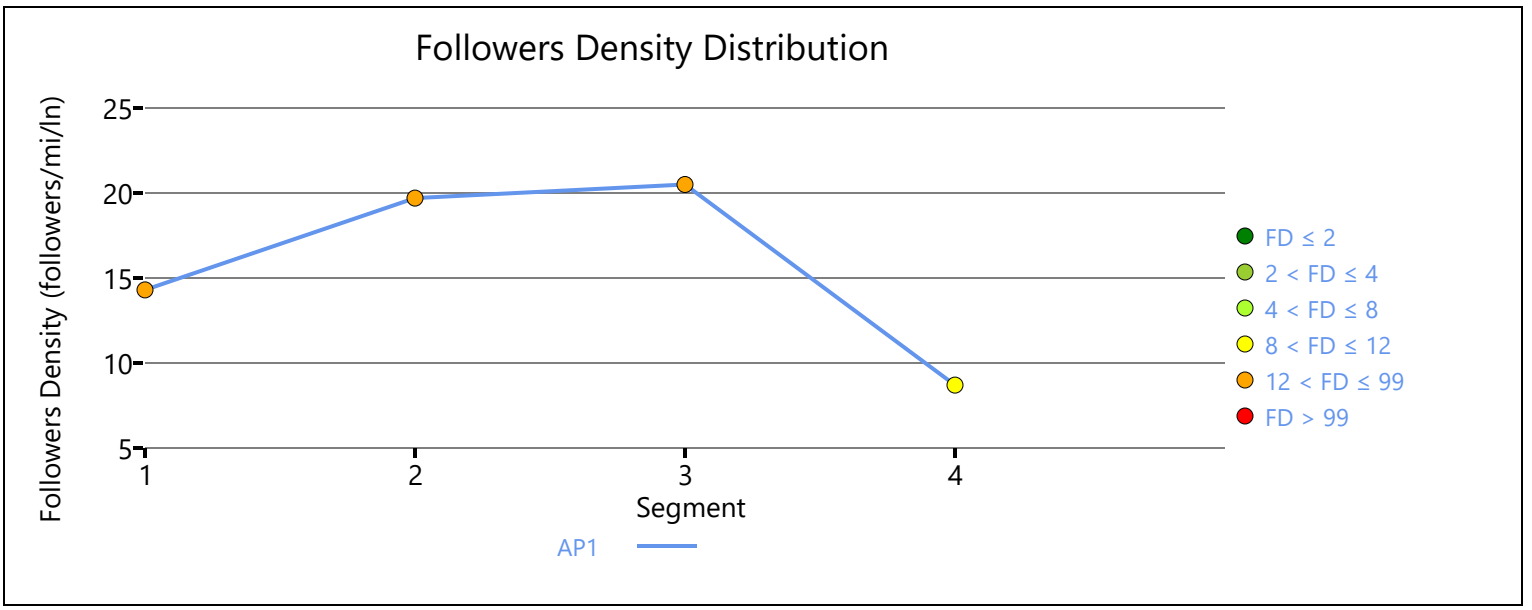
Vehicle Results

Average Speed, mi/h	49.6	Percent Followers, %	64.4
Segment Travel Time, minutes	2.53	Follower Density (FD), followers/mi/ln	8.7
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	972	1.71	13.3	D





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1210	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	688
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	15.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data			
Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1297	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	738
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between Jones Avenue and SR 162	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1575	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	874
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.8
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data			
Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1660	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	920
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	17.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between SR 162 and Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	665	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	369
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.18

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	7.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1651	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	916
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	17.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	877	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	490
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	8.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1426	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	796
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.37

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	13.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13939
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	357	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.21

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.19114	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42590	PF Power Coefficient (p)	0.66617
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13939	-	-	45.5

Vehicle Results

Average Speed, mi/h	45.5	Percent Followers, %	51.2
Segment Travel Time, minutes	3.48	Follower Density (FD), followers/mi/ln	4.0
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	216	0.18	4.0	B

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	346	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.20

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.6

Vehicle Results

Average Speed, mi/h	43.6	Percent Followers, %	50.5
Segment Travel Time, minutes	3.47	Follower Density (FD), followers/mi/ln	4.0
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	580
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	384	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.23

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	35.2
Speed Slope Coefficient (m)	2.41416	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49747	PF Power Coefficient (p)	0.65535
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	580	-	-	33.7

Vehicle Results

Average Speed, mi/h	33.7	Percent Followers, %	55.0
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/ln	6.3
Vehicle LOS	C		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6336
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	502	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.30

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75727	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39061	PF Power Coefficient (p)	0.69627
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

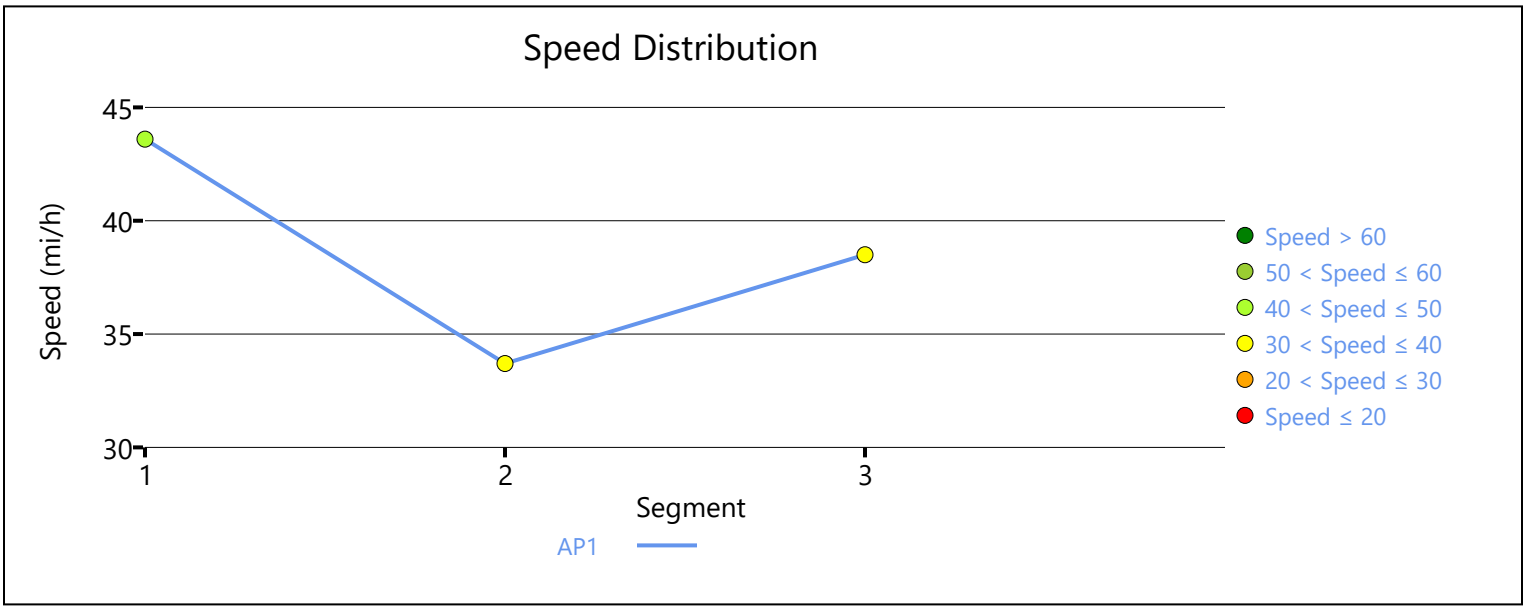
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.5

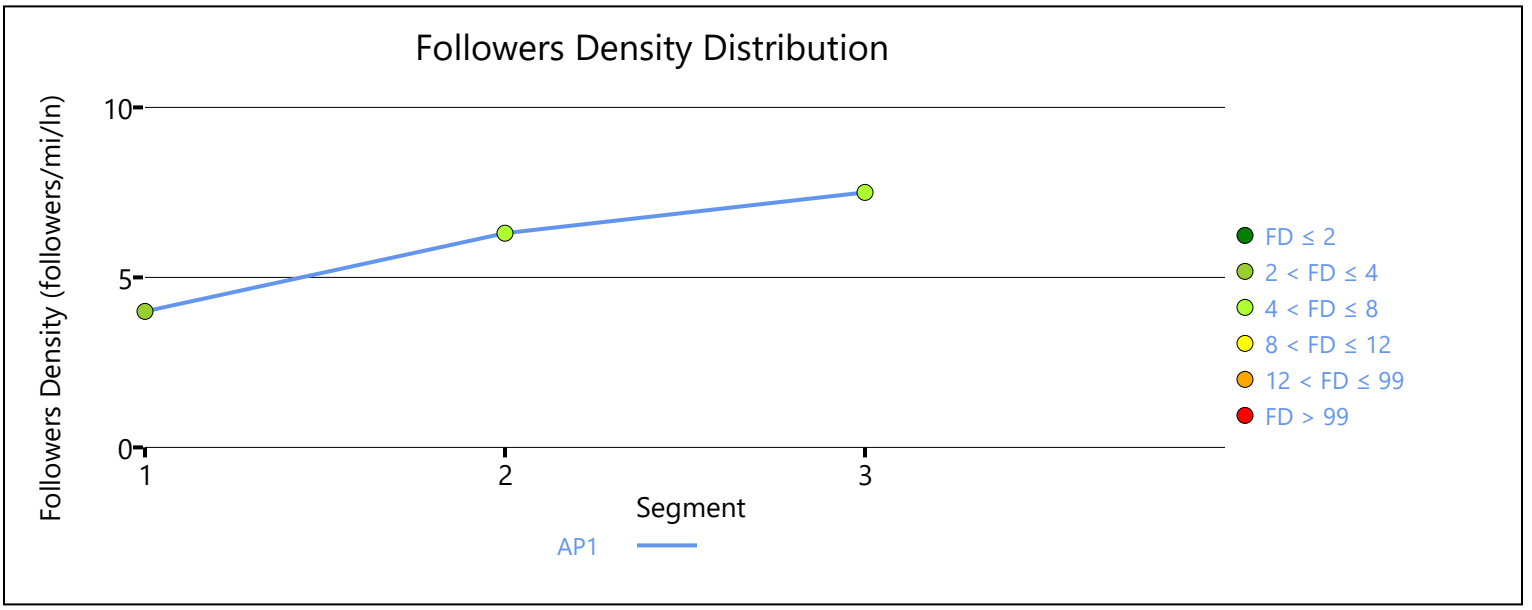
Vehicle Results

Average Speed, mi/h	38.5	Percent Followers, %	57.7
Segment Travel Time, minutes	1.87	Follower Density (FD), followers/mi/ln	7.5
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	349	0.35	5.2	C





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	338	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.20

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	33.3

Vehicle Results

Average Speed, mi/h	33.3	Percent Followers, %	48.7
Segment Travel Time, minutes	1.97	Follower Density (FD), followers/mi/ln	4.9
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	85	0.10	4.9	B

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	143	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35149	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37634	PF Power Coefficient (p)	0.66322
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	32.2

Vehicle Results

Average Speed, mi/h	32.2	Percent Followers, %	31.6
Segment Travel Time, minutes	2.21	Follower Density (FD), followers/mi/ln	1.4
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	39	0.02	1.4	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	128	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	34.0

Vehicle Results

Average Speed, mi/h	34.0	Percent Followers, %	32.4
Segment Travel Time, minutes	0.43	Follower Density (FD), followers/mi/ln	1.2
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	445
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	138	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	445	-	-	33.9

Vehicle Results

Average Speed, mi/h	33.9	Percent Followers, %	33.7
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	1.4
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1000
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	201	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.12

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

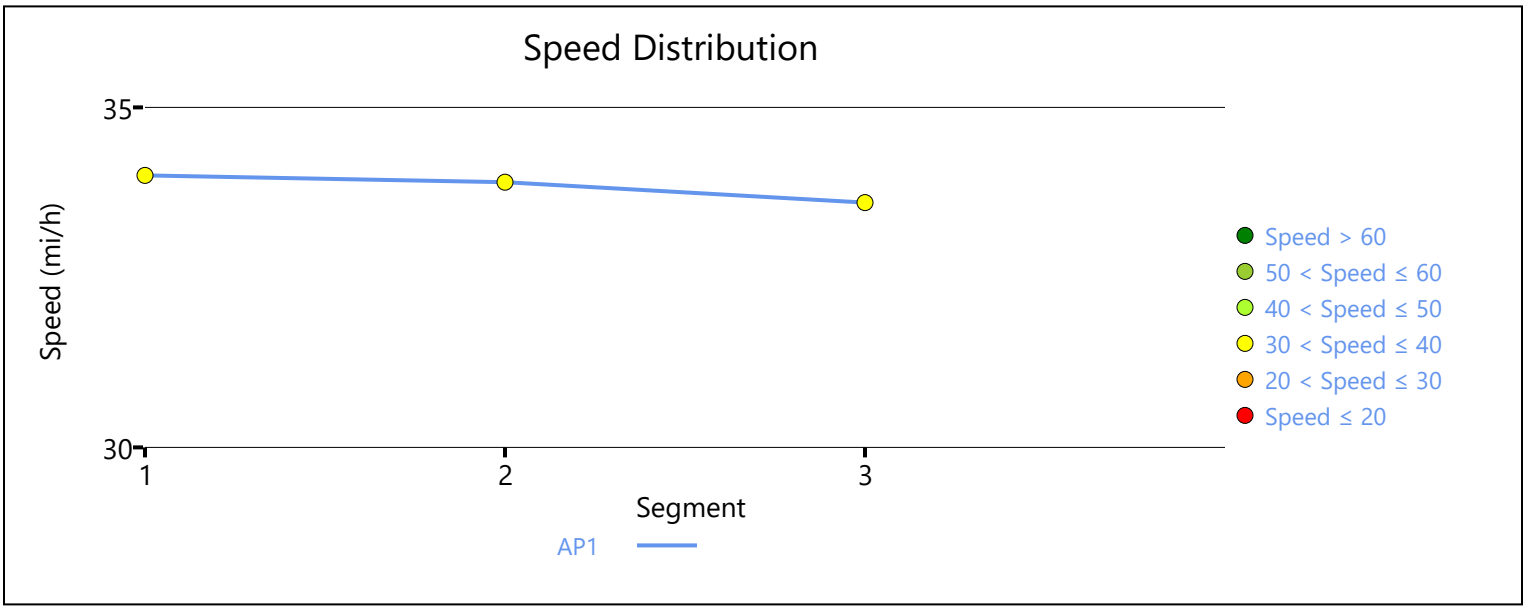
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1000	-	-	33.6

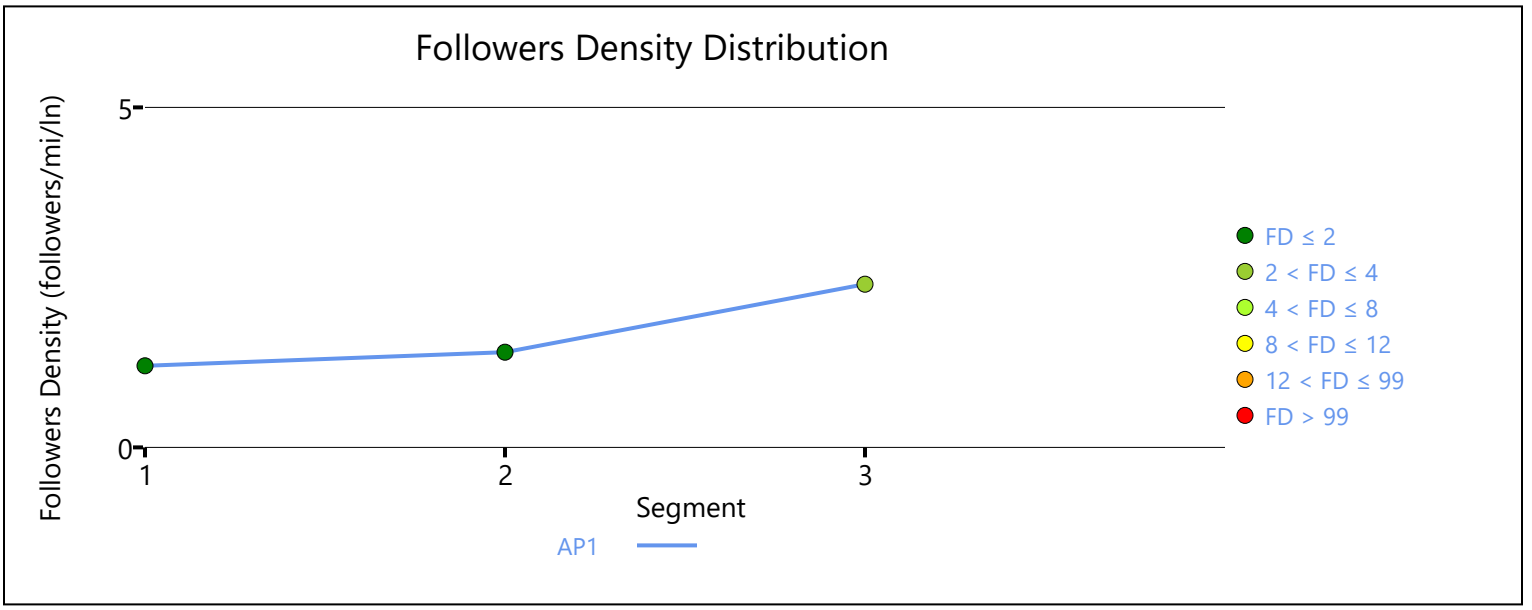
Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	40.9
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	2.4
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	19	0.01	1.7	A





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	34	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80915	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28942	PF Power Coefficient (p)	0.60656
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	22.8

Vehicle Results

Average Speed, mi/h	22.8	Percent Followers, %	15.2
Segment Travel Time, minutes	3.42	Follower Density (FD), followers/mi/ln	0.2
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	10	0.00	0.2	A

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.68		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	2250	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
8	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
9	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	3280	2
10	Diverge	Diverge	I-140 Off Ramp to SR 33 SB	1500	2
11	Basic	Basic	I-140 between SR 33 SB Off Ramp and SR 33 SB On Ramp	1000	2
12	Merge	Merge	SR 33 SB On Ramp to I-140 EB	1500	2
13	Basic	Basic	I-140 between SR 33 and SR 35	10000	2
14	Diverge	Diverge	I-140 Off Ramp to SR 35 WB	1500	2
15	Basic	Basic	I-140 between SR 35 EB Off Ramp to SR 35 EB On Ramp	1000	2
16	Merge	Merge	SR 35 On Ramp to I-140 SB	1500	2
17	Basic	Basic	I-140 between SR 35 and SR 73	5000	2
18	Diverge	Diverge	I-140 Off Ramp to SR 73 WB	1500	2
19	Basic	Basic	I-140 between SR 73 WB Off Ramp and SR 73 EB Off Ramp	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	3235	4644	0.70	62.0	26.1	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	3235	949	4600	1900	0.70	0.50	49.1	49.1	32.9	28.5	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2225	4636	0.48	61.2	18.0	B

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.962	1.000	2225	1316	4600	2000	0.48	0.66	51.0	51.0	21.8	19.8	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	827	4636	0.18	60.4	6.7	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1772	945	4600	1900	0.39	0.50	55.8	55.8	15.9	13.9	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1809	4636	0.39	61.0	14.6	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	2135	337	4600	2000	0.46	0.17	55.9	55.9	19.1	17.0	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	2146	4626	0.46	61.2	17.5	B

Segment 10: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	2146	926	4600	2000	0.47	0.46	51.2	51.2	21.0	19.1	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1189	4618	0.26	59.6	9.8	A

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1761	564	4600	2000	0.38	0.28	55.5	55.5	15.9	14.0	B

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1783	4626	0.39	61.3	14.6	B

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1783	517	4600	2000	0.39	0.26	52.6	52.6	16.9	16.0	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1245	4644	0.27	60.9	10.0	A

Segment 16: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	1476	222	4600	2000	0.32	0.11	56.5	56.5	13.1	11.9	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	1486	4664	0.32	63.2	11.8	B

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	1486	639	4600	2000	0.32	0.32	52.9	52.9	14.0	13.4	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	817	4664	0.18	61.2	6.5	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3471	3063	3.53	88.15	58.1	16.2	15.5	7.90	B

Facility Overall Results

Space Mean Speed, mi/h	58.1	Average Density, veh/mi/ln	15.5
Average Travel Time, min	7.90	Average Density, pc/mi/ln	16.2
Total VMT, veh-mi	3471	Total VHD, veh-h	3.53
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	88.15

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.68		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between SR 73 EB On Ramp and SR 73 WB On Ramp	500	2
2	Merge	Merge	SR 73 WB On Ramp to I-140 NB	1500	2
3	Basic	Basic	I-140 between SR 73 and SR 35	5000	2
4	Diverge	Diverge	I-140 Off Ramp to SR 35 EB	1500	2
5	Basic	Basic	I-140 between SR 35 EB Off ramp to Sr 35 WB On Ramp	1000	2
6	Merge	Merge	SR 35 WB On Ramp to I-140 NB	1500	2
7	Basic	Basic	I-140 between SR 35 to SR 33	10000	2
8	Diverge	Diverge	I-140 Off Ramp to SR 33 NB	1500	2
9	Basic	Basic	I-140 between SR 33 NB Off Ramp to SR 33 SB On Ramp	1000	2
10	Merge	Merge	SR 33 SB On Ramp to I-140 WB	1500	2
11	Basic	Basic	-140 between SR 33 and Relocated SR 115 NB Off Ramp	3280	2
12	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
13	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
14	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
15	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and Relocated SR 115 SB On Ramp	1000	2
16	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
17	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and SR 115 SB On Ramp	2250	2
18	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
19	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	287	4664	0.06	63.2	2.3	A

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	698	411	4600	2000	0.15	0.21	57.4	57.4	6.1	5.8	A

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	685	4664	0.15	63.2	5.4	A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	712	118	4600	2000	0.15	0.06	53.3	53.3	6.7	6.8	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	589	4644	0.13	61.0	4.7	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	796	207	4600	2000	0.17	0.10	56.7	56.7	7.0	6.6	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	803	4626	0.17	61.3	6.6	A

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	803	361	4600	2000	0.17	0.18	52.2	52.2	7.7	7.6	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	428	4618	0.09	59.8	3.5	A

Segment 10: Merge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	1405	979	4600	2000	0.31	0.49	55.6	55.6	12.6	11.0	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1437	4626	0.31	61.2	11.7	B

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	1437	962	4600	1900	0.31	0.51	49.0	49.0	14.7	13.0	B

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	444	4636	0.10	60.1	3.6	A

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.968	1.000	444	309	4600	2000	0.10	0.15	52.8	52.8	4.2	4.5	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	118	4636	0.03	60.6	1.0	A

Segment 16: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1641	1522	4600	1900	0.36	0.80	55.8	55.8	14.7	12.6	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1700	4636	0.37	61.5	13.8	B

Segment 18: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	2430	717	4600	2000	0.53	0.36	55.7	55.7	21.8	19.2	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2464	4644	0.53	61.8	19.8	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1927	1533	1.65	41.26	58.7	8.9	8.5	7.80	A

Facility Overall Results

Space Mean Speed, mi/h	58.7	Average Density, veh/mi/ln	8.5
Average Travel Time, min	7.80	Average Density, pc/mi/ln	8.9
Total VMT, veh-mi	1928	Total VHD, veh-h	1.65
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	41.26

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2553	4574	0.56	58.7	21.7	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	2553	128	4500	1900	0.57	0.07	49.2	49.2	25.9	22.6	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2418	4574	0.53	57.9	20.6	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	3598	1180	4500	1900	0.80	0.62	51.6	51.6	34.9	28.1	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3662	4574	0.80	58.1	31.5	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1018	863	1.25	31.18	54.8	28.5	27.0	1.50	D

Facility Overall Results

Space Mean Speed, mi/h	54.8	Average Density, veh/mi/ln	27.0
Average Travel Time, min	1.50	Average Density, pc/mi/ln	28.5
Total VMT, veh-mi	1018	Total VHD, veh-h	1.25
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	31.18

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1470	4574	0.32	58.7	12.5	B

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1798	4520	0.40	47.9	12.5	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1183	4574	0.26	58.1	10.1	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1299	1168	0.58	14.59	57.2	12.3	11.6	3.90	B

Facility Overall Results

Space Mean Speed, mi/h	57.2	Average Density, veh/mi/ln	11.6
Average Travel Time, min	3.90	Average Density, pc/mi/ln	12.3
Total VMT, veh-mi	1299	Total VHD, veh-h	0.58

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	14.59

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2412	4574	0.53	58.7	20.5	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2412	1263	4500	1900	0.54	0.66	47.5	47.5	25.4	21.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1099	4574	0.24	57.9	9.4	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2599	1500	4500	1900	0.58	0.79	53.1	53.1	24.5	20.1	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2659	4574	0.58	57.3	22.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2297	2020	1.01	25.34	57.2	20.2	19.4	4.30	C

Facility Overall Results

Space Mean Speed, mi/h	57.2	Average Density, veh/mi/ln	19.4
Average Travel Time, min	4.30	Average Density, pc/mi/ln	20.2
Total VMT, veh-mi	2297	Total VHD, veh-h	1.01
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	25.34

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1578	4574	0.34	58.7	13.4	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1578	124	4500	1900	0.35	0.07	49.2	49.2	16.0	14.2	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1450	4574	0.32	58.0	12.4	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	2082	612	4500	1900	0.46	0.32	53.5	53.5	19.5	16.5	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2114	4574	0.46	58.7	18.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1667	1496	0.61	15.25	57.5	17.4	16.5	3.70	B

Facility Overall Results

Space Mean Speed, mi/h	57.5	Average Density, veh/mi/ln	16.5
Average Travel Time, min	3.70	Average Density, pc/mi/ln	17.4
Total VMT, veh-mi	1667	Total VHD, veh-h	0.61
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	15.25

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4586	1.00	36.4	57.5	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.949	1.000	4190	1420	4500	2000	1.02	0.71	49.7	49.7	42.2	36.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2770	4586	0.67	59.1	23.4	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1182	1194	5.93	148.17	45.7	38.6	36.6	1.90	F

Facility Overall Results

Space Mean Speed, mi/h	45.7	Average Density, veh/mi/ln	36.6
Average Travel Time, min	1.90	Average Density, pc/mi/ln	38.6
Total VMT, veh-mi	1182	Total VHD, veh-h	5.93

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	148.17

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3255	4564	0.71	58.2	28.0	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3255	1540	4500	1900	0.72	0.81	46.9	46.9	34.7	28.6	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1654	4564	0.36	56.7	14.2	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1969	315	4500	1900	0.44	0.17	53.2	53.2	18.5	15.7	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2789	807	4500	1900	0.62	0.42	52.6	52.6	26.5	21.9	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2820	4564	0.62	58.2	24.2	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2715	2427	1.52	38.01	56.4	24.3	23.4	4.40	C

Facility Overall Results

Space Mean Speed, mi/h	56.4	Average Density, veh/mi/ln	23.4
Average Travel Time, min	4.40	Average Density, pc/mi/ln	24.3
Total VMT, veh-mi	2715	Total VHD, veh-h	1.52
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	38.01

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	729	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.43

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	11.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	43.1

Vehicle Results

Average Speed, mi/h	43.1	Percent Followers, %	69.9
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	11.8
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1002	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.59

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	18.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.5

Vehicle Results

Average Speed, mi/h	40.5	Percent Followers, %	75.3
Segment Travel Time, minutes	2.76	Follower Density (FD), followers/mi/ln	18.6
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	763	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.45

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	12.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.5

Vehicle Results

Average Speed, mi/h	41.5	Percent Followers, %	68.1
Segment Travel Time, minutes	1.82	Follower Density (FD), followers/mi/ln	12.5
Vehicle LOS	D		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1402	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.82

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.0
Speed Slope Coefficient (m)	2.96479	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44615	PF Power Coefficient (p)	0.70846
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	28.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.7

Vehicle Results

Average Speed, mi/h	41.7	Percent Followers, %	84.1
Segment Travel Time, minutes	0.63	Follower Density (FD), followers/mi/ln	28.3
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1521	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.89

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.6
Speed Slope Coefficient (m)	2.94157	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44398	PF Power Coefficient (p)	0.70754
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	31.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	41.2

Vehicle Results

Average Speed, mi/h	41.2	Percent Followers, %	85.7
Segment Travel Time, minutes	0.66	Follower Density (FD), followers/mi/ln	31.7
Vehicle LOS	E		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1390	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.82

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	27.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

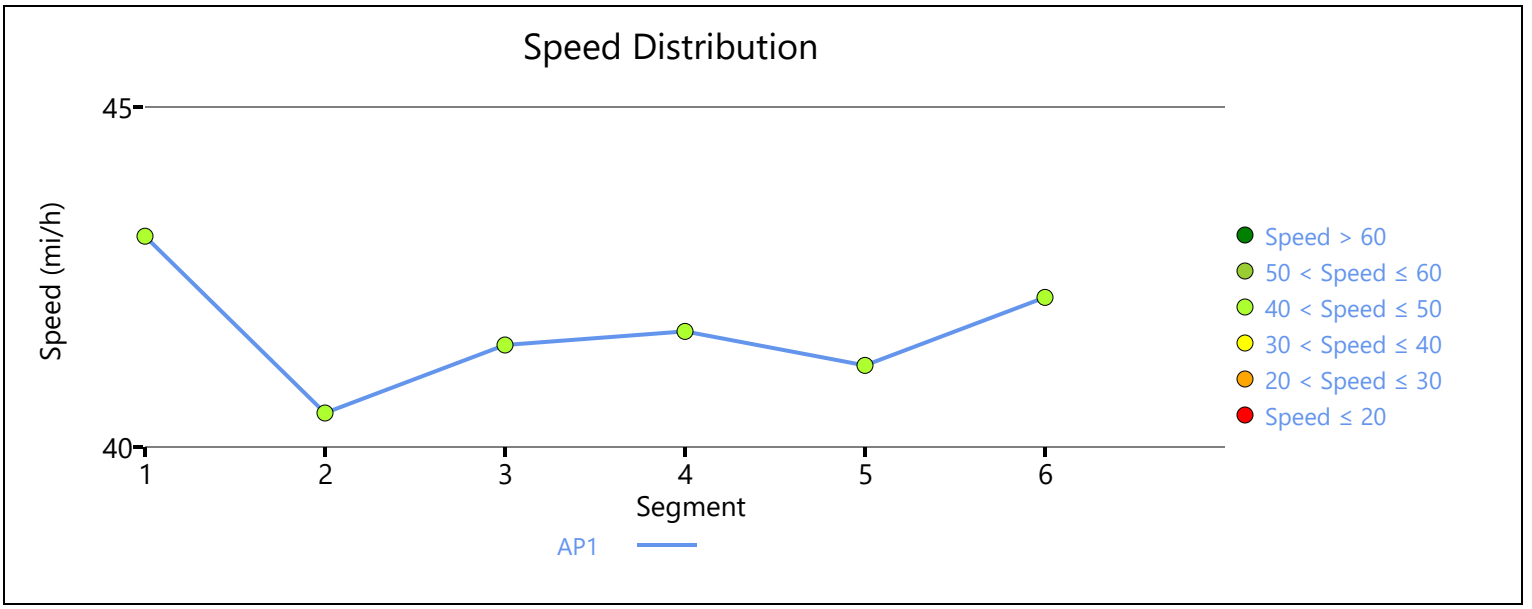
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.2

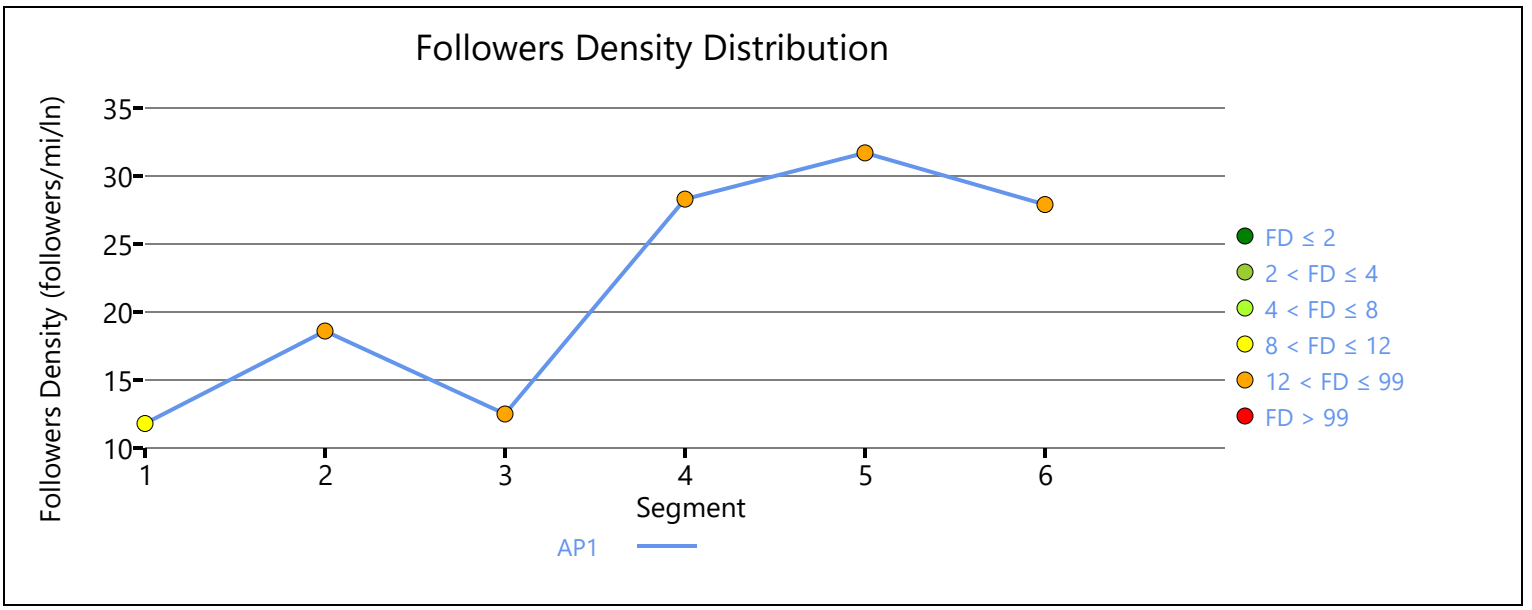
Vehicle Results

Average Speed, mi/h	42.2	Percent Followers, %	84.8
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	27.9
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	972	1.57	19.3	E





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	18893
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	598	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.35

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	18893	-	-	27.4

Vehicle Results

Average Speed, mi/h	27.4	Percent Followers, %	65.7
Segment Travel Time, minutes	7.84	Follower Density (FD), followers/mi/ln	14.3
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	3907
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	640	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.38

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.0
Speed Slope Coefficient (m)	2.17360	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38101	PF Power Coefficient (p)	0.65087
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3907	-	-	28.4

Vehicle Results

Average Speed, mi/h	28.4	Percent Followers, %	64.4
Segment Travel Time, minutes	1.57	Follower Density (FD), followers/mi/ln	14.5
Vehicle LOS	D		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	633
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	688	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.40

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.0
Speed Slope Coefficient (m)	2.13653	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46951	PF Power Coefficient (p)	0.62857
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	16.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	633	-	-	28.3

Vehicle Results

Average Speed, mi/h	28.3	Percent Followers, %	68.7
Segment Travel Time, minutes	0.25	Follower Density (FD), followers/mi/ln	16.7
Vehicle LOS	E		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11035
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	590	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.35

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.3
Speed Slope Coefficient (m)	3.44250	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36628	PF Power Coefficient (p)	0.70790
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

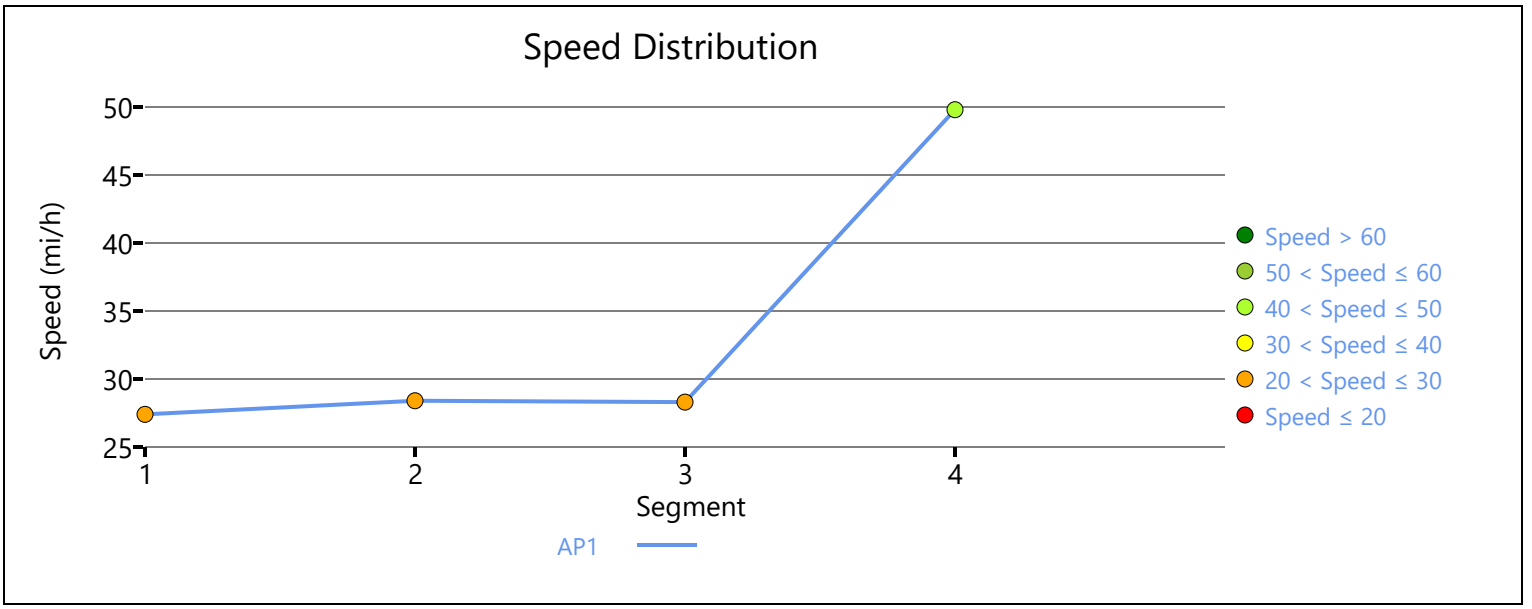
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11035	-	-	49.8

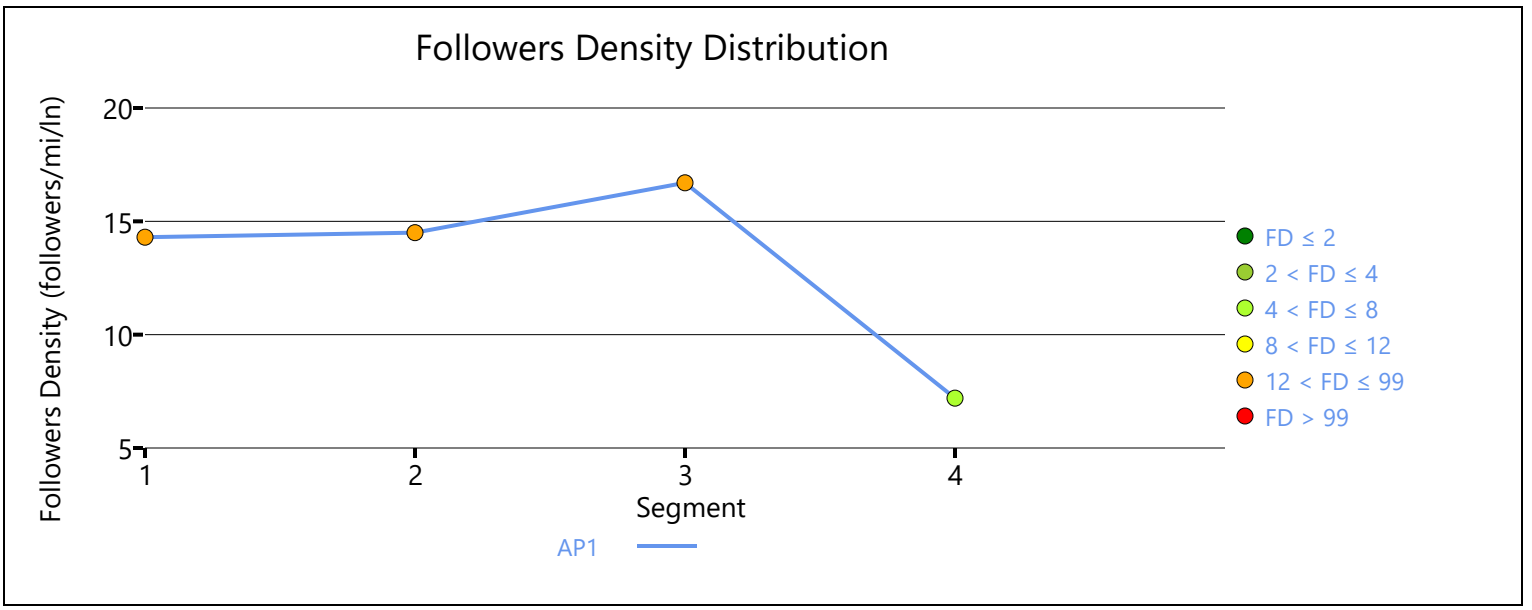
Vehicle Results

Average Speed, mi/h	49.8	Percent Followers, %	61.0
Segment Travel Time, minutes	2.52	Follower Density (FD), followers/mi/ln	7.2
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	904	1.55	12.1	D





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1513	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	861
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	19.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1043	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	594
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.31

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	13.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between Jones Avenue and SR 162	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	2409	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1336
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.65

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	25.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1386	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	768
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	14.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between SR 162 and Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1512	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	838
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1069	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	593
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.29

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	11.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1172	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	654
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	11.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1034	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	577
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	9.9
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13939
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	238	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.14

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.19114	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42590	PF Power Coefficient (p)	0.66617
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13939	-	-	46.0

Vehicle Results

Average Speed, mi/h	46.0	Percent Followers, %	42.2
Segment Travel Time, minutes	3.45	Follower Density (FD), followers/mi/ln	2.2
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	145	0.09	2.2	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	504	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.30

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.2

Vehicle Results

Average Speed, mi/h	43.2	Percent Followers, %	59.5
Segment Travel Time, minutes	3.50	Follower Density (FD), followers/mi/ln	6.9
Vehicle LOS	C		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	580
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	341	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.20

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	35.2
Speed Slope Coefficient (m)	2.41416	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49747	PF Power Coefficient (p)	0.65535
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	5.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	580	-	-	33.8

Vehicle Results

Average Speed, mi/h	33.8	Percent Followers, %	52.3
Segment Travel Time, minutes	0.19	Follower Density (FD), followers/mi/ln	5.3
Vehicle LOS	C		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6336
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	443	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.26

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75727	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39061	PF Power Coefficient (p)	0.69627
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

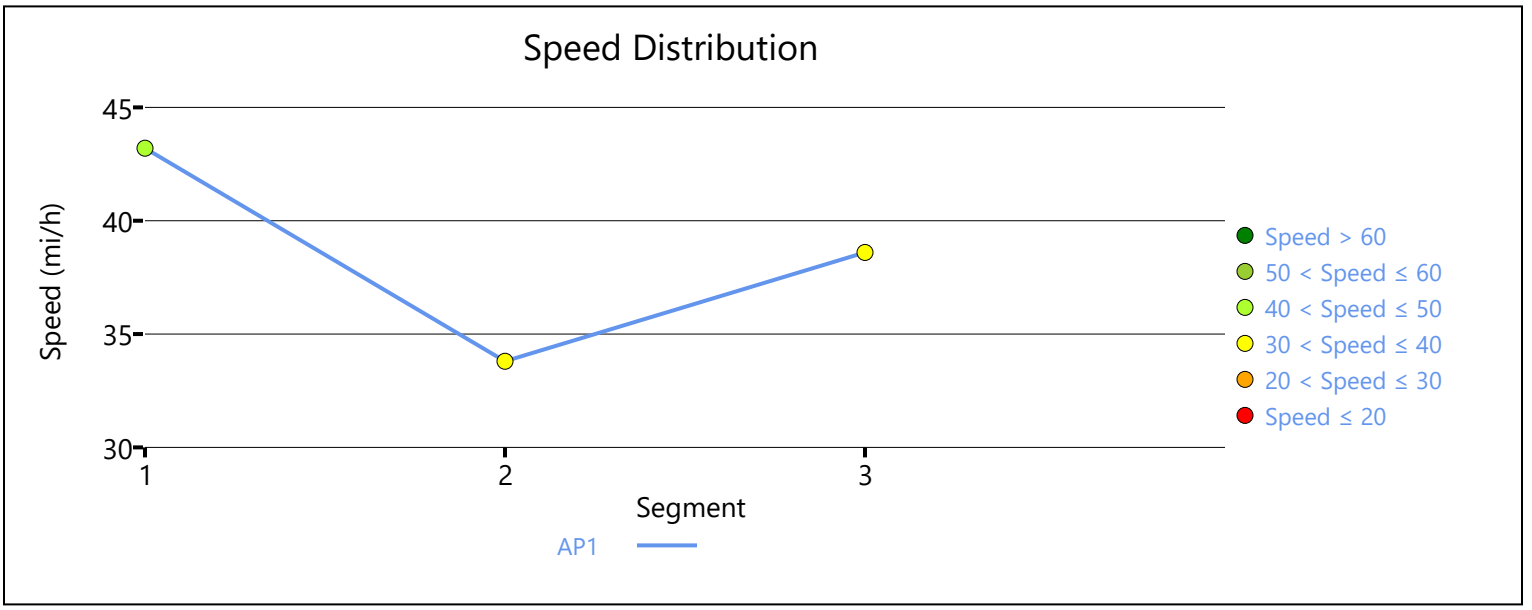
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.6

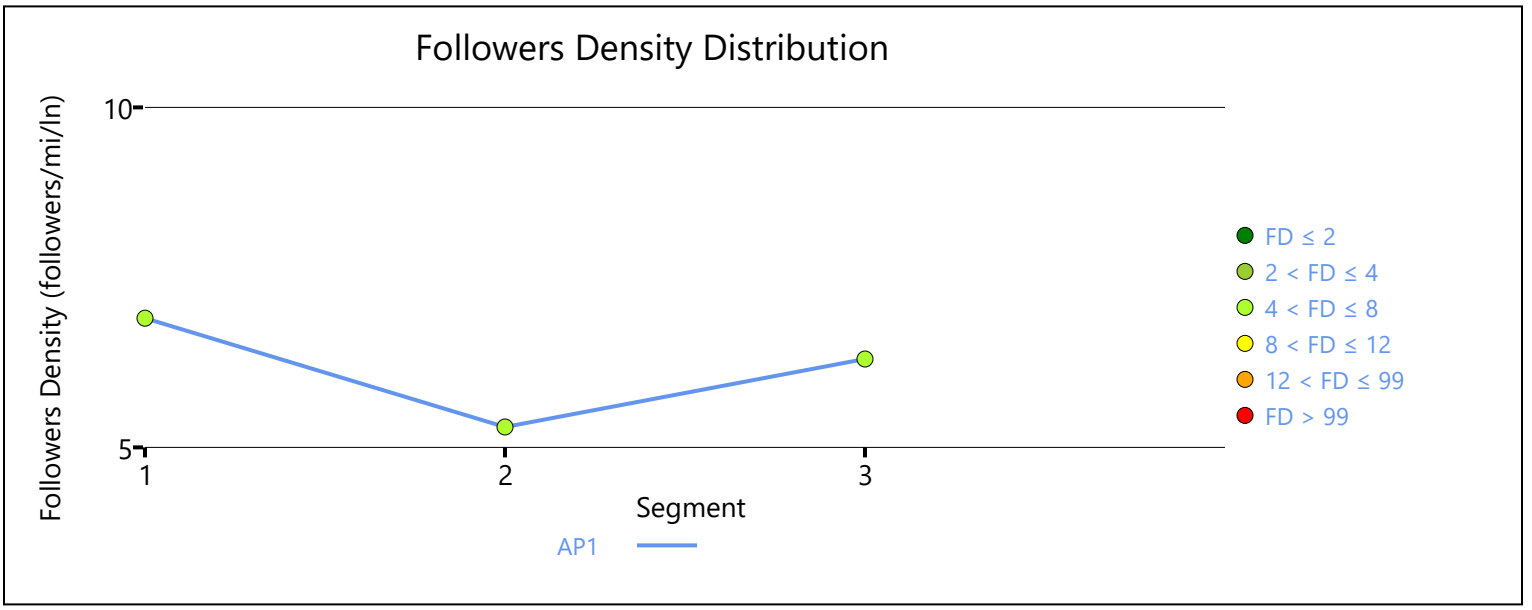
Vehicle Results

Average Speed, mi/h	38.6	Percent Followers, %	54.6
Segment Travel Time, minutes	1.87	Follower Density (FD), followers/mi/ln	6.3
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	423	0.46	6.7	C





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	397	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.23

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	33.1

Vehicle Results

Average Speed, mi/h	33.1	Percent Followers, %	52.5
Segment Travel Time, minutes	1.97	Follower Density (FD), followers/mi/ln	6.3
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	99	0.13	6.3	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	120	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35149	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37634	PF Power Coefficient (p)	0.66322
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	32.4

Vehicle Results

Average Speed, mi/h	32.4	Percent Followers, %	28.6
Segment Travel Time, minutes	2.20	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	33	0.01	1.1	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	140	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	33.9

Vehicle Results

Average Speed, mi/h	33.9	Percent Followers, %	34.0
Segment Travel Time, minutes	0.43	Follower Density (FD), followers/mi/ln	1.4
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	445
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	155	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	445	-	-	33.8

Vehicle Results

Average Speed, mi/h	33.8	Percent Followers, %	35.8
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	1.6
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1000
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	211	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.12

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

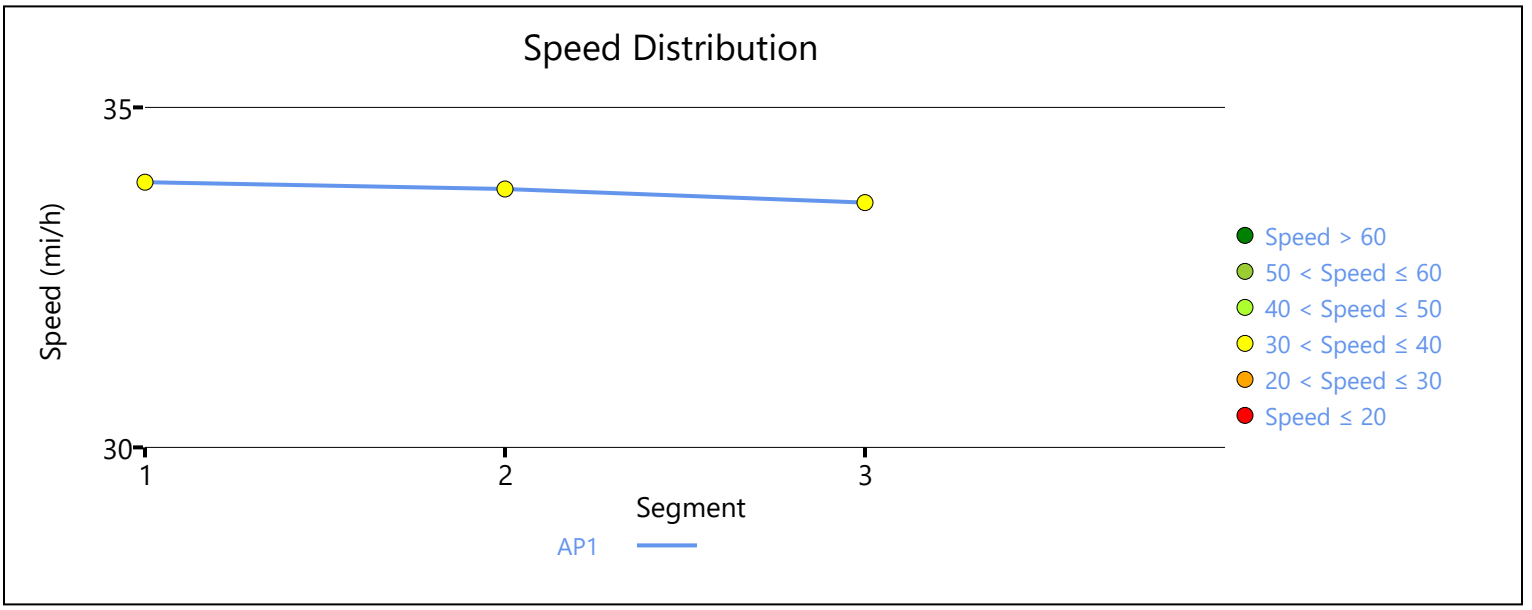
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1000	-	-	33.6

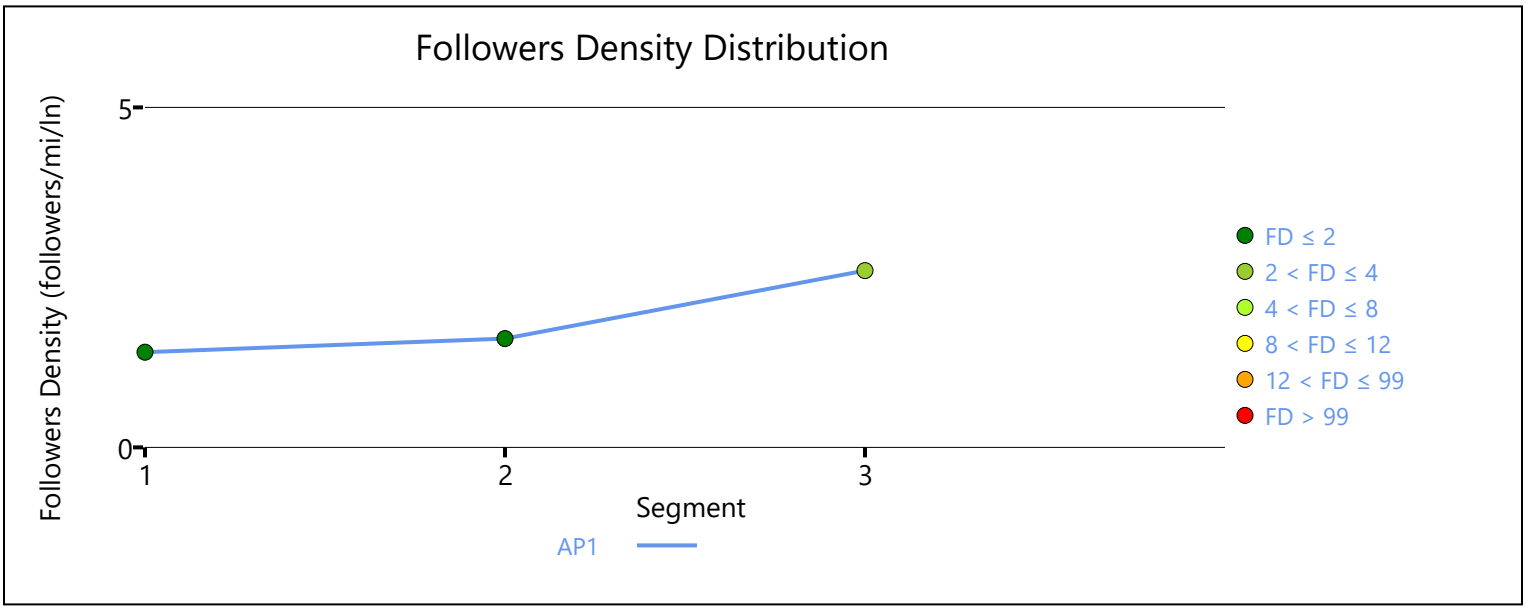
Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	41.8
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	2.6
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	20	0.01	1.9	A





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	37	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80915	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28942	PF Power Coefficient (p)	0.60656
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	22.8

Vehicle Results

Average Speed, mi/h	22.8	Percent Followers, %	16.0
Segment Travel Time, minutes	3.42	Follower Density (FD), followers/mi/ln	0.3
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	11	0.00	0.3	A

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.68		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	2250	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
8	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
9	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	3280	2
10	Diverge	Diverge	I-140 Off Ramp to SR 33 SB	1500	2
11	Basic	Basic	I-140 between SR 33 SB Off Ramp and SR 33 SB On Ramp	1000	2
12	Merge	Merge	SR 33 SB On Ramp to I-140 EB	1500	2
13	Basic	Basic	I-140 between SR 33 and SR 35	10000	2
14	Diverge	Diverge	I-140 Off Ramp to SR 35 WB	1500	2
15	Basic	Basic	I-140 between SR 35 EB Off Ramp to SR 35 EB On Ramp	1000	2
16	Merge	Merge	SR 35 On Ramp to I-140 SB	1500	2
17	Basic	Basic	I-140 between SR 35 and SR 73	5000	2
18	Diverge	Diverge	I-140 Off Ramp to SR 73 WB	1500	2
19	Basic	Basic	I-140 between SR 73 WB Off Ramp and SR 73 EB Off Ramp	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	4064	4644	0.88	57.8	35.2	E

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	4064	1313	4600	1900	0.88	0.69	48.4	48.4	42.0	35.6	E

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2751	4636	0.58	61.2	22.3	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.962	1.000	2751	2418	4600	2000	0.58	1.21	49.0	49.0	28.1	24.3	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	333	4636	0.02	60.1	2.7	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1585	1252	4600	1900	0.29	0.66	55.9	55.9	14.2	12.3	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1585	4636	0.30	61.0	12.8	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	1883	298	4600	2000	0.37	0.15	56.0	56.0	16.8	15.1	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1883	4626	0.37	61.2	15.4	B

Segment 10: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	1883	1009	4600	2000	0.37	0.50	51.1	51.1	18.4	16.8	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	874	4618	0.14	59.6	7.2	A

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1414	540	4600	2000	0.26	0.27	55.6	55.6	12.7	11.3	B

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1414	4626	0.27	61.3	11.5	B

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1414	310	4600	2000	0.27	0.15	53.0	53.0	13.3	12.8	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1104	4644	0.19	61.0	8.9	A

Segment 16: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	1441	337	4600	2000	0.27	0.17	56.5	56.5	12.8	11.6	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	1441	4664	0.27	63.2	11.4	B

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	1441	483	4600	2000	0.27	0.24	53.2	53.2	13.5	13.0	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	958	4664	0.16	61.2	7.6	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3321	2625	4.28	107.03	57.3	15.7	15.1	8.00	F

Facility Overall Results

Space Mean Speed, mi/h	57.3	Average Density, veh/mi/ln	15.1
Average Travel Time, min	8.00	Average Density, pc/mi/ln	15.7
Total VMT, veh-mi	3321	Total VHD, veh-h	4.28
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	107.03

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.68		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between SR 73 EB On Ramp and SR 73 WB On Ramp	500	2
2	Merge	Merge	SR 73 WB On Ramp to I-140 NB	1500	2
3	Basic	Basic	I-140 between SR 73 and SR 35	5000	2
4	Diverge	Diverge	I-140 Off Ramp to SR 35 EB	1500	2
5	Basic	Basic	I-140 between SR 35 EB Off ramp to Sr 35 WB On Ramp	1000	2
6	Merge	Merge	SR 35 WB On Ramp to I-140 NB	1500	2
7	Basic	Basic	I-140 between SR 35 to SR 33	10000	2
8	Diverge	Diverge	I-140 Off Ramp to SR 33 NB	1500	2
9	Basic	Basic	I-140 between SR 33 NB Off Ramp to SR 33 SB On Ramp	1000	2
10	Merge	Merge	SR 33 SB On Ramp to I-140 WB	1500	2
11	Basic	Basic	-140 between SR 33 and Relocated SR 115 NB Off Ramp	3280	2
12	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
13	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
14	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
15	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and Relocated SR 115 SB On Ramp	1000	2
16	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
17	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and SR 115 SB On Ramp	2250	2
18	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
19	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	1205	4664	0.26	63.2	9.5	A

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	2613	1408	4600	2000	0.57	0.70	56.5	56.5	23.1	20.3	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	2613	4664	0.55	63.2	20.7	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	2613	343	4600	2000	0.58	0.17	52.9	52.9	24.7	23.1	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2270	4644	0.50	61.0	18.2	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2948	678	4600	2000	0.65	0.34	55.4	55.4	26.6	23.2	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2948	4626	0.65	61.3	24.0	C

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2948	724	4600	2000	0.65	0.36	51.6	51.6	28.6	26.0	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2224	4618	0.49	59.7	18.3	C

Segment 10: Merge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	3903	1679	4600	2000	0.85	0.84	52.2	52.2	37.4	30.2	D

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	3903	4626	0.86	58.5	33.4	D

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	3903	1547	4600	1900	0.86	0.81	48.0	48.0	40.7	34.2	D

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	2356	4636	0.51	60.0	19.1	C

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.968	1.000	2356	426	4600	2000	0.52	0.21	52.6	52.6	22.4	20.9	C

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1930	4636	0.42	60.6	15.6	B

Segment 16: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3417	1610	4600	1900	0.77	0.85	53.9	53.9	31.7	26.4	F

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3214	4636	0.78	22.7	70.9	F

Segment 18: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	4283	1088	4600	2000	1.03	0.54	50.9	50.9	42.2	33.6	F

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	4283	4644	1.03	55.8	38.4	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	5672	4973	16.35	408.85	52.5	29.2	28.1	8.80	F

Facility Overall Results

Space Mean Speed, mi/h	52.5	Average Density, veh/mi/ln	28.1
Average Travel Time, min	8.80	Average Density, pc/mi/ln	29.2
Total VMT, veh-mi	5672	Total VHD, veh-h	16.35
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	408.85

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3573	4574	0.83	23.3	76.7	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	3474	203	4500	1900	0.85	0.11	26.5	49.1	65.6	33.4	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3135	4574	0.79	19.0	82.7	F

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	4190	1574	4500	1900	1.15	0.83	47.5	47.5	49.6	36.5	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4574	1.15	54.9	38.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1239	1263	15.13	378.18	34.2	56.7	53.9	2.40	F

Facility Overall Results

Space Mean Speed, mi/h	34.2	Average Density, veh/mi/ln	53.9
Average Travel Time, min	2.40	Average Density, pc/mi/ln	56.7
Total VMT, veh-mi	1239	Total VHD, veh-h	15.13
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	378.18

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2487	4574	0.54	58.7	21.2	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2899	5128	0.57	44.3	21.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1963	4574	0.43	57.9	16.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2182	1974	1.35	33.79	56.6	20.9	19.6	3.90	C

Facility Overall Results

Space Mean Speed, mi/h	56.6	Average Density, veh/mi/ln	19.6
Average Travel Time, min	3.90	Average Density, pc/mi/ln	20.9
Total VMT, veh-mi	2182	Total VHD, veh-h	1.35

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	33.79

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3989	4574	0.87	56.4	35.4	E

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3989	992	4500	1900	0.89	0.52	47.9	47.9	41.6	35.0	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2997	4574	0.65	58.0	25.5	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	4484	2225	4500	1900	1.15	1.17	47.5	47.5	55.0	40.2	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4484	4574	1.08	51.9	43.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3910	3503	4.55	113.83	54.9	36.4	35.0	4.50	F

Facility Overall Results

Space Mean Speed, mi/h	54.9	Average Density, veh/mi/ln	35.0
Average Travel Time, min	4.50	Average Density, pc/mi/ln	36.4
Total VMT, veh-mi	3910	Total VHD, veh-h	4.55
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	113.83

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1559	4574	0.34	58.7	13.3	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1559	191	4500	1900	0.35	0.10	49.1	49.1	15.9	14.1	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1360	4574	0.30	58.0	11.6	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	2267	888	4500	1900	0.50	0.47	53.4	53.4	21.2	17.8	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2315	4574	0.51	58.7	19.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1793	1594	0.63	15.87	57.5	18.6	17.7	3.70	C

Facility Overall Results

Space Mean Speed, mi/h	57.5	Average Density, veh/mi/ln	17.7
Average Travel Time, min	3.70	Average Density, pc/mi/ln	18.6
Total VMT, veh-mi	1793	Total VHD, veh-h	0.63
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	15.87

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3402	4586	0.74	59.2	28.7	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.949	1.000	3402	1283	4500	2000	0.76	0.64	49.9	49.9	34.1	29.9	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2020	4586	0.44	59.1	17.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	925	851	0.75	18.86	56.6	24.4	23.1	1.50	C

Facility Overall Results

Space Mean Speed, mi/h	56.6	Average Density, veh/mi/ln	23.1
Average Travel Time, min	1.50	Average Density, pc/mi/ln	24.4
Total VMT, veh-mi	925	Total VHD, veh-h	0.75

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	18.86

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3477	4564	0.76	58.1	29.9	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3477	2167	4500	1900	0.77	1.14	46.0	46.0	37.8	30.6	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1310	4564	0.27	56.6	11.3	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	1.000	1.000	1745	435	4500	1900	0.36	0.23	53.3	53.3	16.4	13.9	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3483	1738	4500	1900	0.76	0.91	51.6	51.6	33.8	26.9	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3483	4564	0.76	58.1	30.0	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3237	2823	1.91	47.67	56.3	29.0	27.9	4.40	F

Facility Overall Results

Space Mean Speed, mi/h	56.3	Average Density, veh/mi/ln	27.9
Average Travel Time, min	4.40	Average Density, pc/mi/ln	29.0
Total VMT, veh-mi	3237	Total VHD, veh-h	1.91
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	47.67

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1226	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.72

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	23.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.4

Vehicle Results

Average Speed, mi/h	42.4	Percent Followers, %	82.2
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	23.7
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	961	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.57

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	17.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.5

Vehicle Results

Average Speed, mi/h	40.5	Percent Followers, %	74.3
Segment Travel Time, minutes	2.75	Follower Density (FD), followers/mi/ln	17.6
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	547	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.32

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.9

Vehicle Results

Average Speed, mi/h	41.9	Percent Followers, %	59.4
Segment Travel Time, minutes	1.80	Follower Density (FD), followers/mi/ln	7.8
Vehicle LOS	C		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1314	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.77

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.0
Speed Slope Coefficient (m)	2.96479	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44615	PF Power Coefficient (p)	0.70846
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	26.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.8

Vehicle Results

Average Speed, mi/h	41.8	Percent Followers, %	82.7
Segment Travel Time, minutes	0.63	Follower Density (FD), followers/mi/ln	26.0
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1453	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.85

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.6
Speed Slope Coefficient (m)	2.94157	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44398	PF Power Coefficient (p)	0.70754
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	29.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	41.2

Vehicle Results

Average Speed, mi/h	41.2	Percent Followers, %	84.8
Segment Travel Time, minutes	0.66	Follower Density (FD), followers/mi/ln	29.9
Vehicle LOS	E		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1172	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.69

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	22.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

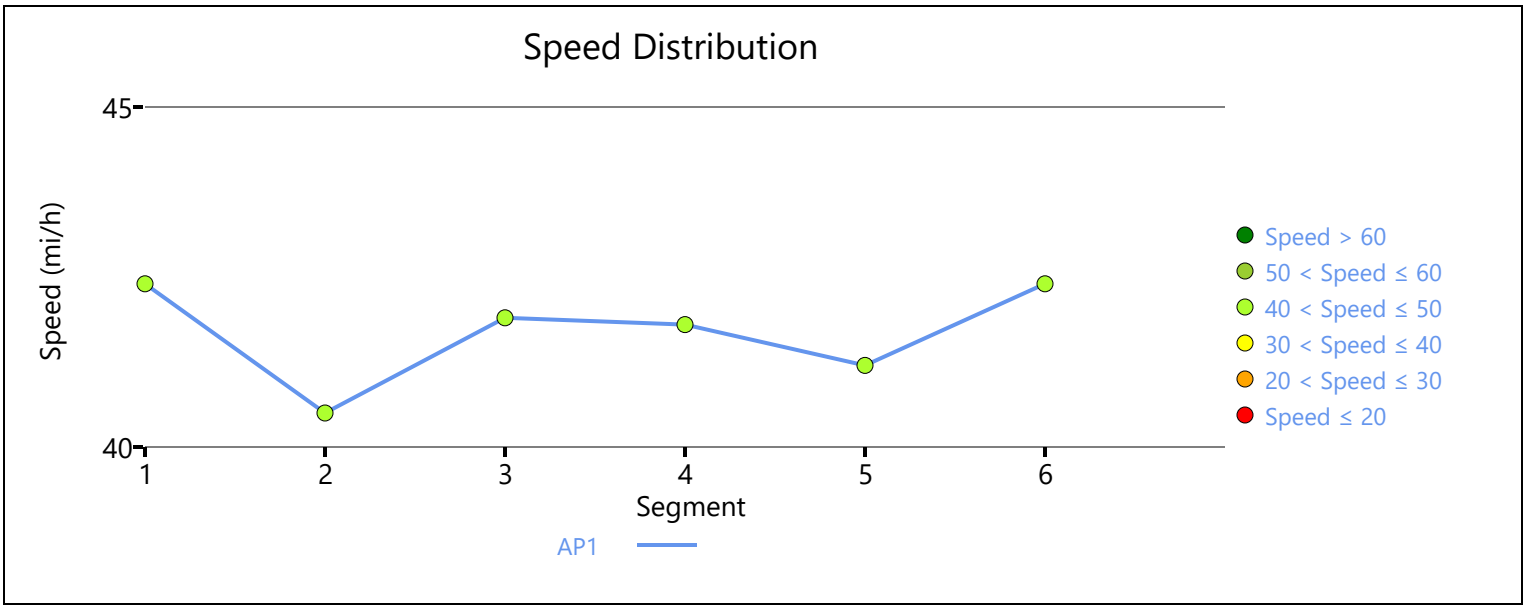
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.4

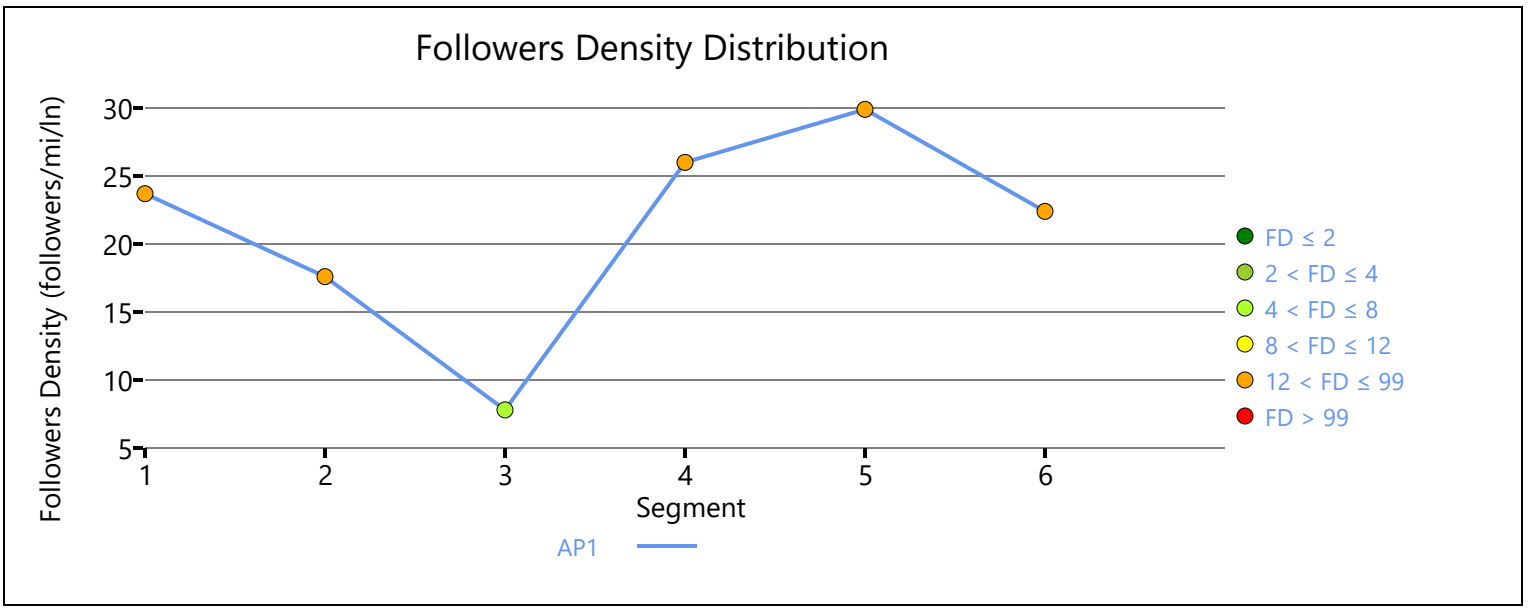
Vehicle Results

Average Speed, mi/h	42.4	Percent Followers, %	81.2
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	22.4
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	879	1.37	17.0	E





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	18893
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	912	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.54

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	25.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	18893	-	-	27.0

Vehicle Results

Average Speed, mi/h	27.0	Percent Followers, %	74.4
Segment Travel Time, minutes	7.95	Follower Density (FD), followers/mi/ln	25.1
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	3907
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1261	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.74

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.0
Speed Slope Coefficient (m)	2.17360	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38101	PF Power Coefficient (p)	0.65087
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	36.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3907	-	-	27.7

Vehicle Results

Average Speed, mi/h	27.7	Percent Followers, %	79.9
Segment Travel Time, minutes	1.60	Follower Density (FD), followers/mi/ln	36.4
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	633
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1238	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.73

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.0
Speed Slope Coefficient (m)	2.13653	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46951	PF Power Coefficient (p)	0.62857
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	36.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	633	-	-	27.8

Vehicle Results

Average Speed, mi/h	27.8	Percent Followers, %	81.4
Segment Travel Time, minutes	0.26	Follower Density (FD), followers/mi/ln	36.3
Vehicle LOS	E		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11035
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1089	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.64

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.3
Speed Slope Coefficient (m)	3.44250	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36628	PF Power Coefficient (p)	0.70790
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	17.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

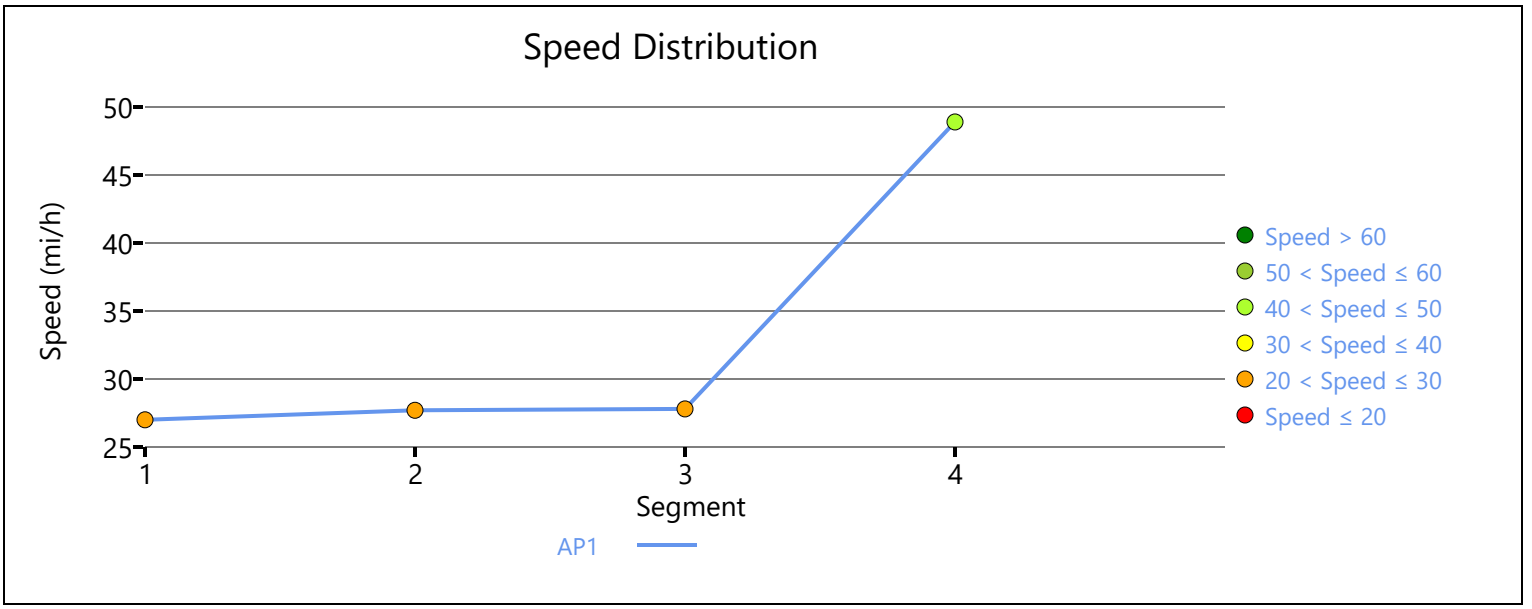
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11035	-	-	48.9

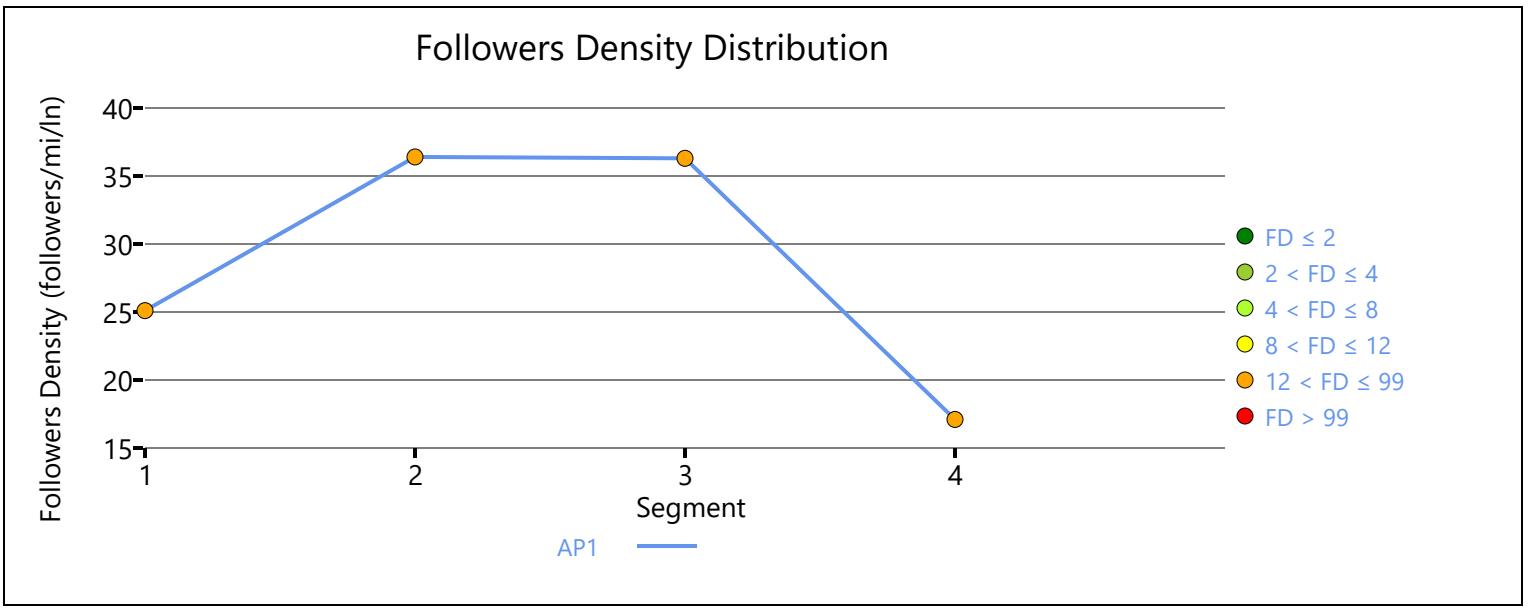
Vehicle Results

Average Speed, mi/h	48.9	Percent Followers, %	76.6
Segment Travel Time, minutes	2.56	Follower Density (FD), followers/mi/ln	17.1
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	1523	3.33	24.0	E





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1309	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	745
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.9
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1411	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	803
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	18.2
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between Jones Avenue and SR 162	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1788	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	992
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	19.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1660	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	920
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.45

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	17.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between SR 162 and Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	957	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	530
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.26

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	10.2
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	2502	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1388
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.68

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	26.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	D
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1256	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	701
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	12.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data			
Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	2086	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1164
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.54

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	20.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13939
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	537	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.32

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.19114	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42590	PF Power Coefficient (p)	0.66617
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13939	-	-	45.1

Vehicle Results

Average Speed, mi/h	45.1	Percent Followers, %	61.0
Segment Travel Time, minutes	3.51	Follower Density (FD), followers/mi/ln	7.3
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	326	0.35	7.3	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	423	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.25

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	5.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.4

Vehicle Results

Average Speed, mi/h	43.4	Percent Followers, %	55.2
Segment Travel Time, minutes	3.49	Follower Density (FD), followers/mi/ln	5.4
Vehicle LOS	C		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	580
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	517	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.30

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	35.2
Speed Slope Coefficient (m)	2.41416	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49747	PF Power Coefficient (p)	0.65535
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	9.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	580	-	-	33.5

Vehicle Results

Average Speed, mi/h	33.5	Percent Followers, %	62.2
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/ln	9.6
Vehicle LOS	C		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6336
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	393	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.23

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75727	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39061	PF Power Coefficient (p)	0.69627
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	5.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

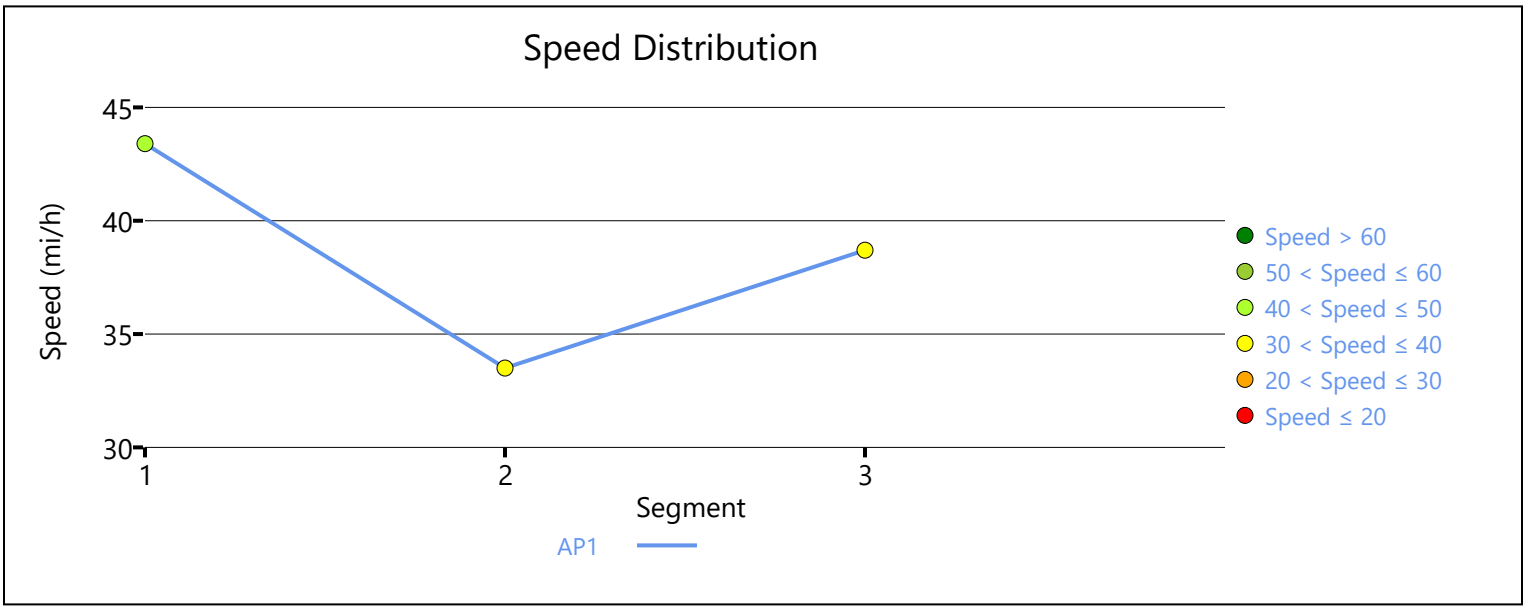
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.7

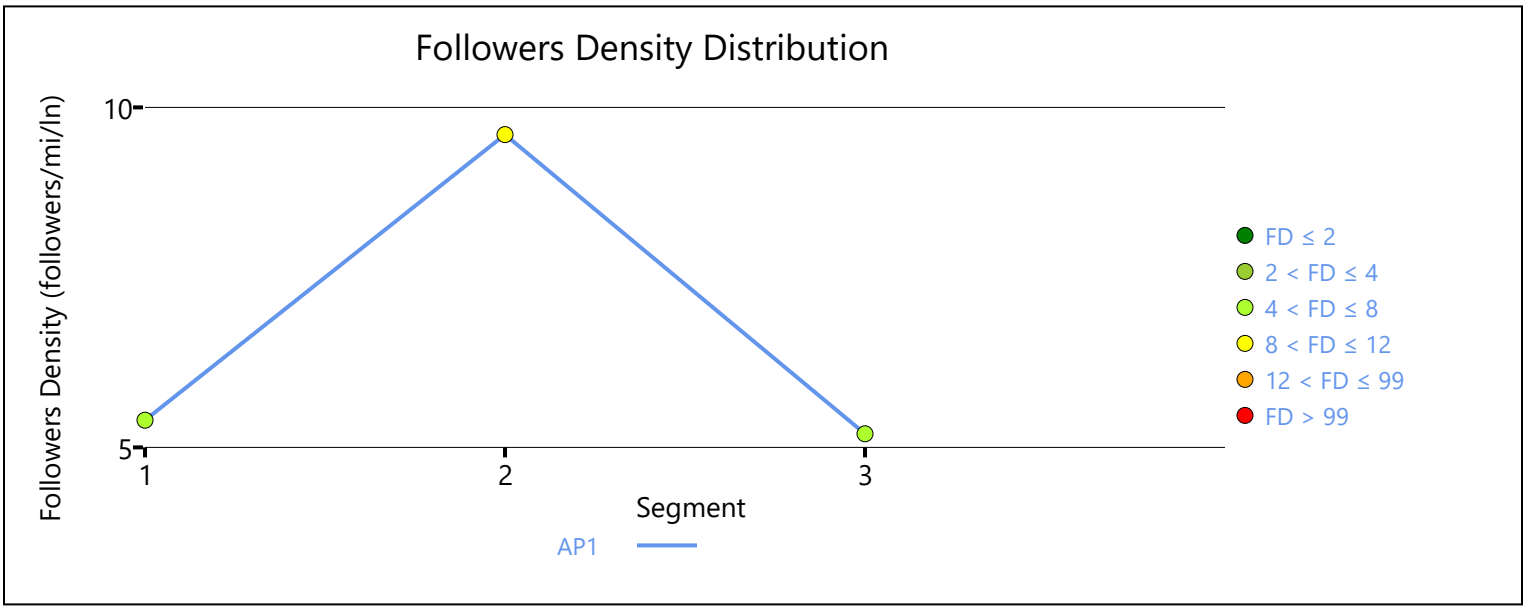
Vehicle Results

Average Speed, mi/h	38.7	Percent Followers, %	51.6
Segment Travel Time, minutes	1.86	Follower Density (FD), followers/mi/ln	5.2
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	367	0.37	5.5	C





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	425	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.25

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	33.1

Vehicle Results

Average Speed, mi/h	33.1	Percent Followers, %	54.1
Segment Travel Time, minutes	1.98	Follower Density (FD), followers/mi/ln	7.0
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	107	0.14	7.0	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	166	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.10

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35149	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37634	PF Power Coefficient (p)	0.66322
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	32.1

Vehicle Results

Average Speed, mi/h	32.1	Percent Followers, %	34.2
Segment Travel Time, minutes	2.22	Follower Density (FD), followers/mi/ln	1.8
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	46	0.03	1.8	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	215	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.13

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	33.6

Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	42.2
Segment Travel Time, minutes	0.43	Follower Density (FD), followers/mi/ln	2.7
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	445
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	225	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.13

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	445	-	-	33.6

Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	43.2
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	2.9
Vehicle LOS	B		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1000
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	280	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.16

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

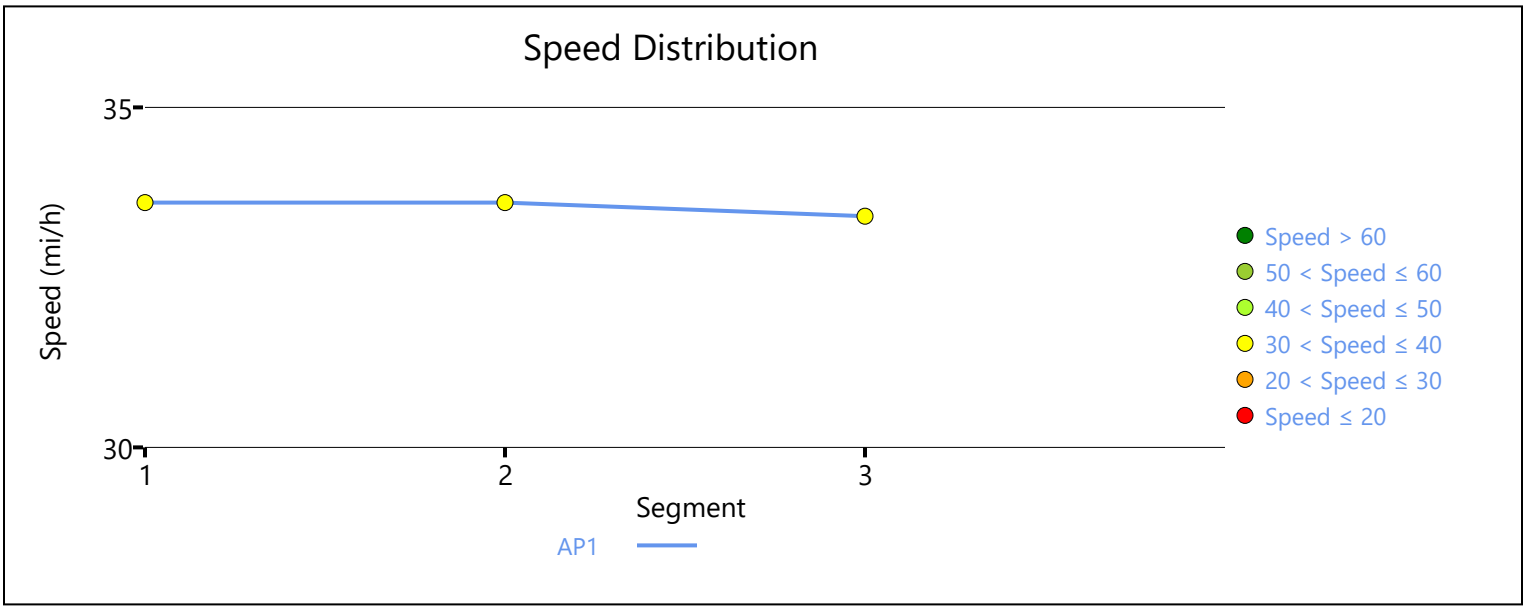
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1000	-	-	33.4

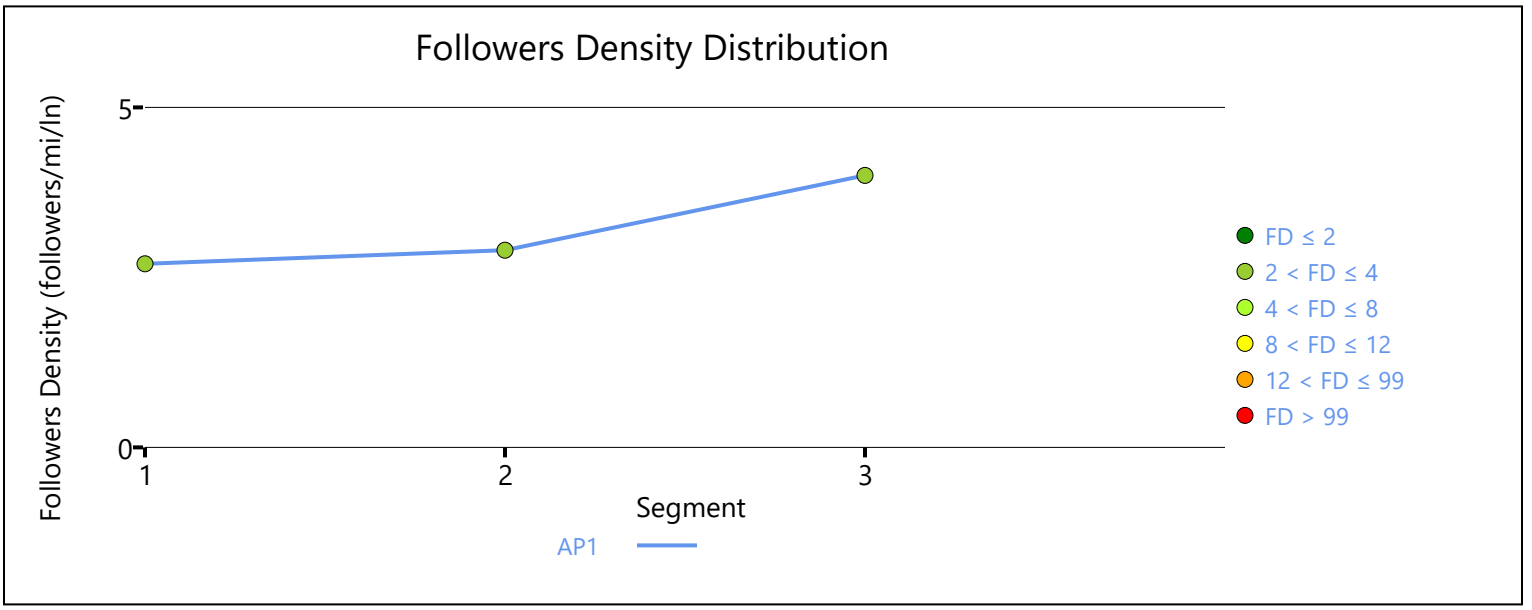
Vehicle Results

Average Speed, mi/h	33.4	Percent Followers, %	47.9
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	4.0
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	29	0.03	3.2	B





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	46	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.03

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80915	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28942	PF Power Coefficient (p)	0.60656
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	22.8

Vehicle Results

Average Speed, mi/h	22.8	Percent Followers, %	18.0
Segment Travel Time, minutes	3.42	Follower Density (FD), followers/mi/ln	0.4
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	14	0.00	0.4	A

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.68		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	2250	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
8	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
9	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	3280	2
10	Diverge	Diverge	I-140 Off Ramp to SR 33 SB	1500	2
11	Basic	Basic	I-140 between SR 33 SB Off Ramp and SR 33 SB On Ramp	1000	2
12	Merge	Merge	SR 33 SB On Ramp to I-140 EB	1500	2
13	Basic	Basic	I-140 between SR 33 and SR 35	10000	2
14	Diverge	Diverge	I-140 Off Ramp to SR 35 WB	1500	2
15	Basic	Basic	I-140 between SR 35 EB Off Ramp to SR 35 EB On Ramp	1000	2
16	Merge	Merge	SR 35 On Ramp to I-140 SB	1500	2
17	Basic	Basic	I-140 between SR 35 and SR 73	5000	2
18	Diverge	Diverge	I-140 Off Ramp to SR 73 WB	1500	2
19	Basic	Basic	I-140 between SR 73 WB Off Ramp and SR 73 EB Off Ramp	500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	4283	4644	1.11	38.1	56.3	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	4283	1480	4600	1900	1.12	0.78	48.1	48.1	44.5	37.5	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2803	4636	0.77	61.1	22.7	C

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.962	1.000	2803	2053	4600	2000	0.77	1.03	49.7	49.7	28.2	24.8	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	750	4636	0.30	60.2	6.1	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2224	1474	4600	1900	0.62	0.78	55.5	55.5	20.0	17.2	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2224	4636	0.63	61.0	18.0	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	2749	525	4600	2000	0.74	0.26	55.3	55.3	24.9	21.7	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	2749	4626	0.74	61.2	22.4	C

Segment 10: Diverge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	2749	1246	4600	2000	0.75	0.62	50.7	50.7	27.1	24.3	C

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1503	4618	0.46	59.6	12.3	B

Segment 12: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2170	667	4600	2000	0.61	0.33	55.2	55.2	19.7	17.2	B

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2170	4626	0.62	61.3	17.7	B

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2170	829	4600	2000	0.62	0.41	52.0	52.0	20.9	19.3	B

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1341	4644	0.43	60.9	10.8	A

Segment 16: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	1695	354	4600	2000	0.51	0.18	56.4	56.4	15.0	13.6	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	1695	4664	0.51	63.2	13.4	B

Segment 18: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	1695	1022	4600	2000	0.52	0.51	52.2	52.2	16.2	15.2	B

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	673	4664	0.28	61.0	5.3	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4279	4928	8.76	218.98	54.8	21.1	20.3	8.40	F

Facility Overall Results

Space Mean Speed, mi/h	54.8	Average Density, veh/mi/ln	20.3
Average Travel Time, min	8.40	Average Density, pc/mi/ln	21.1
Total VMT, veh-mi	4279	Total VHD, veh-h	8.76
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	218.98

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	19
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	7.68		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between SR 73 EB On Ramp and SR 73 WB On Ramp	500	2
2	Merge	Merge	SR 73 WB On Ramp to I-140 NB	1500	2
3	Basic	Basic	I-140 between SR 73 and SR 35	5000	2
4	Diverge	Diverge	I-140 Off Ramp to SR 35 EB	1500	2
5	Basic	Basic	I-140 between SR 35 EB Off ramp to Sr 35 WB On Ramp	1000	2
6	Merge	Merge	SR 35 WB On Ramp to I-140 NB	1500	2
7	Basic	Basic	I-140 between SR 35 to SR 33	10000	2
8	Diverge	Diverge	I-140 Off Ramp to SR 33 NB	1500	2
9	Basic	Basic	I-140 between SR 33 NB Off Ramp to SR 33 SB On Ramp	1000	2
10	Merge	Merge	SR 33 SB On Ramp to I-140 WB	1500	2
11	Basic	Basic	-140 between SR 33 and Relocated SR 115 NB Off Ramp	3280	2
12	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
13	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
14	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
15	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and Relocated SR 115 SB On Ramp	1000	2
16	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
17	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and SR 115 SB On Ramp	2250	2
18	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
19	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	459	4664	0.10	63.2	3.6	A

Segment 2: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	1117	658	4600	2000	0.24	0.33	57.3	57.3	9.7	8.9	A

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	1.000	1096	4664	0.23	63.2	8.7	A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	1147	189	4600	2000	0.25	0.09	53.2	53.2	10.8	10.5	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	949	4644	0.20	61.0	7.6	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1271	329	4600	2000	0.28	0.16	56.6	56.6	11.2	10.3	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1285	4626	0.28	61.3	10.5	A

Segment 8: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	1285	370	4600	2000	0.28	0.18	52.2	52.2	12.3	11.7	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	901	4618	0.20	59.8	7.4	A

Segment 10: Merge

AP	PHF	fHV	Flow Rate	Capacity	d/c	Speed	Density	LOS

					(pc/h)		(pc/h)		Ratio		(mi/h)		(pc/mi/ln)		
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	2256	1361	4600	2000	0.49	0.68	55.2	55.2	20.4	17.5	B

Segment 11: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	2301	4626	0.50	61.2	18.8	C

Segment 12: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	1.000	2301	1500	4600	2000	0.50	0.75	50.7	50.7	22.7	20.4	C

Segment 13: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	751	4636	0.16	60.3	6.1	A

Segment 14: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.968	1.000	751	482	4600	2000	0.16	0.24	52.5	52.5	7.2	7.1	A

Segment 15: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	243	4636	0.05	60.6	2.0	A

Segment 16: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2618	2374	4600	2000	0.57	1.19	55.5	55.5	23.6	19.9	B

Segment 17: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2323	4636	0.50	61.5	18.8	C

Segment 18: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	1.000	3458	1118	4600	2000	0.75	0.56	54.1	54.1	32.0	27.0	C

Segment 19: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	3511	4644	0.76	61.2	28.7	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2993	2386	2.71	67.83	58.5	13.8	13.3	7.90	B

Facility Overall Results

Space Mean Speed, mi/h	58.5	Average Density, veh/mi/ln	13.3
Average Travel Time, min	7.90	Average Density, pc/mi/ln	13.8
Total VMT, veh-mi	2993	Total VHD, veh-h	2.71
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	67.83

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2752	4574	0.60	58.7	23.4	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	2752	157	4500	1900	0.61	0.08	49.1	49.1	28.0	24.3	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2587	4574	0.57	57.9	22.0	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	4004	1417	4500	1900	0.89	0.75	50.4	50.4	39.7	31.1	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4081	4574	0.89	55.8	36.6	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1119	942	1.82	45.61	53.6	32.0	30.4	1.50	D

Facility Overall Results

Space Mean Speed, mi/h	53.6	Average Density, veh/mi/ln	30.4
Average Travel Time, min	1.50	Average Density, pc/mi/ln	32.0
Total VMT, veh-mi	1119	Total VHD, veh-h	1.82
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	45.61

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2292	4574	0.50	58.7	19.5	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2805	4528	0.62	43.7	21.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1846	4574	0.40	57.9	15.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2025	1822	1.38	34.57	56.4	19.4	18.2	3.90	C

Facility Overall Results

Space Mean Speed, mi/h	56.4	Average Density, veh/mi/ln	18.2
Average Travel Time, min	3.90	Average Density, pc/mi/ln	19.4
Total VMT, veh-mi	2025	Total VHD, veh-h	1.38

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	34.57

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3764	4574	0.82	57.7	32.6	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3764	1970	4500	1900	0.84	1.04	46.4	46.4	40.6	33.0	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1794	4574	0.38	57.9	15.3	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3694	2339	4500	1900	0.90	1.23	49.9	49.9	41.4	31.7	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3694	4574	0.81	56.6	31.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3562	3146	2.83	70.72	56.1	32.3	31.1	4.40	F

Facility Overall Results

Space Mean Speed, mi/h	56.1	Average Density, veh/mi/ln	31.1
Average Travel Time, min	4.40	Average Density, pc/mi/ln	32.3
Total VMT, veh-mi	3562	Total VHD, veh-h	2.83
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	70.72

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2463	4574	0.54	58.7	21.0	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	2463	193	4500	1900	0.55	0.10	49.1	49.1	25.1	21.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2262	4574	0.49	58.0	19.3	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	3247	954	4600	1900	0.71	0.50	53.1	53.1	30.6	25.4	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3299	4574	0.72	58.7	28.1	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2602	2334	1.07	26.76	57.4	27.1	25.8	3.70	D

Facility Overall Results

Space Mean Speed, mi/h	57.4	Average Density, veh/mi/ln	25.8
Average Travel Time, min	3.70	Average Density, pc/mi/ln	27.1
Total VMT, veh-mi	2602	Total VHD, veh-h	1.07
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	26.76

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4586	1.16	36.4	57.5	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.94	0.949	1.000	4190	1704	4500	2000	1.19	0.85	49.2	49.2	42.6	36.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2486	4586	0.76	59.1	21.0	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1138	1384	5.98	149.58	45.2	37.6	35.7	1.90	F

Facility Overall Results

Space Mean Speed, mi/h	45.2	Average Density, veh/mi/ln	35.7
Average Travel Time, min	1.90	Average Density, pc/mi/ln	37.6
Total VMT, veh-mi	1138	Total VHD, veh-h	5.98

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	149.58

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4190	4564	1.11	36.8	56.9	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	4190	2403	4500	1900	1.13	1.26	45.7	45.7	45.8	36.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1787	4564	0.57	56.6	15.4	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	1.000	1.000	2279	492	4500	1900	0.66	0.26	53.0	53.0	21.5	18.1	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	3538	1259	4600	1900	0.95	0.66	52.5	52.5	33.7	27.5	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3538	4564	0.96	58.0	30.5	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3398	3788	2.86	71.58	55.6	30.8	29.7	4.40	F

Facility Overall Results

Space Mean Speed, mi/h	55.6	Average Density, veh/mi/ln	29.7
Average Travel Time, min	4.40	Average Density, pc/mi/ln	30.8
Total VMT, veh-mi	3398	Total VHD, veh-h	2.86
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	71.58

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	887	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.52

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	15.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.9

Vehicle Results

Average Speed, mi/h	42.9	Percent Followers, %	74.7
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	15.5
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1160	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.68

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	22.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.3

Vehicle Results

Average Speed, mi/h	40.3	Percent Followers, %	78.7
Segment Travel Time, minutes	2.77	Follower Density (FD), followers/mi/ln	22.7
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	823	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.48

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	13.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.4

Vehicle Results

Average Speed, mi/h	41.4	Percent Followers, %	70.0
Segment Travel Time, minutes	1.82	Follower Density (FD), followers/mi/ln	13.9
Vehicle LOS	D		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1653	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.97

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.0
Speed Slope Coefficient (m)	2.96479	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44615	PF Power Coefficient (p)	0.70846
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	34.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.4

Vehicle Results

Average Speed, mi/h	41.4	Percent Followers, %	87.3
Segment Travel Time, minutes	0.63	Follower Density (FD), followers/mi/ln	34.8
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1693	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.00

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.6
Speed Slope Coefficient (m)	2.94157	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44398	PF Power Coefficient (p)	0.70754
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	36.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	41.0

Vehicle Results

Average Speed, mi/h	41.0	Percent Followers, %	87.7
Segment Travel Time, minutes	0.67	Follower Density (FD), followers/mi/ln	36.2
Vehicle LOS	E		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1648	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.97

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	34.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

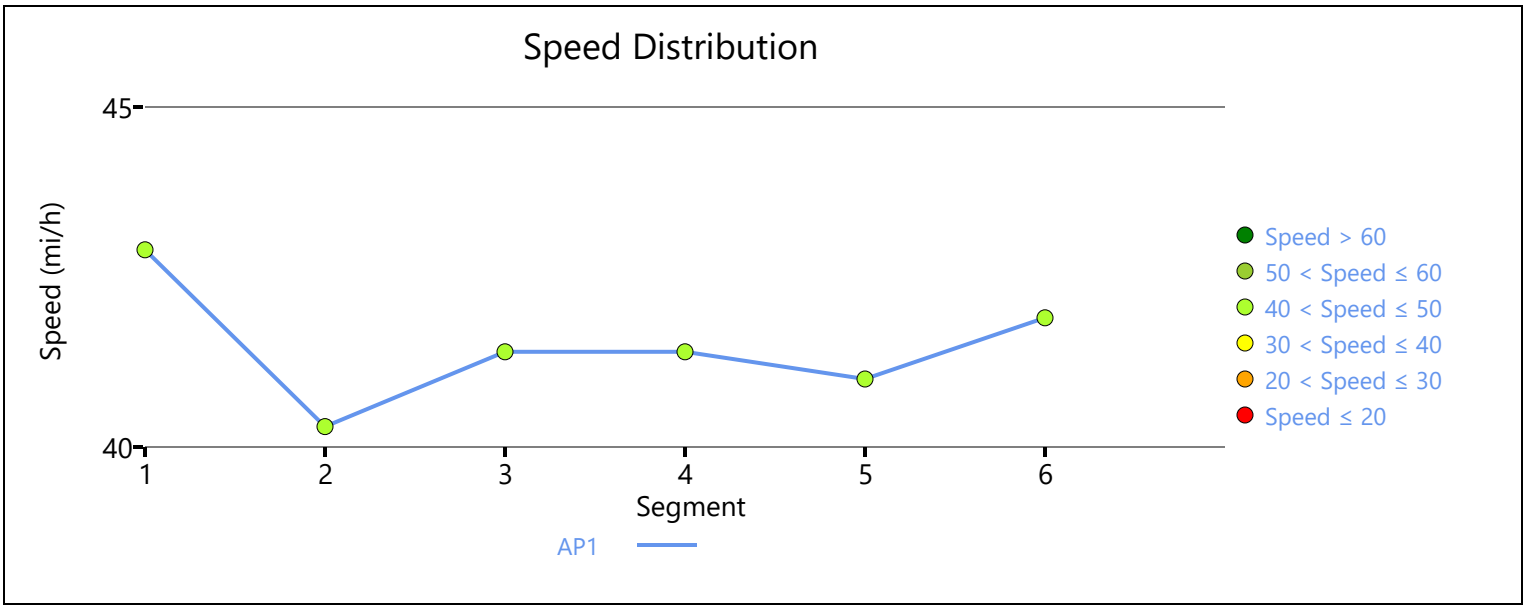
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	41.9

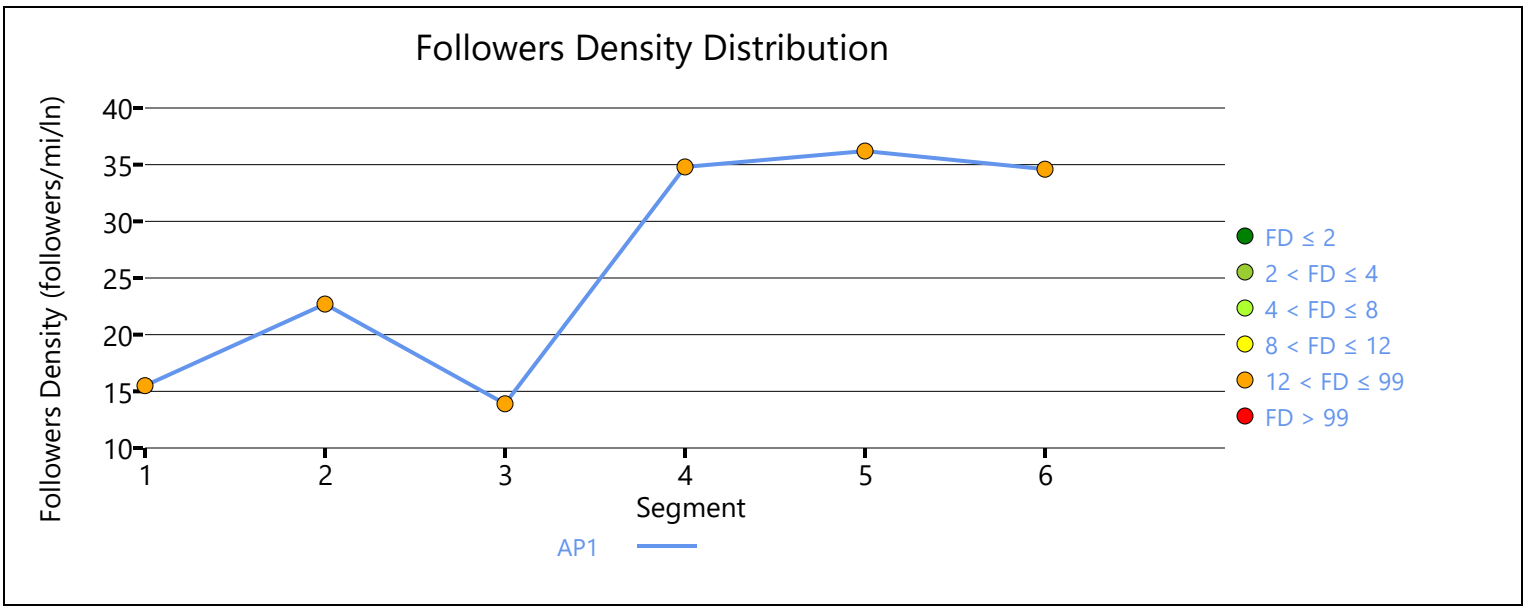
Vehicle Results

Average Speed, mi/h	41.9	Percent Followers, %	88.0
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	34.6
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	1105	1.91	22.8	E





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	18893
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	914	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.54

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	25.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	18893	-	-	27.0

Vehicle Results

Average Speed, mi/h	27.0	Percent Followers, %	74.4
Segment Travel Time, minutes	7.95	Follower Density (FD), followers/mi/ln	25.2
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	3907
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	985	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.58

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.0
Speed Slope Coefficient (m)	2.17360	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38101	PF Power Coefficient (p)	0.65087
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	26.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	3907	-	-	28.0

Vehicle Results

Average Speed, mi/h	28.0	Percent Followers, %	74.5
Segment Travel Time, minutes	1.59	Follower Density (FD), followers/mi/ln	26.2
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	633
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1011	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.59

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.0
Speed Slope Coefficient (m)	2.13653	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46951	PF Power Coefficient (p)	0.62857
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	27.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	633	-	-	28.0

Vehicle Results

Average Speed, mi/h	28.0	Percent Followers, %	77.2
Segment Travel Time, minutes	0.26	Follower Density (FD), followers/mi/ln	27.9
Vehicle LOS	E		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11035
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	888	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.52

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.3
Speed Slope Coefficient (m)	3.44250	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36628	PF Power Coefficient (p)	0.70790
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	12.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

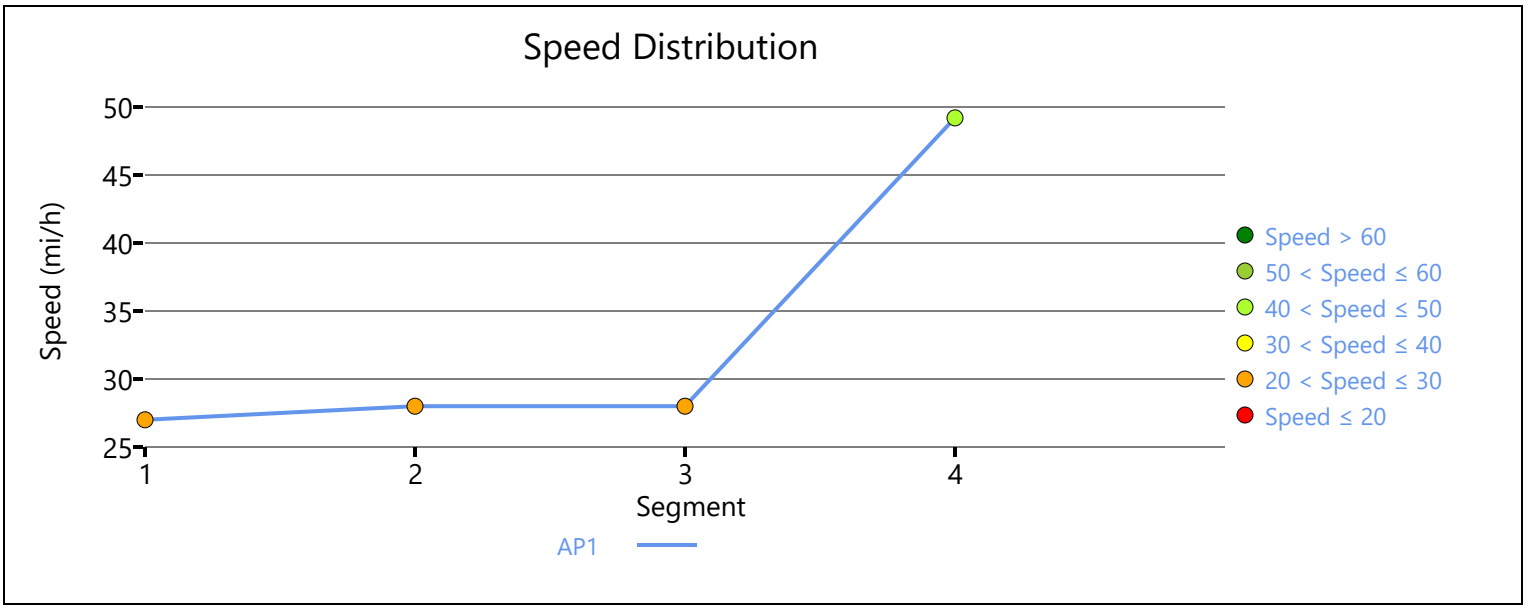
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11035	-	-	49.2

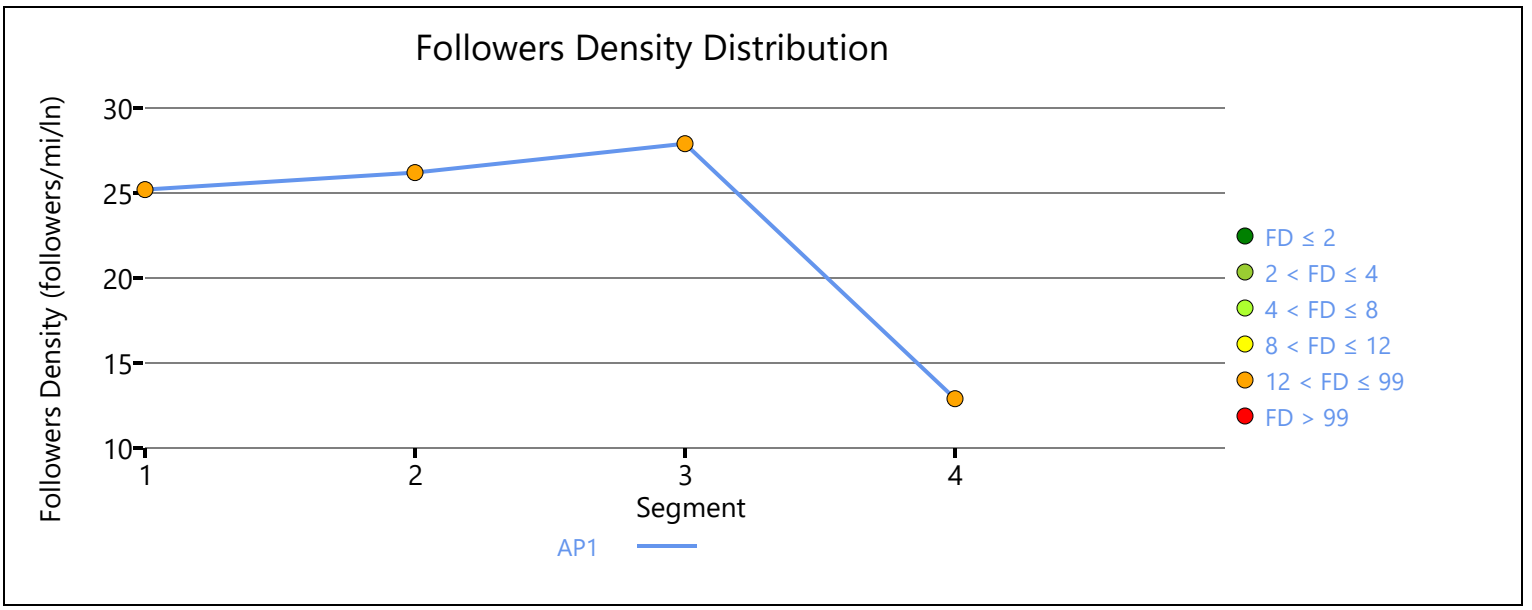
Vehicle Results

Average Speed, mi/h	49.2	Percent Followers, %	71.5
Segment Travel Time, minutes	2.55	Follower Density (FD), followers/mi/ln	12.9
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	1375	2.94	21.4	E





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1646	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	936
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.49

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	21.2
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data			
Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1129	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	642
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	14.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between Jones Avenue and SR 162	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	2737	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1518
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.74

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	51.4
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	29.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	D
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1572	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	872
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.43

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between SR 162 and Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	2290	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1270
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.62

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	24.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1553	Heavy Vehicle Adjustment Factor (f_{HV})	0.980
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	861
Total Trucks, %	2.00	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1705	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	952
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.44

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	16.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1494	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	834
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	14.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13939
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	362	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.21

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.19114	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42590	PF Power Coefficient (p)	0.66617
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13939	-	-	45.5

Vehicle Results

Average Speed, mi/h	45.5	Percent Followers, %	51.5
Segment Travel Time, minutes	3.48	Follower Density (FD), followers/mi/ln	4.1
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	220	0.19	4.1	B

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	559	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.33

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.1

Vehicle Results

Average Speed, mi/h	43.1	Percent Followers, %	62.0
Segment Travel Time, minutes	3.51	Follower Density (FD), followers/mi/ln	8.0
Vehicle LOS	C		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	580
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	460	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.27

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	35.2
Speed Slope Coefficient (m)	2.41416	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49747	PF Power Coefficient (p)	0.65535
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	580	-	-	33.6

Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	59.3
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/ln	8.1
Vehicle LOS	C		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6336
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	358	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.21

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75727	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39061	PF Power Coefficient (p)	0.69627
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

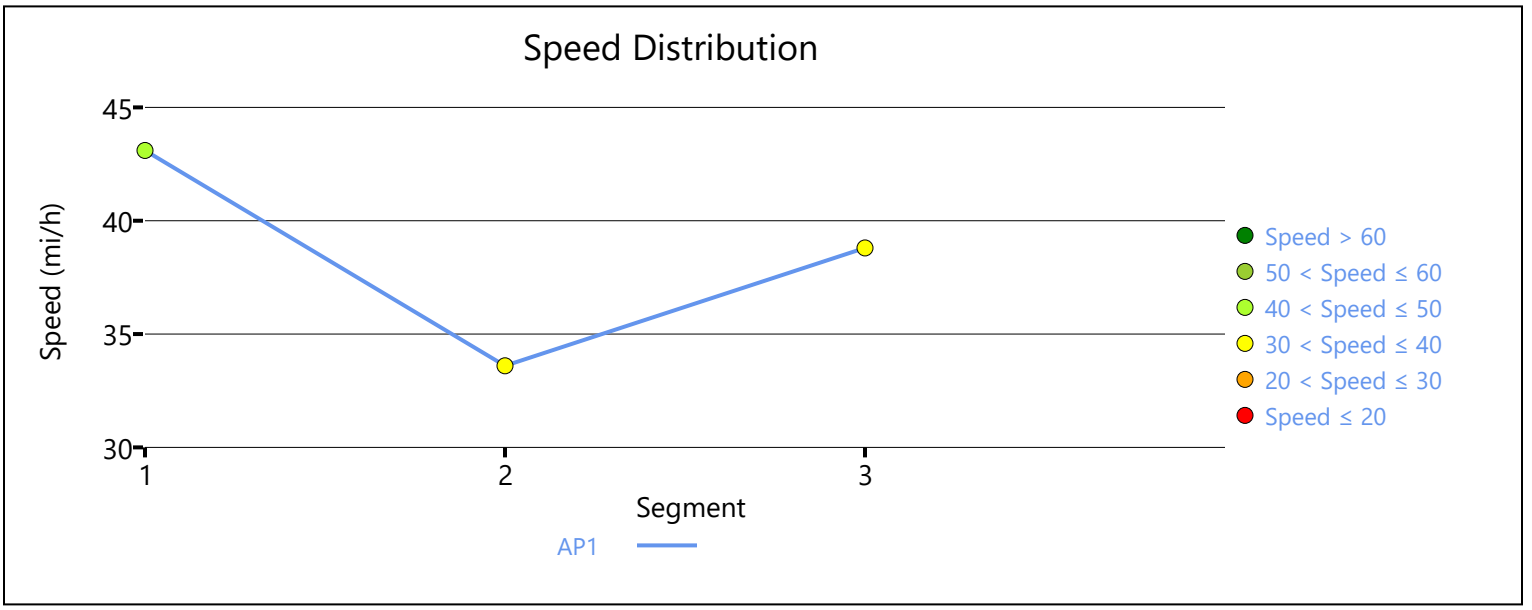
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.8

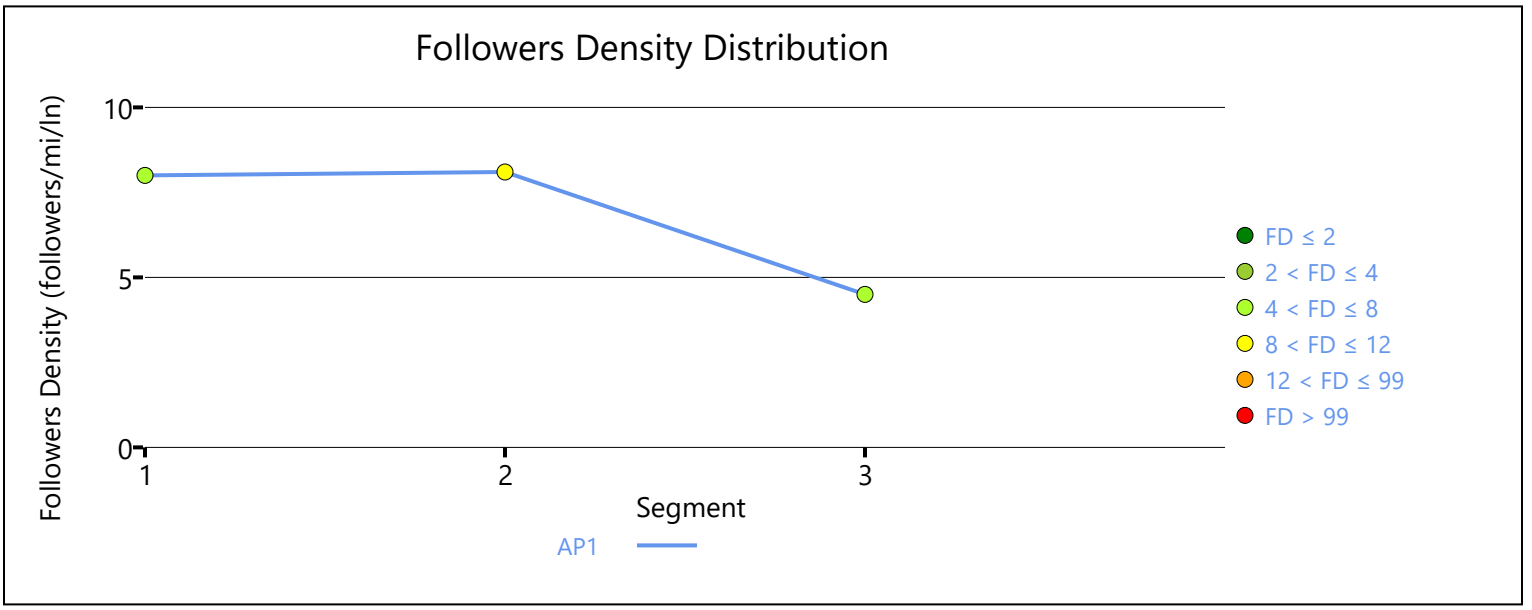
Vehicle Results

Average Speed, mi/h	38.8	Percent Followers, %	49.3
Segment Travel Time, minutes	1.86	Follower Density (FD), followers/mi/ln	4.5
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	434	0.48	6.9	C





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	495	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.29

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	32.9

Vehicle Results

Average Speed, mi/h	32.9	Percent Followers, %	57.8
Segment Travel Time, minutes	1.98	Follower Density (FD), followers/mi/ln	8.7
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	124	0.18	8.7	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	140	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35149	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37634	PF Power Coefficient (p)	0.66322
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	32.3

Vehicle Results

Average Speed, mi/h	32.3	Percent Followers, %	31.2
Segment Travel Time, minutes	2.21	Follower Density (FD), followers/mi/ln	1.4
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	38	0.02	1.4	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	236	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.14

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	3.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	33.5

Vehicle Results

Average Speed, mi/h	33.5	Percent Followers, %	44.2
Segment Travel Time, minutes	0.43	Follower Density (FD), followers/mi/ln	3.1
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	445
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	252	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.15

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	3.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	445	-	-	33.5

Vehicle Results

Average Speed, mi/h	33.5	Percent Followers, %	45.6
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	3.4
Vehicle LOS	B		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1000
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	316	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.19

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

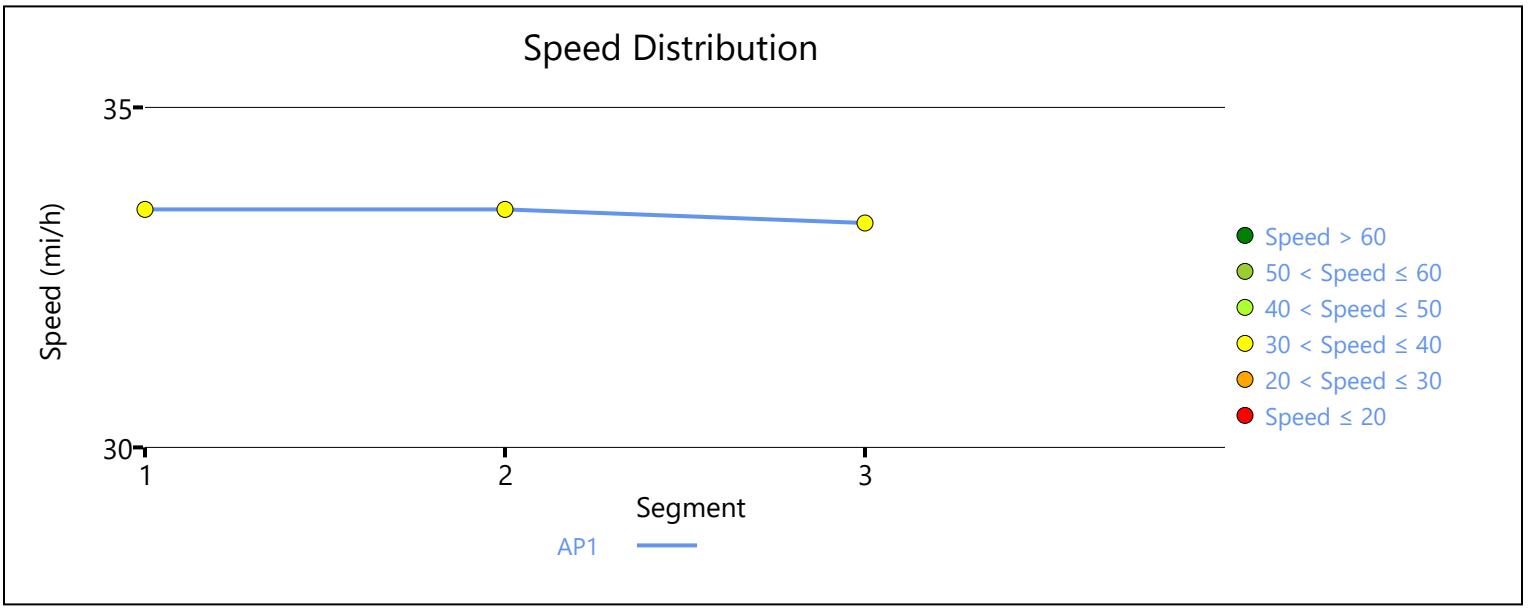
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1000	-	-	33.3

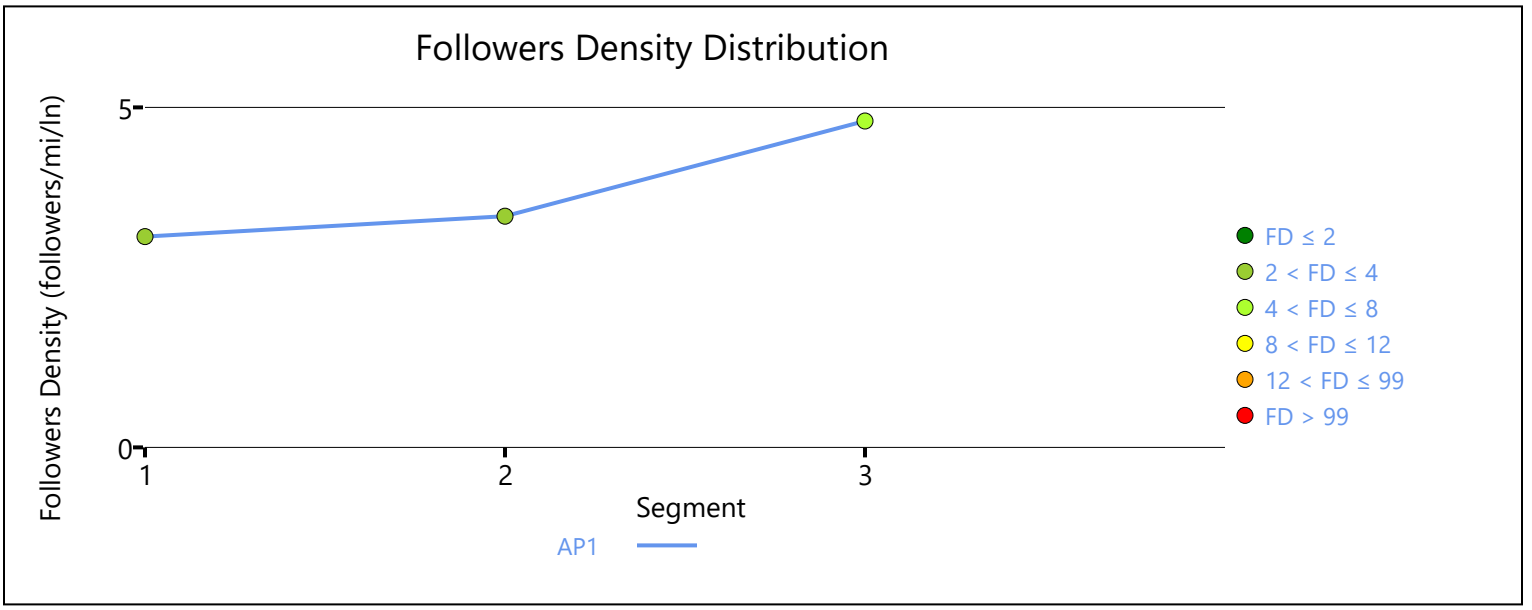
Vehicle Results

Average Speed, mi/h	33.3	Percent Followers, %	50.6
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	4.8
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	32	0.03	3.8	B





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	51	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.03

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80915	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28942	PF Power Coefficient (p)	0.60656
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	22.8

Vehicle Results

Average Speed, mi/h	22.8	Percent Followers, %	19.1
Segment Travel Time, minutes	3.42	Follower Density (FD), followers/mi/ln	0.4
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	15	0.00	0.4	A

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.69		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and SR 115 SB On Ramp	300	2
4	Weaving	Weaving	I-140 between SR 115 SB On Ramp and SR 115 NB Off Ramp	1000	3
5	Basic	Basic	I-140 between SR 115 NB Off Ramp and SR 115 NB On Ramp	600	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 east of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2191	4654	0.47	62.7	17.5	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	2191	1212	4600	1900	0.48	0.64	48.9	48.9	22.4	19.5	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	947	4654	0.20	59.5	7.6	A

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92	0.955	1407	2963	0.47	49.7	9.4	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	728	4654	0.16	59.1	5.8	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	763	35	4600	1900	0.17	0.02	56.7	56.7	6.7	6.5	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	764	4654	0.16	62.3	6.1	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	566	499	1.06	26.53	56.1	11.8	11.2	1.80	B

Facility Overall Results

Space Mean Speed, mi/h	56.1	Average Density, veh/mi/ln	11.2
Average Travel Time, min	1.80	Average Density, pc/mi/ln	11.8
Total VMT, veh-mi	566	Total VHD, veh-h	1.06
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	26.53

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.69		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 east of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
3	Basic	Basic	I-140 between SR 115 NB Off Ramp and SR 115 NB On Ramp	600	2
4	Weaving	Weaving	I-140 between SR 115 NB On Ramp and SR 115 SB Off Ramp	1000	3
5	Basic	Basic	I-140 between SR 115 SB Off Ramp and SR 115 SB On Ramp	300	2
6	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
7	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1776	4654	0.38	62.7	14.2	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1776	800	4600	1900	0.39	0.42	49.7	49.7	17.9	15.9	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	967	4654	0.21	60.3	7.7	A

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92	0.968	2493	3609	0.69	45.4	18.3	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.955	2340	4654	0.50	56.7	18.7	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	2675	284	4600	1900	0.58	0.15	55.7	55.7	24.0	21.3	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2683	4654	0.58	62.3	21.4	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	881	730	1.66	41.58	56.1	18.3	17.3	1.80	C

Facility Overall Results

Space Mean Speed, mi/h	56.1	Average Density, veh/mi/ln	17.3
Average Travel Time, min	1.80	Average Density, pc/mi/ln	18.3
Total VMT, veh-mi	881	Total VHD, veh-h	1.66
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	41.58

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3702	4574	0.85	25.5	72.6	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	3616	114	4500	1900	0.86	0.06	29.6	49.2	61.2	33.9	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3387	4574	0.82	22.6	74.8	F

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	4190	803	4500	1900	1.01	0.42	49.7	49.7	42.2	32.8	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4574	1.00	54.9	38.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1267	1219	12.64	316.02	37.0	52.5	49.9	2.20	F

Facility Overall Results

Space Mean Speed, mi/h	37.0	Average Density, veh/mi/ln	49.9
Average Travel Time, min	2.20	Average Density, pc/mi/ln	52.5
Total VMT, veh-mi	1267	Total VHD, veh-h	12.64
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	316.02

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	13500	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 EB On Ramp	300	2
4	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1100	3
5	Basic	Basic	SR 115 between I-140 WB Off Ramp and I-140 WB On Ramp	400	2
6	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
7	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2475	4554	0.54	57.7	21.5	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	2475	35	4500	1900	0.55	0.02	48.9	48.9	25.3	21.9	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2438	4554	0.54	55.7	21.1	C

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92	0.949	3062	4007	0.76	40.8	25.0	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1910	4554	0.42	52.7	16.6	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	2710	800	4500	1900	0.60	0.42	52.4	52.4	25.9	21.3	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2736	4554	0.60	56.4	23.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2103	1854	2.04	50.95	54.6	22.4	21.1	3.90	C

Facility Overall Results

Space Mean Speed, mi/h	54.6	Average Density, veh/mi/ln	21.1
Average Travel Time, min	3.90	Average Density, pc/mi/ln	22.4
Total VMT, veh-mi	2103	Total VHD, veh-h	2.04
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	50.95

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 between I-140 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 WB Off Ramp and I-140 WB On Ramp	400	2
4	Weaving	Weaving	SR 115 between I-140 WB On Ramp and I-140 EB Off Ramp	1100	3
5	Basic	Basic	S.R. 115 between I-140 EB Off-Ramp to I-140 EB On Ramp	300	2
6	Merge	Merge	I-140 EB On Ramp to SR 115 SB	1500	2
7	Basic	Basic	SR 115 between I-140 to SR 335	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2347	4554	0.52	57.7	20.3	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	2347	284	4500	1900	0.52	0.15	48.5	48.5	24.2	20.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2054	4554	0.45	55.7	17.8	B

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92	0.949	2157	5745	0.38	49.6	14.5	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1716	4554	0.38	55.1	14.9	B

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	2928	1212	4500	1900	0.65	0.64	52.1	52.1	28.1	22.8	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2968	4554	0.65	57.7	25.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2350	2081	1.23	30.84	56.0	24.4	23.1	3.80	C

Facility Overall Results

Space Mean Speed, mi/h	56.0	Average Density, veh/mi/ln	23.1
Average Travel Time, min	3.80	Average Density, pc/mi/ln	24.4
Total VMT, veh-mi	2350	Total VHD, veh-h	1.23
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	30.84

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2925	4586	0.64	59.3	24.7	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	2925	876	4500	1900	0.65	0.46	48.3	48.3	30.3	25.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2020	4586	0.44	59.1	17.0	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	839	772	0.78	19.38	56.2	22.3	21.1	1.50	C

Facility Overall Results

Space Mean Speed, mi/h	56.2	Average Density, veh/mi/ln	21.1
Average Travel Time, min	1.50	Average Density, pc/mi/ln	22.3
Total VMT, veh-mi	839	Total VHD, veh-h	0.78

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	19.38

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	614	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.36

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	9.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	43.3

Vehicle Results

Average Speed, mi/h	43.3	Percent Followers, %	65.5
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	9.3
Vehicle LOS	C		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	555	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.33

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	41.2

Vehicle Results

Average Speed, mi/h	41.2	Percent Followers, %	60.6
Segment Travel Time, minutes	2.71	Follower Density (FD), followers/mi/ln	8.2
Vehicle LOS	C		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	596	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.35

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.8

Vehicle Results

Average Speed, mi/h	41.8	Percent Followers, %	61.7
Segment Travel Time, minutes	1.81	Follower Density (FD), followers/mi/ln	8.8
Vehicle LOS	C		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1270	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.75

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.1
Speed Slope Coefficient (m)	2.96721	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44619	PF Power Coefficient (p)	0.70843
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	24.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.9

Vehicle Results

Average Speed, mi/h	41.9	Percent Followers, %	82.0
Segment Travel Time, minutes	0.62	Follower Density (FD), followers/mi/ln	24.8
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1171	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.69

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.6
Speed Slope Coefficient (m)	2.94157	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44398	PF Power Coefficient (p)	0.70754
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	22.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	41.5

Vehicle Results

Average Speed, mi/h	41.5	Percent Followers, %	80.1
Segment Travel Time, minutes	0.66	Follower Density (FD), followers/mi/ln	22.6
Vehicle LOS	E		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	550	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.32

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

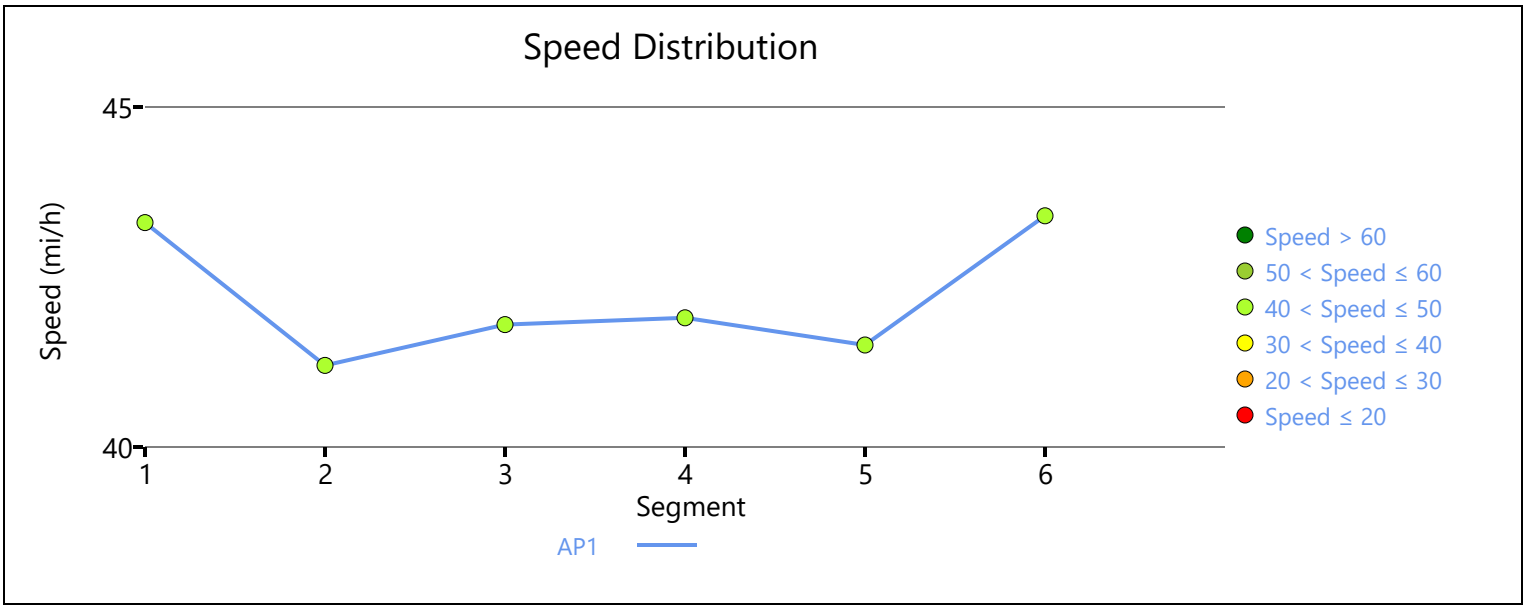
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	43.4

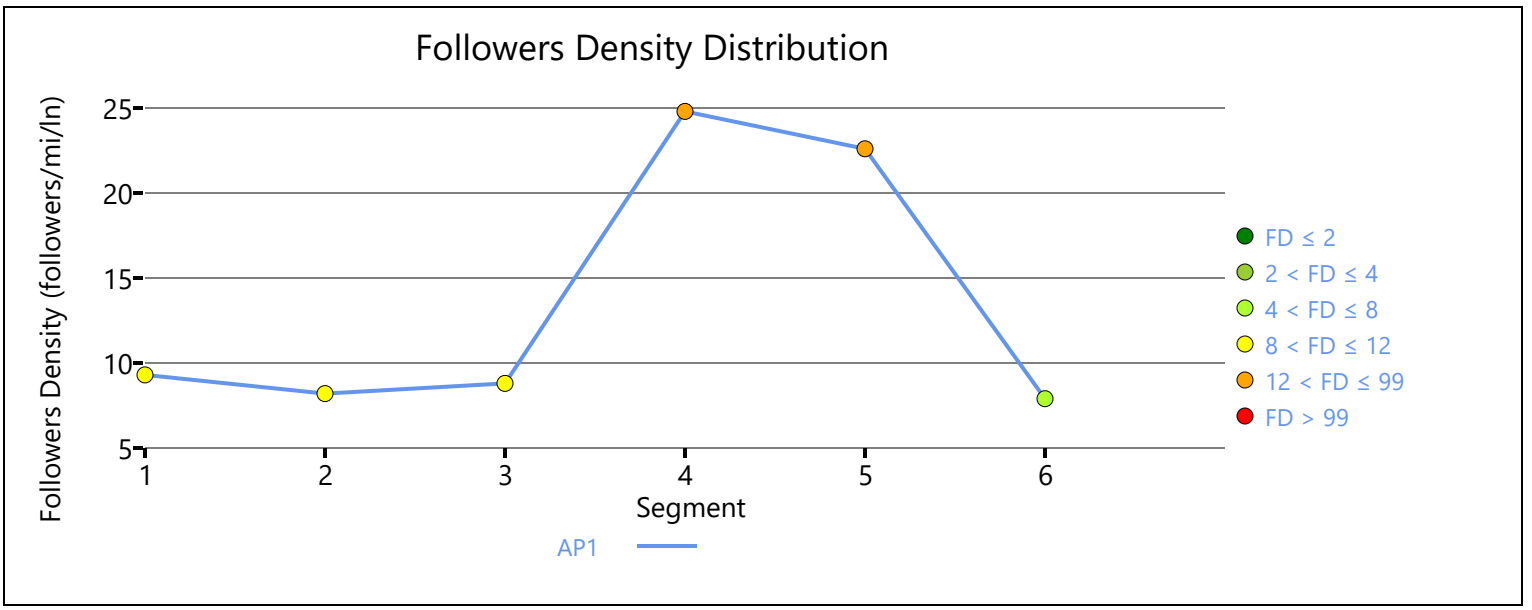
Vehicle Results

Average Speed, mi/h	43.4	Percent Followers, %	62.7
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	7.9
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	672	0.92	11.7	D





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	22800
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	572	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.34

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	13.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	22800	-	-	27.4

Vehicle Results

Average Speed, mi/h	27.4	Percent Followers, %	64.8
Segment Travel Time, minutes	9.45	Follower Density (FD), followers/mi/ln	13.5
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	633
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	804	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.47

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.0
Speed Slope Coefficient (m)	2.13653	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46951	PF Power Coefficient (p)	0.62857
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	20.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	633	-	-	28.2

Vehicle Results

Average Speed, mi/h	28.2	Percent Followers, %	72.2
Segment Travel Time, minutes	0.26	Follower Density (FD), followers/mi/ln	20.6
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11035
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	625	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.37

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.3
Speed Slope Coefficient (m)	3.44250	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36628	PF Power Coefficient (p)	0.70790
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

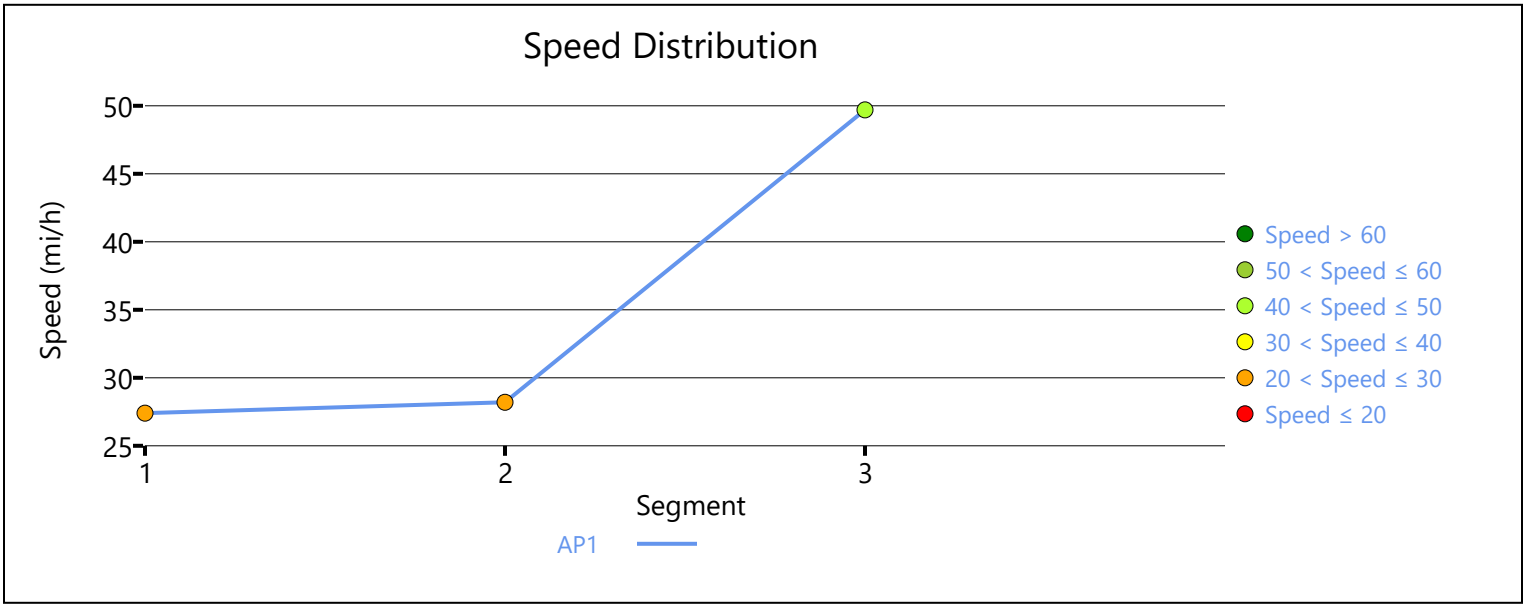
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11035	-	-	49.7

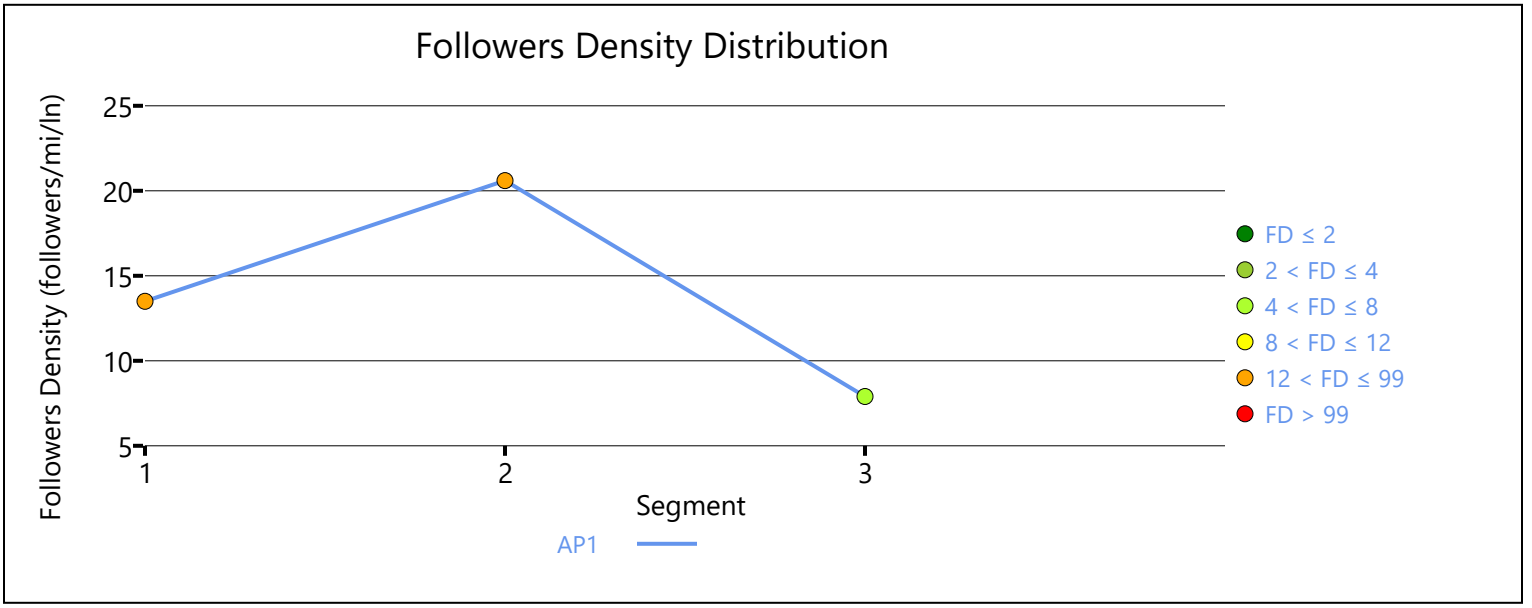
Vehicle Results

Average Speed, mi/h	49.7	Percent Followers, %	62.5
Segment Travel Time, minutes	2.52	Follower Density (FD), followers/mi/ln	7.9
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	890	1.50	11.8	D





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1212	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	690
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	15.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data			
Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	889	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	506
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	11.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between Jones Avenue and Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1532	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	855
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1506	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	840
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1046	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	584
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	10.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1351	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	754
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	13.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13939
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	709	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.42

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.19114	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42590	PF Power Coefficient (p)	0.66617
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	10.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13939	-	-	44.8

Vehicle Results

Average Speed, mi/h	44.8	Percent Followers, %	67.8
Segment Travel Time, minutes	3.54	Follower Density (FD), followers/mi/ln	10.7
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	430	0.53	10.7	D

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	311	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.18

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	3.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.7

Vehicle Results

Average Speed, mi/h	43.7	Percent Followers, %	48.1
Segment Travel Time, minutes	3.46	Follower Density (FD), followers/mi/ln	3.4
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	580
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	471	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.28

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	35.2
Speed Slope Coefficient (m)	2.41416	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49747	PF Power Coefficient (p)	0.65535
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	580	-	-	33.6

Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	59.9
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/ln	8.4
Vehicle LOS	C		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6336
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	429	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.25

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75727	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39061	PF Power Coefficient (p)	0.69627
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

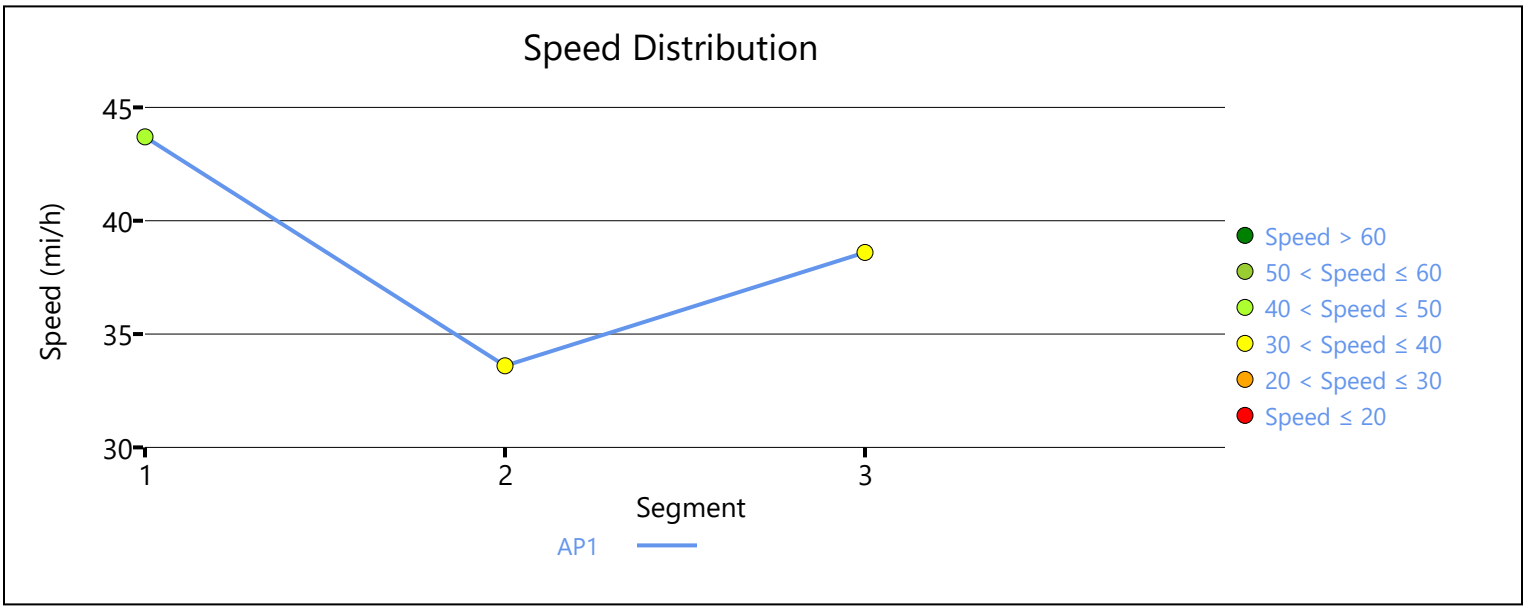
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.6

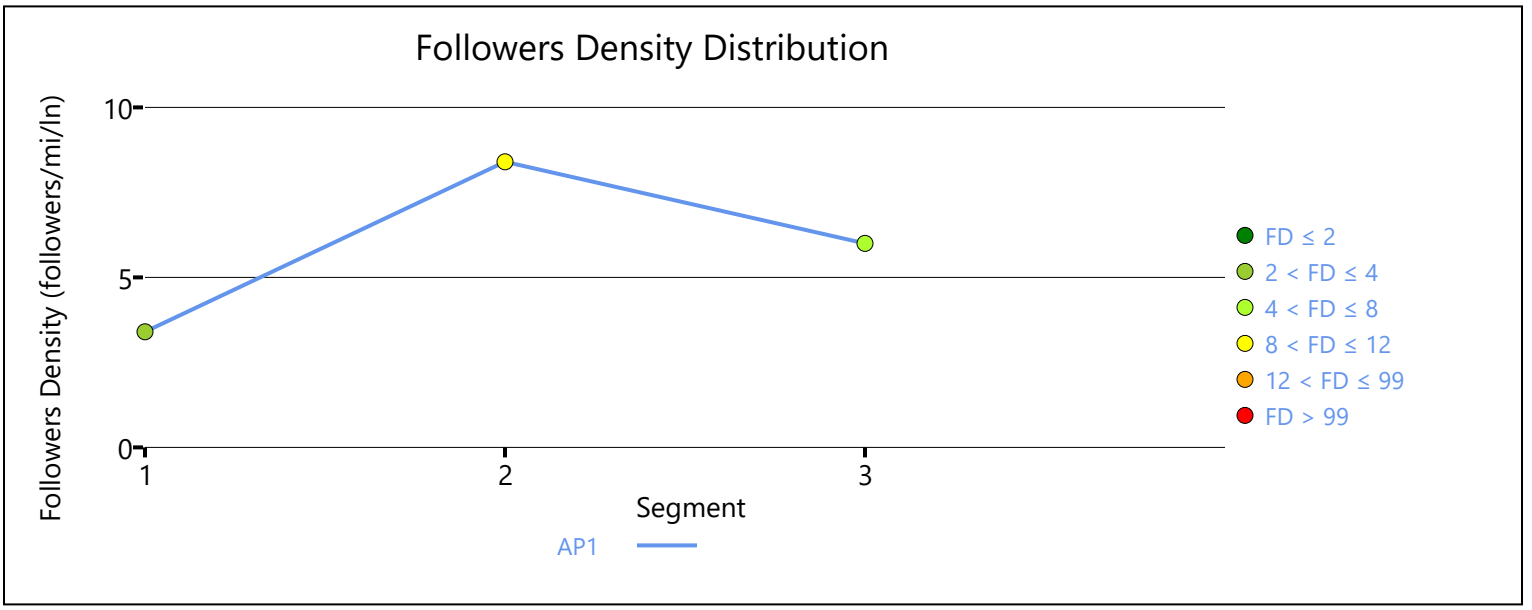
Vehicle Results

Average Speed, mi/h	38.6	Percent Followers, %	53.8
Segment Travel Time, minutes	1.86	Follower Density (FD), followers/mi/ln	6.0
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	311	0.29	4.4	B





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	427	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.25

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	33.1

Vehicle Results

Average Speed, mi/h	33.1	Percent Followers, %	54.2
Segment Travel Time, minutes	1.98	Follower Density (FD), followers/mi/ln	7.0
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	107	0.14	7.0	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	197	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.12

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35149	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37634	PF Power Coefficient (p)	0.66322
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	32.0

Vehicle Results

Average Speed, mi/h	32.0	Percent Followers, %	37.4
Segment Travel Time, minutes	2.23	Follower Density (FD), followers/mi/ln	2.3
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	54	0.05	2.3	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	133	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	34.0

Vehicle Results

Average Speed, mi/h	34.0	Percent Followers, %	33.0
Segment Travel Time, minutes	0.43	Follower Density (FD), followers/mi/ln	1.3
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	445
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	158	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	445	-	-	33.8

Vehicle Results

Average Speed, mi/h	33.8	Percent Followers, %	36.1
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	1.7
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1000
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	280	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.16

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

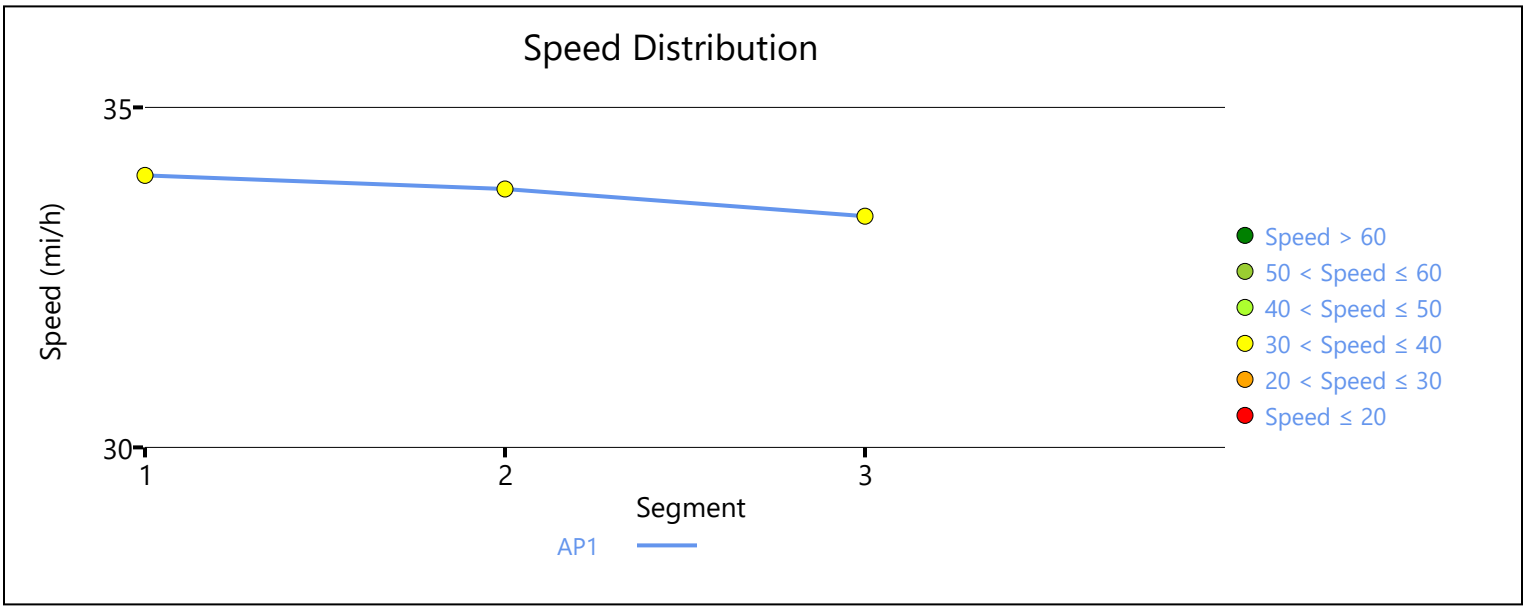
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1000	-	-	33.4

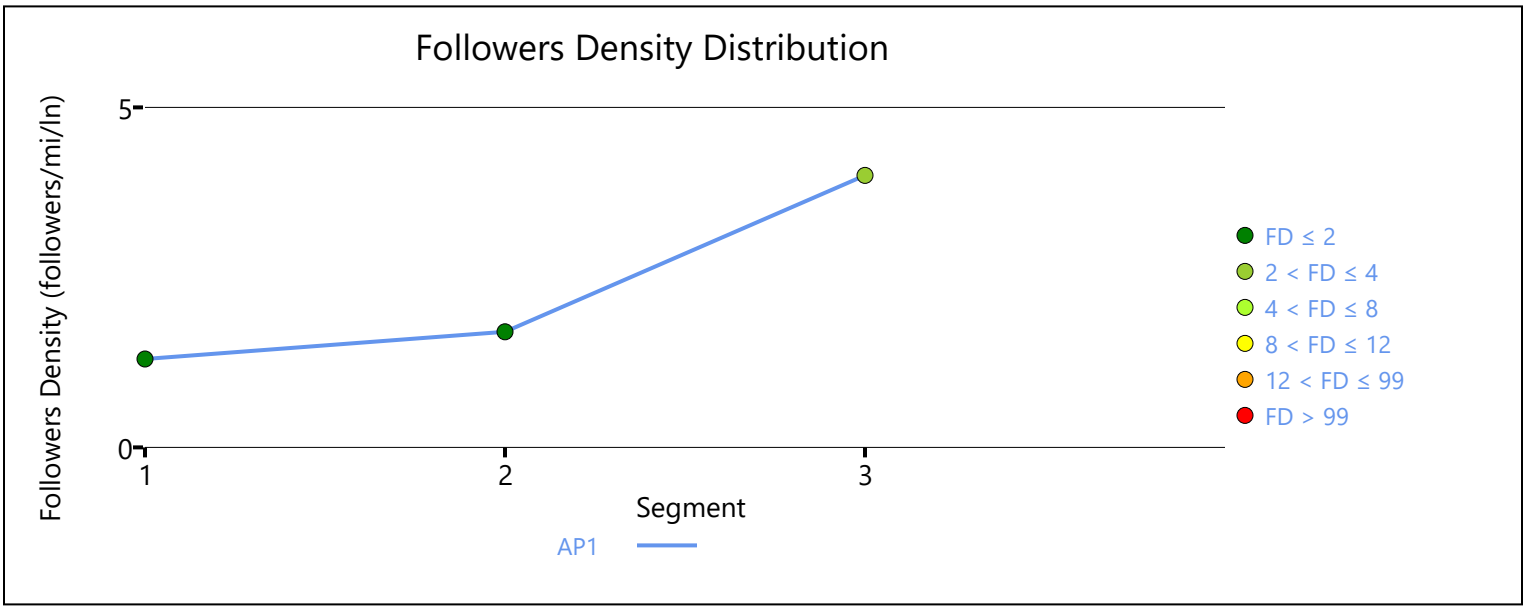
Vehicle Results

Average Speed, mi/h	33.4	Percent Followers, %	47.9
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	4.0
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	23	0.02	2.4	A





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	37	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80915	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28942	PF Power Coefficient (p)	0.60656
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	22.8

Vehicle Results

Average Speed, mi/h	22.8	Percent Followers, %	16.0
Segment Travel Time, minutes	3.42	Follower Density (FD), followers/mi/ln	0.3
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	11	0.00	0.3	A

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.69		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and SR 115 SB On Ramp	300	2
4	Weaving	Weaving	I-140 between SR 115 SB On Ramp and SR 115 NB Off Ramp	1000	3
5	Basic	Basic	I-140 between SR 115 NB Off Ramp and SR 115 NB On Ramp	600	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 east of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	3116	4654	0.67	62.6	24.9	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	3116	1577	4600	1900	0.68	0.83	48.2	48.2	32.3	27.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	1498	4654	0.32	59.3	11.9	B

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92	0.955	1946	3545	0.55	48.7	13.3	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1073	4654	0.23	58.9	8.5	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1146	73	4600	1900	0.25	0.04	56.6	56.6	10.1	9.4	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1148	4654	0.25	62.3	9.2	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	816	727	1.62	40.53	55.8	17.1	16.2	1.80	B

Facility Overall Results

Space Mean Speed, mi/h	55.8	Average Density, veh/mi/ln	16.2
Average Travel Time, min	1.80	Average Density, pc/mi/ln	17.1
Total VMT, veh-mi	816	Total VHD, veh-h	1.62
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	40.53

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.69		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 east of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
3	Basic	Basic	I-140 between SR 115 NB Off Ramp and SR 115 NB On Ramp	600	2
4	Weaving	Weaving	I-140 between SR 115 NB On Ramp and SR 115 SB Off Ramp	1000	3
5	Basic	Basic	I-140 between SR 115 SB Off Ramp and SR 115 SB On Ramp	300	2
6	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
7	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1218	4654	0.26	62.7	9.7	A

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1218	372	4600	1900	0.26	0.20	50.5	50.5	12.1	11.1	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	842	4654	0.18	60.5	6.7	A

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92	0.968	2560	3209	0.80	43.8	19.5	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.94	0.955	2342	4654	0.50	56.1	18.7	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	2789	397	4600	1900	0.61	0.21	55.6	55.6	25.1	22.1	C

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2800	4654	0.60	62.3	22.3	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	810	649	1.61	40.36	55.7	16.9	16.0	1.80	B

Facility Overall Results

Space Mean Speed, mi/h	55.7	Average Density, veh/mi/ln	16.0
Average Travel Time, min	1.80	Average Density, pc/mi/ln	16.9
Total VMT, veh-mi	810	Total VHD, veh-h	1.61
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	40.36

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	13500	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 EB On Ramp	300	2
4	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1100	3
5	Basic	Basic	SR 115 between I-140 WB Off Ramp and I-140 WB On Ramp	400	2
6	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
7	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2589	4554	0.57	57.7	22.4	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	2531	73	4500	1900	0.58	0.04	48.8	48.8	25.9	22.4	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2416	4554	0.55	12.5	96.5	F

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92	0.949	2906	3121	1.06	39.6	24.5	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1213	4554	0.36	52.3	10.5	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	1585	372	4500	1900	0.45	0.20	53.0	53.0	15.0	12.7	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1585	4554	0.44	56.6	13.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2088	1900	4.11	102.78	51.8	23.1	22.0	4.10	F

Facility Overall Results

Space Mean Speed, mi/h	51.8	Average Density, veh/mi/ln	22.0
Average Travel Time, min	4.10	Average Density, pc/mi/ln	23.1
Total VMT, veh-mi	2088	Total VHD, veh-h	4.11
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	102.78

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2898	4574	0.63	58.7	24.7	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	2898	89	4500	1900	0.64	0.05	49.2	49.2	29.5	25.6	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2806	4574	0.61	57.9	23.9	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	3645	839	4500	1900	0.81	0.44	51.5	51.5	35.4	28.6	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3672	4574	0.80	58.0	31.7	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1075	937	1.36	33.97	54.7	30.2	28.6	1.50	D

Facility Overall Results

Space Mean Speed, mi/h	54.7	Average Density, veh/mi/ln	28.6
Average Travel Time, min	1.50	Average Density, pc/mi/ln	30.2
Total VMT, veh-mi	1075	Total VHD, veh-h	1.36
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	33.97

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 between I-140 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	7
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 WB Off Ramp and I-140 WB On Ramp	400	2
4	Weaving	Weaving	SR 115 between I-140 WB On Ramp and I-140 EB Off Ramp	1100	3
5	Basic	Basic	S.R. 115 between I-140 EB Off-Ramp to I-140 EB On Ramp	300	2
6	Merge	Merge	I-140 EB On Ramp to SR 115 SB	1500	2
7	Basic	Basic	SR 115 between I-140 to SR 335	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3254	4554	0.71	57.7	28.2	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	3254	397	4500	1900	0.72	0.21	48.4	48.4	33.6	28.6	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2844	4554	0.62	55.7	24.6	C

Segment 4: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92	0.949	3023	5877	0.51	47.8	21.1	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2582	4554	0.57	54.5	22.4	C

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	1.000	4139	1557	4500	1900	0.92	0.82	49.4	49.4	41.9	32.1	D

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4222	4554	0.93	54.1	39.0	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3333	2960	5.10	127.59	53.0	36.6	34.6	4.00	E

Facility Overall Results

Space Mean Speed, mi/h	53.0	Average Density, veh/mi/ln	34.6
Average Travel Time, min	4.00	Average Density, pc/mi/ln	36.6
Total VMT, veh-mi	3333	Total VHD, veh-h	5.10
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	127.59

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4586	0.99	36.4	57.5	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	4190	1162	4500	1900	1.01	0.61	47.8	47.8	43.8	36.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3028	4586	0.73	59.1	25.5	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1222	1234	6.16	153.98	45.7	39.9	37.9	1.90	F

Facility Overall Results

Space Mean Speed, mi/h	45.7	Average Density, veh/mi/ln	37.9
Average Travel Time, min	1.90	Average Density, pc/mi/ln	39.9
Total VMT, veh-mi	1222	Total VHD, veh-h	6.16

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	153.98

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	684	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.40

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	10.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	43.2

Vehicle Results

Average Speed, mi/h	43.2	Percent Followers, %	68.2
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	10.8
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	868	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.51

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	15.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.6

Vehicle Results

Average Speed, mi/h	40.6	Percent Followers, %	71.8
Segment Travel Time, minutes	2.75	Follower Density (FD), followers/mi/ln	15.3
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	840	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.49

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.4

Vehicle Results

Average Speed, mi/h	41.4	Percent Followers, %	70.6
Segment Travel Time, minutes	1.82	Follower Density (FD), followers/mi/ln	14.3
Vehicle LOS	D		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1378	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.81

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.1
Speed Slope Coefficient (m)	2.96721	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44619	PF Power Coefficient (p)	0.70843
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	27.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.8

Vehicle Results

Average Speed, mi/h	41.8	Percent Followers, %	83.7
Segment Travel Time, minutes	0.63	Follower Density (FD), followers/mi/ln	27.6
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1199	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.71

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.6
Speed Slope Coefficient (m)	2.94157	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44398	PF Power Coefficient (p)	0.70754
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	23.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	41.5

Vehicle Results

Average Speed, mi/h	41.5	Percent Followers, %	80.6
Segment Travel Time, minutes	0.66	Follower Density (FD), followers/mi/ln	23.3
Vehicle LOS	E		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	699	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.41

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	11.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

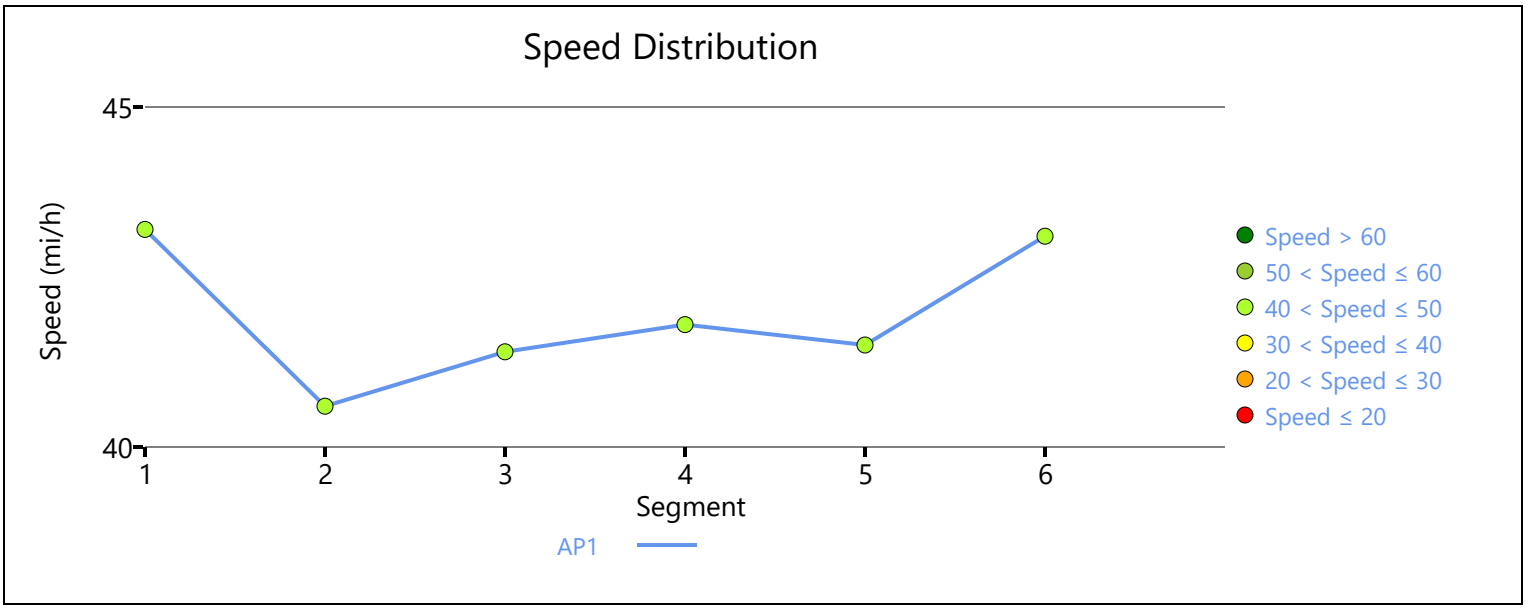
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	43.1

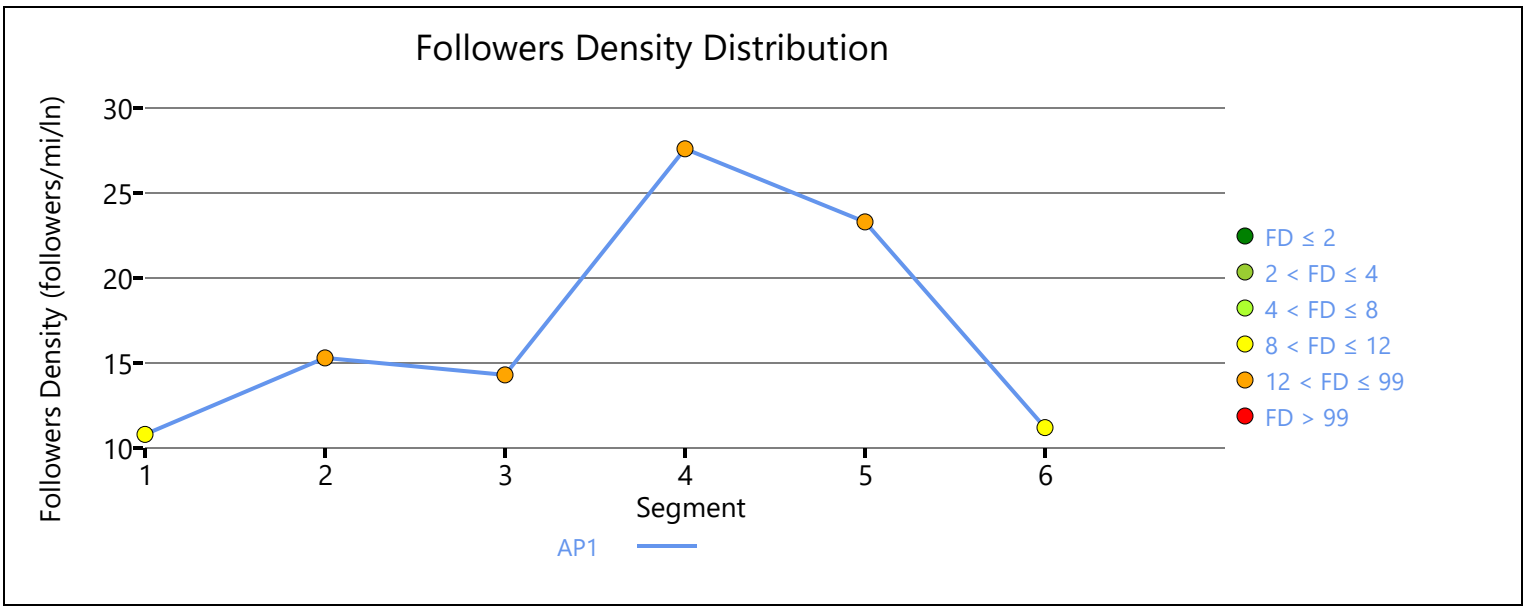
Vehicle Results

Average Speed, mi/h	43.1	Percent Followers, %	68.8
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	11.2
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	893	1.37	17.1	E





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	22800
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	602	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.35

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	22800	-	-	27.4

Vehicle Results

Average Speed, mi/h	27.4	Percent Followers, %	65.9
Segment Travel Time, minutes	9.46	Follower Density (FD), followers/mi/ln	14.5
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	633
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	737	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.43

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.0
Speed Slope Coefficient (m)	2.13653	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46951	PF Power Coefficient (p)	0.62857
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	18.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	633	-	-	28.3

Vehicle Results

Average Speed, mi/h	28.3	Percent Followers, %	70.3
Segment Travel Time, minutes	0.25	Follower Density (FD), followers/mi/ln	18.3
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11035
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	616	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.36

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.3
Speed Slope Coefficient (m)	3.44250	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36628	PF Power Coefficient (p)	0.70790
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

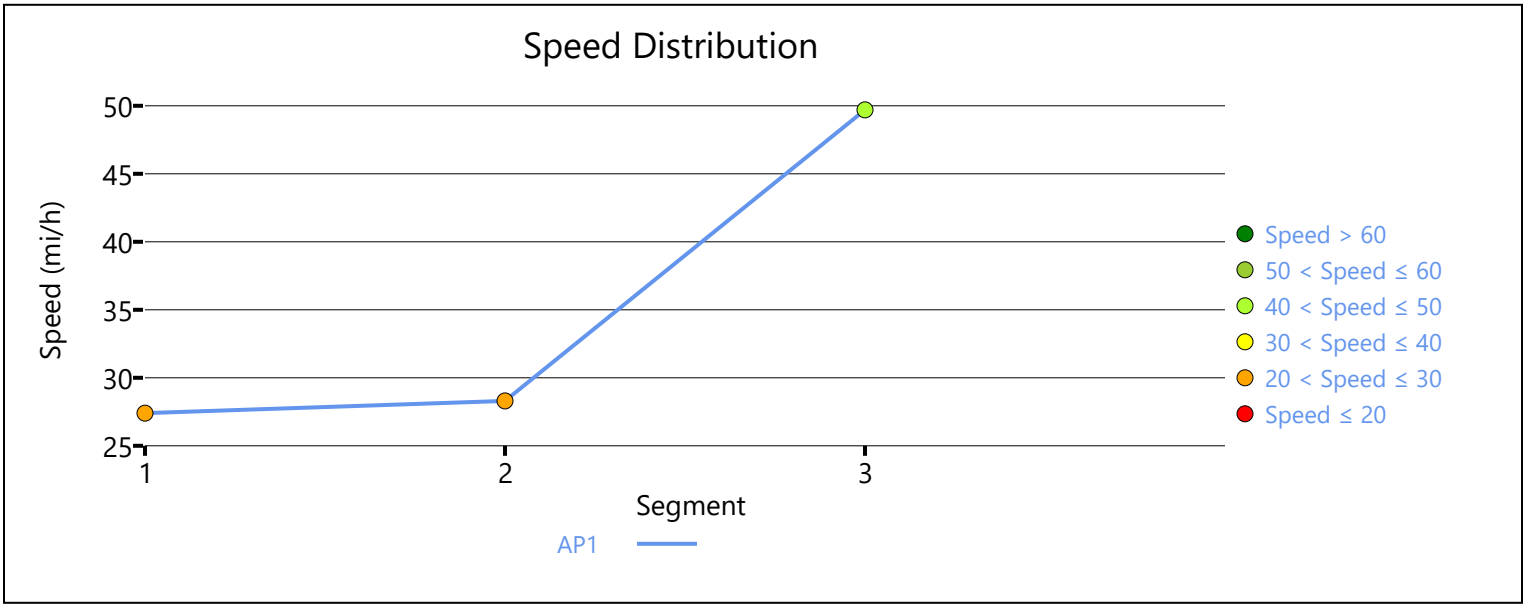
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11035	-	-	49.7

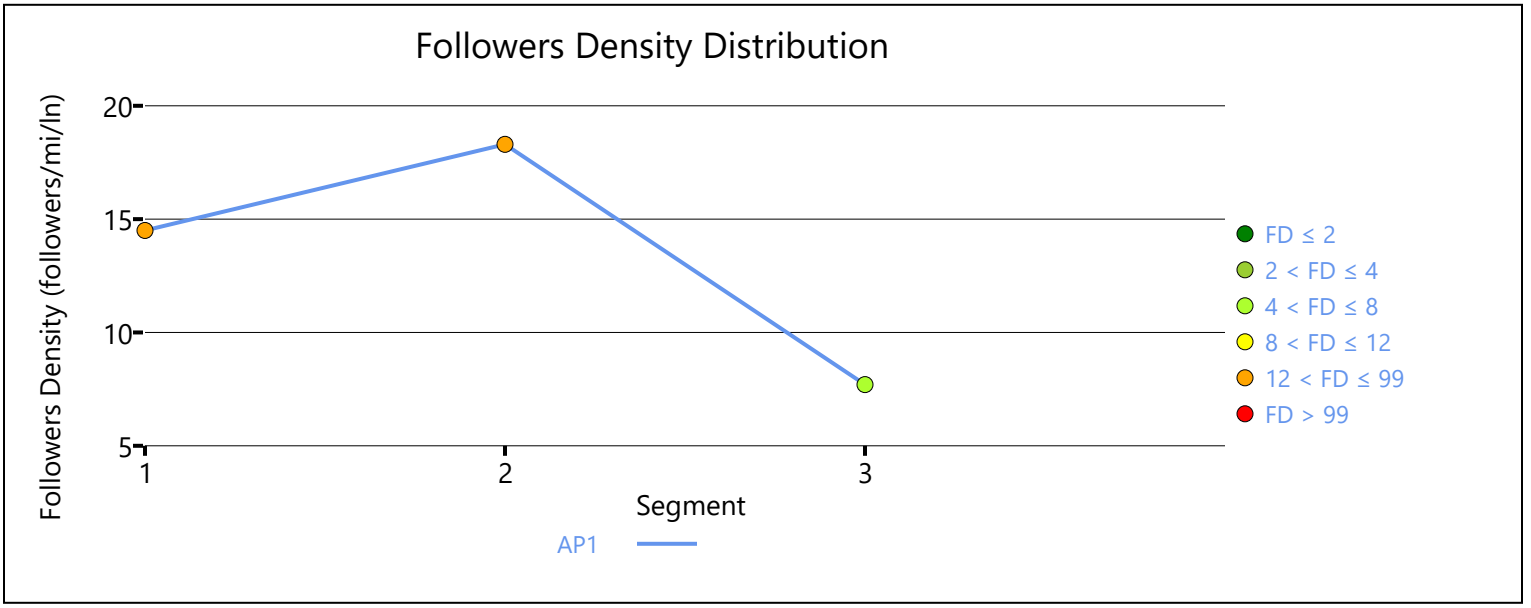
Vehicle Results

Average Speed, mi/h	49.7	Percent Followers, %	62.1
Segment Travel Time, minutes	2.52	Follower Density (FD), followers/mi/ln	7.7
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	915	1.59	12.4	D





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1204	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	685
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	15.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1169	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	666
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.35

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	15.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between Jones Avenue to Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	2105	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1174
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.58

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	22.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1667	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	930
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	17.9
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1046	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	584
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.27

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	10.1
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	860	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	480
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.22

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	8.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	498	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.29

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.13620	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37437	PF Power Coefficient (p)	0.72181
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	45.2

Vehicle Results

Average Speed, mi/h	45.2	Percent Followers, %	56.4
Segment Travel Time, minutes	1.58	Follower Density (FD), followers/mi/ln	6.2
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	136	0.14	6.2	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	289	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.17

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	3.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.8

Vehicle Results

Average Speed, mi/h	43.8	Percent Followers, %	46.4
Segment Travel Time, minutes	3.45	Follower Density (FD), followers/mi/ln	3.1
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	580
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	408	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	35.2
Speed Slope Coefficient (m)	2.41416	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49747	PF Power Coefficient (p)	0.65535
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	580	-	-	33.7

Vehicle Results

Average Speed, mi/h	33.7	Percent Followers, %	56.5
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/ln	6.8
Vehicle LOS	C		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6336
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	411	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75727	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39061	PF Power Coefficient (p)	0.69627
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	5.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

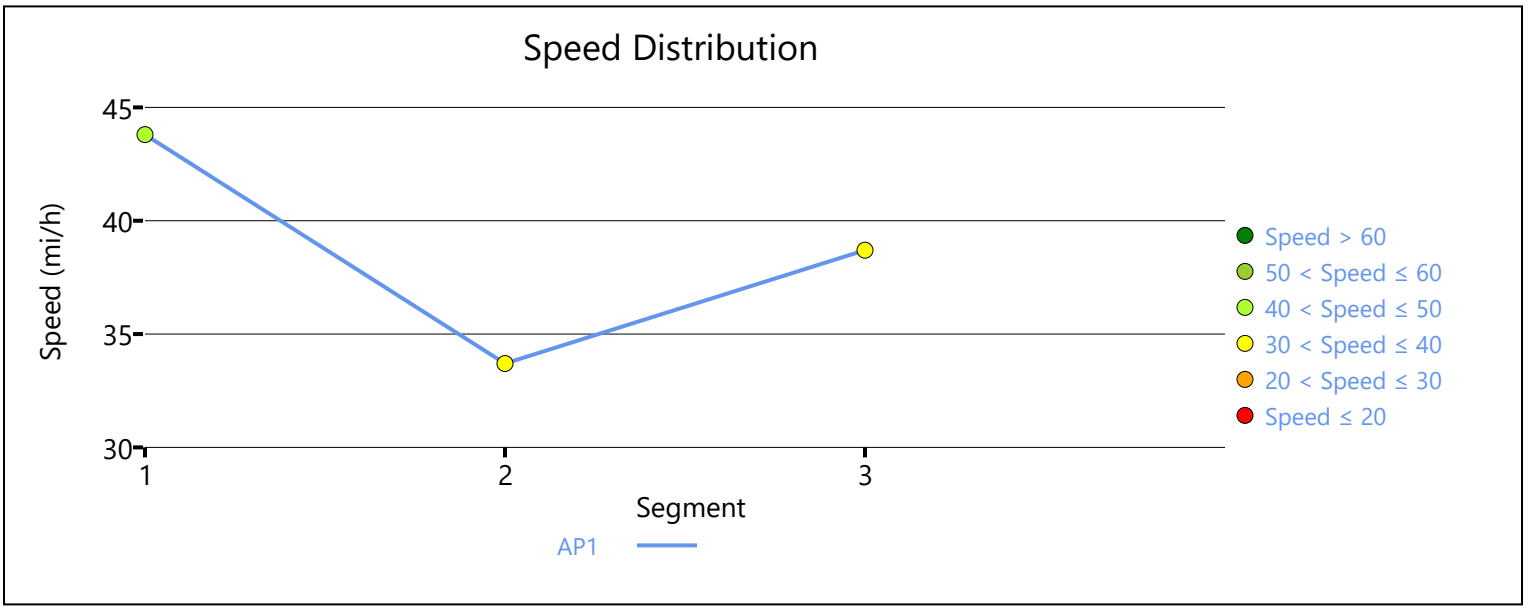
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.7

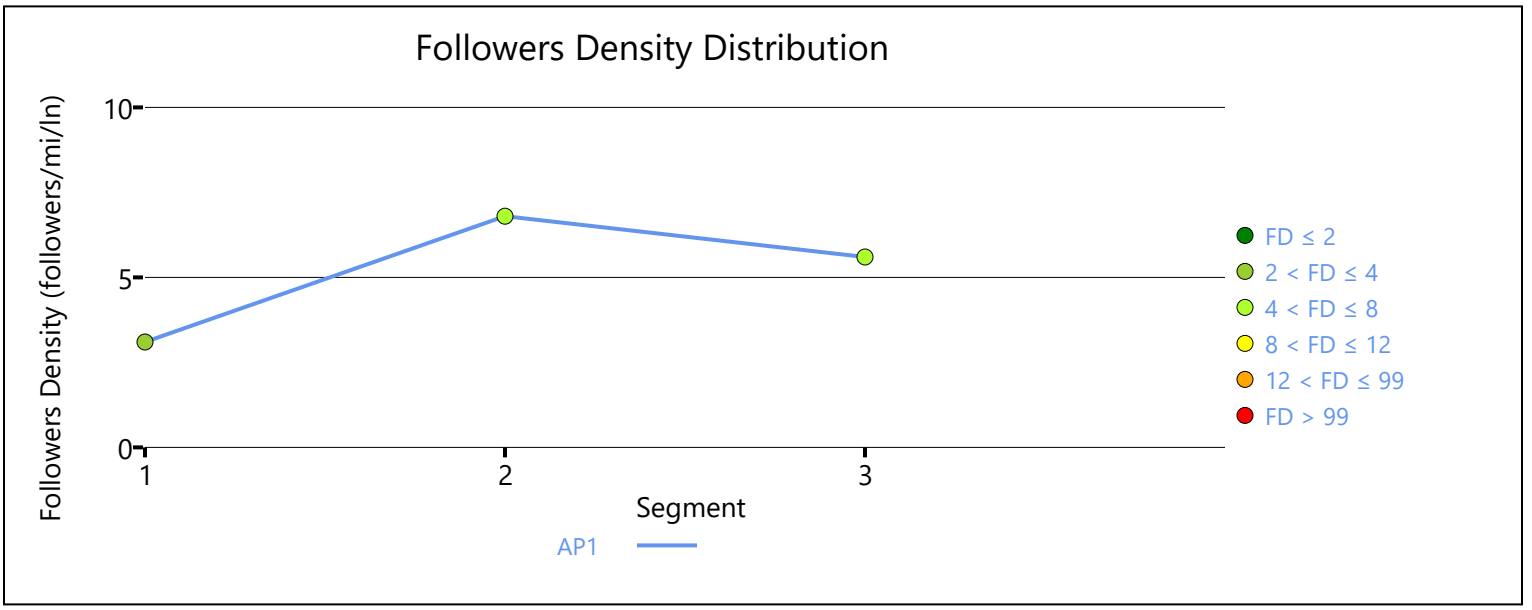
Vehicle Results

Average Speed, mi/h	38.7	Percent Followers, %	52.7
Segment Travel Time, minutes	1.86	Follower Density (FD), followers/mi/ln	5.6
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	291	0.27	4.0	B





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	334	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.20

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	33.3

Vehicle Results

Average Speed, mi/h	33.3	Percent Followers, %	48.4
Segment Travel Time, minutes	1.97	Follower Density (FD), followers/mi/ln	4.9
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	84	0.10	4.9	B

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	142	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35149	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37634	PF Power Coefficient (p)	0.66322
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	32.2

Vehicle Results

Average Speed, mi/h	32.2	Percent Followers, %	31.5
Segment Travel Time, minutes	2.21	Follower Density (FD), followers/mi/ln	1.4
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	39	0.02	1.4	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	102	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	34.4

Vehicle Results

Average Speed, mi/h	34.4	Percent Followers, %	28.7
Segment Travel Time, minutes	0.42	Follower Density (FD), followers/mi/ln	0.9
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	445
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	117	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	445	-	-	34.1

Vehicle Results

Average Speed, mi/h	34.1	Percent Followers, %	30.9
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1000
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	201	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.12

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

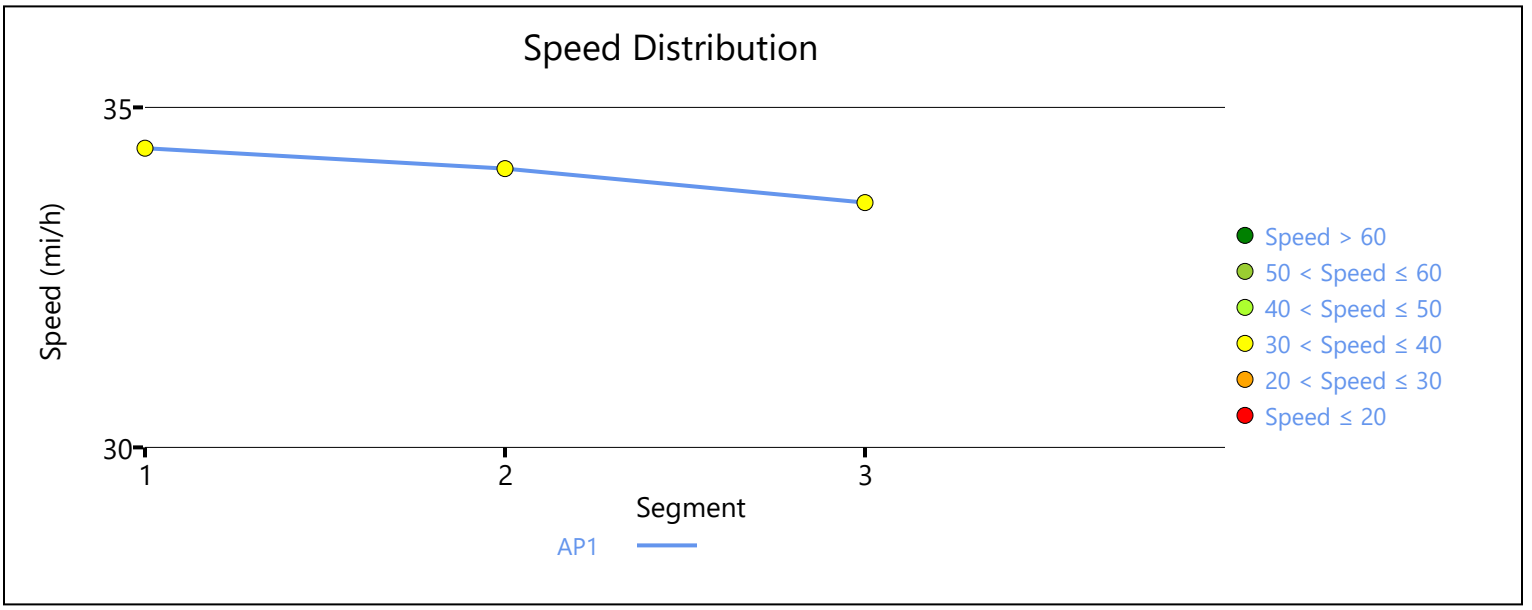
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2580	-	-	33.6

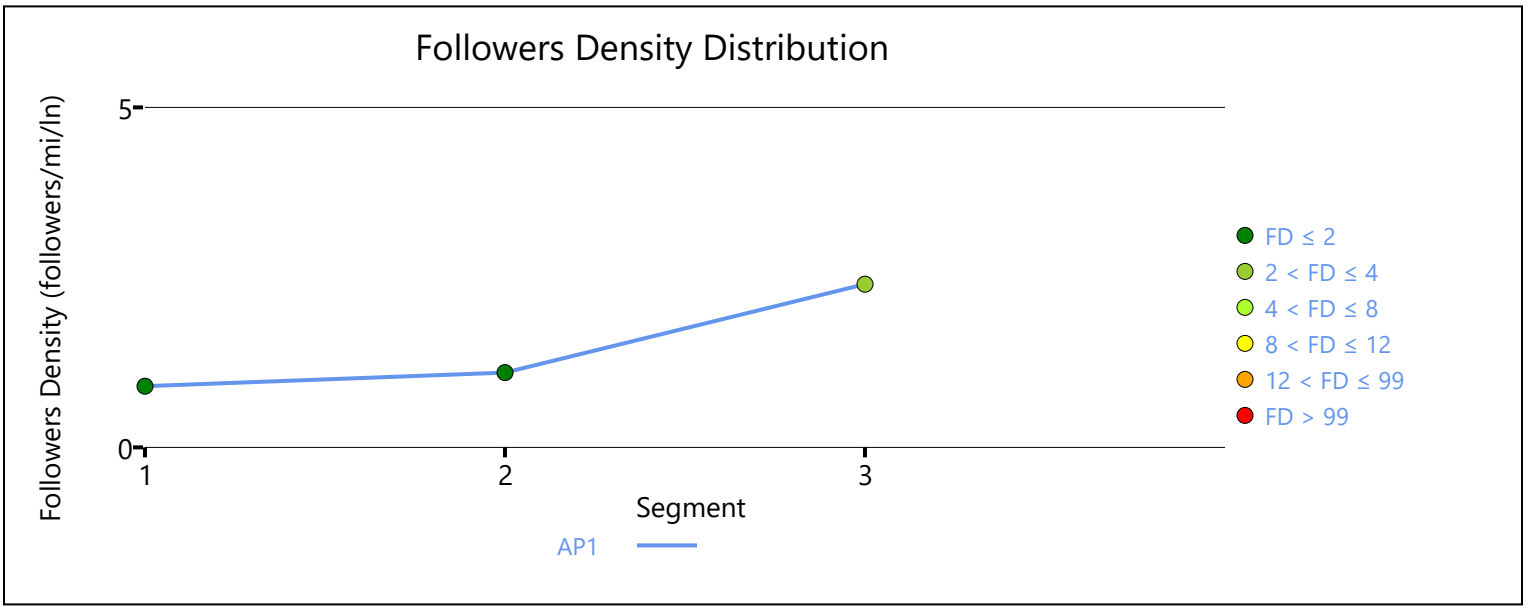
Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	40.9
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	2.4
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	17	0.01	1.5	A





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2022
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	15	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.01

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80915	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28942	PF Power Coefficient (p)	0.60656
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	22.8

Vehicle Results

Average Speed, mi/h	22.8	Percent Followers, %	9.7
Segment Travel Time, minutes	3.42	Follower Density (FD), followers/mi/ln	0.1
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	5	0.00	0.1	A

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	2250	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
8	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
9	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2580	4654	0.55	62.7	20.6	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	2580	1548	4600	1900	0.56	0.81	48.3	48.3	26.7	22.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.962		984		4654		0.21		62.0		7.8		A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	984	865	4600	1900	0.21	0.46	49.5	49.5	9.9	9.1	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	103	4654	0.02	61.0	0.8	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	673	570	4600	1900	0.15	0.30	56.7	56.7	5.9	5.5	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	684	4654	0.15	61.9	5.5	A

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	811	132	4600	2000	0.18	0.07	57.0	57.0	7.1	6.8	A

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	813	4654	0.17	62.7	6.5	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	911	794	1.31	32.81	57.5	9.9	9.5	3.50	A

Facility Overall Results

Space Mean Speed, mi/h	57.5	Average Density, veh/mi/ln	9.5
Average Travel Time, min	3.50	Average Density, pc/mi/ln	9.9
Total VMT, veh-mi	911	Total VHD, veh-h	1.31
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	32.81

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between SR 33 and Relocated SR 115 NB Off Ramp	5280	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
3	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	1000	2
6	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	2250	2
8	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
9	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1298	4654	0.28	62.7	10.4	A

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1298	700	4600	1900	0.28	0.37	49.8	49.8	13.0	11.8	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.968		590		4654		0.13		61.0		4.7		A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	1.000	593	145	4600	1900	0.13	0.08	50.9	50.9	5.8	5.8	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	443	4654	0.10	61.1	3.5	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1187	744	4600	1900	0.26	0.39	56.6	56.6	10.5	9.4	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1201	4654	0.26	62.4	9.6	A

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2947	1746	4600	1900	0.64	0.92	55.4	55.4	26.6	22.7	C

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	3001	4654	0.64	62.3	23.9	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1168	918	1.14	28.50	59.1	12.3	11.9	3.40	B

Facility Overall Results

Space Mean Speed, mi/h	59.1	Average Density, veh/mi/ln	11.9
Average Travel Time, min	3.40	Average Density, pc/mi/ln	12.3
Total VMT, veh-mi	1168	Total VHD, veh-h	1.14
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	28.50

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3552	4574	0.81	22.9	77.4	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	3448	170	4500	1900	0.83	0.09	27.5	49.1	62.7	32.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3142	4574	0.78	19.5	80.6	F

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	4190	1179	4500	1900	1.05	0.62	49.1	49.1	44.0	33.7	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4574	1.04	54.9	38.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1237	1201	14.30	357.48	35.0	54.6	51.8	2.40	F

Facility Overall Results

Space Mean Speed, mi/h	35.0	Average Density, veh/mi/ln	51.8
Average Travel Time, min	2.40	Average Density, pc/mi/ln	54.6
Total VMT, veh-mi	1237	Total VHD, veh-h	14.30
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	357.48

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2375	4574	0.52	58.7	20.2	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2732	3514	0.78	41.8	21.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1258	4574	0.28	57.7	10.7	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2058	1864	1.59	39.75	56.2	19.6	18.6	4.00	C

Facility Overall Results

Space Mean Speed, mi/h	56.2	Average Density, veh/mi/ln	18.6
Average Travel Time, min	4.00	Average Density, pc/mi/ln	19.6
Total VMT, veh-mi	2058	Total VHD, veh-h	1.59

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	39.75

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2940	4574	0.64	58.7	25.0	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2940	570	4500	1900	0.65	0.30	48.5	48.5	30.3	25.9	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2359	4574	0.52	58.0	20.1	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	3359	1000	4500	1900	0.75	0.53	52.1	52.1	32.2	26.3	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3378	4574	0.74	57.1	28.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2898	2604	1.27	31.83	57.2	25.5	24.5	4.30	C

Facility Overall Results

Space Mean Speed, mi/h	57.2	Average Density, veh/mi/ln	24.5
Average Travel Time, min	4.30	Average Density, pc/mi/ln	25.5
Total VMT, veh-mi	2898	Total VHD, veh-h	1.27
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	31.83

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1000	4574	0.22	58.7	8.5	A

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1000	265	4500	1900	0.22	0.14	49.0	49.0	10.2	9.3	A

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	730	4574	0.16	58.0	6.2	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1895	1165	4500	1900	0.42	0.61	53.6	53.6	17.7	14.8	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1916	4574	0.42	58.7	16.3	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1447	1258	0.45	11.30	57.6	14.8	14.3	3.70	B

Facility Overall Results

Space Mean Speed, mi/h	57.6	Average Density, veh/mi/ln	14.3
Average Travel Time, min	3.70	Average Density, pc/mi/ln	14.8
Total VMT, veh-mi	1447	Total VHD, veh-h	0.45
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	11.30

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3046	4586	0.66	59.3	25.7	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	3046	1287	4500	1900	0.68	0.68	47.6	47.6	32.0	26.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1717	4586	0.37	59.1	14.5	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	814	748	0.87	21.68	55.8	21.8	20.7	1.50	C

Facility Overall Results

Space Mean Speed, mi/h	55.8	Average Density, veh/mi/ln	20.7
Average Travel Time, min	1.50	Average Density, pc/mi/ln	21.8
Total VMT, veh-mi	814	Total VHD, veh-h	0.87

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	21.68

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2228	4564	0.49	58.2	19.1	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2228	943	4500	1900	0.50	0.50	47.8	47.8	23.3	19.8	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1268	4564	0.28	56.8	10.9	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1416	148	4500	1900	0.31	0.08	53.4	53.4	13.3	11.5	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1983	565	4500	1900	0.44	0.30	53.2	53.2	18.6	15.7	B

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1993	4564	0.44	58.2	17.1	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1920	1722	0.96	24.03	56.6	17.1	16.5	4.40	B

Facility Overall Results

Space Mean Speed, mi/h	56.6	Average Density, veh/mi/ln	16.5
Average Travel Time, min	4.40	Average Density, pc/mi/ln	17.1
Total VMT, veh-mi	1920	Total VHD, veh-h	0.96
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	24.03

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	926	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.54

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	16.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.8

Vehicle Results

Average Speed, mi/h	42.8	Percent Followers, %	75.8
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	16.4
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	905	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.53

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	16.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.6

Vehicle Results

Average Speed, mi/h	40.6	Percent Followers, %	72.8
Segment Travel Time, minutes	2.75	Follower Density (FD), followers/mi/ln	16.2
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	613	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.36

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	9.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.8

Vehicle Results

Average Speed, mi/h	41.8	Percent Followers, %	62.4
Segment Travel Time, minutes	1.81	Follower Density (FD), followers/mi/ln	9.2
Vehicle LOS	C		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1408	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.83

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.1
Speed Slope Coefficient (m)	2.96721	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44619	PF Power Coefficient (p)	0.70843
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	28.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.7

Vehicle Results

Average Speed, mi/h	41.7	Percent Followers, %	84.2
Segment Travel Time, minutes	0.63	Follower Density (FD), followers/mi/ln	28.4
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1391	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.82

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.6
Speed Slope Coefficient (m)	2.94157	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44398	PF Power Coefficient (p)	0.70754
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	28.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	41.3

Vehicle Results

Average Speed, mi/h	41.3	Percent Followers, %	83.9
Segment Travel Time, minutes	0.66	Follower Density (FD), followers/mi/ln	28.3
Vehicle LOS	E		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	962	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.57

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	17.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

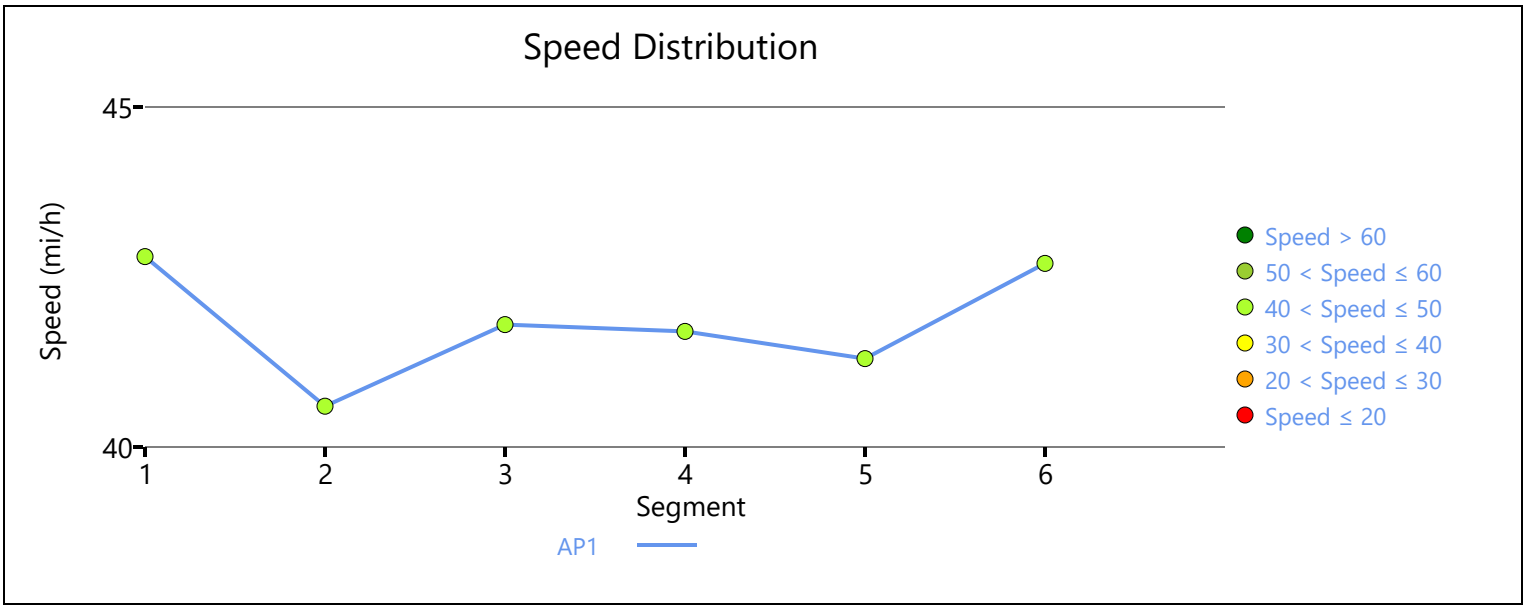
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.7

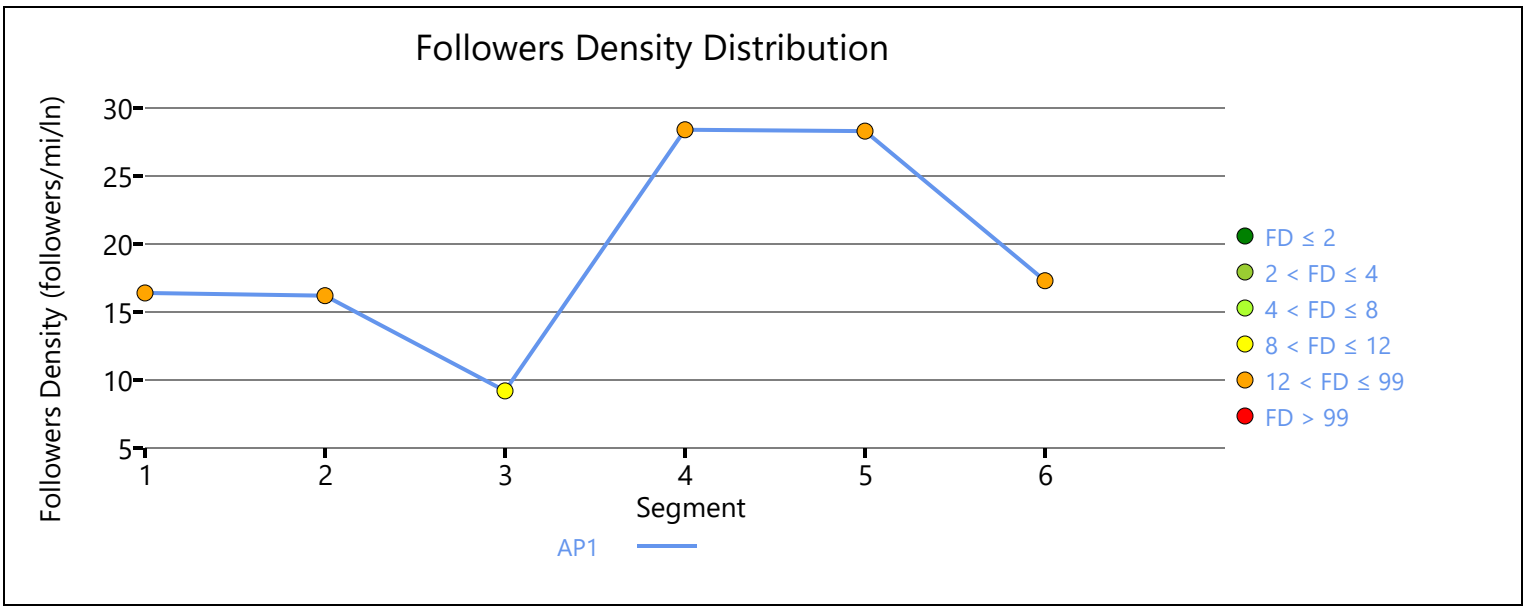
Vehicle Results

Average Speed, mi/h	42.7	Percent Followers, %	76.7
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	17.3
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	872	1.35	16.7	E





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	22800
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	575	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.34

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	13.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	22800	-	-	27.4

Vehicle Results

Average Speed, mi/h	27.4	Percent Followers, %	64.9
Segment Travel Time, minutes	9.45	Follower Density (FD), followers/mi/ln	13.6
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	633
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	748	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.44

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.1
Speed Slope Coefficient (m)	2.13774	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46977	PF Power Coefficient (p)	0.62860
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	18.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	633	-	-	28.3

Vehicle Results

Average Speed, mi/h	28.3	Percent Followers, %	70.6
Segment Travel Time, minutes	0.25	Follower Density (FD), followers/mi/ln	18.7
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11035
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	607	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.36

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.4
Speed Slope Coefficient (m)	3.44371	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36622	PF Power Coefficient (p)	0.70787
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	7.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

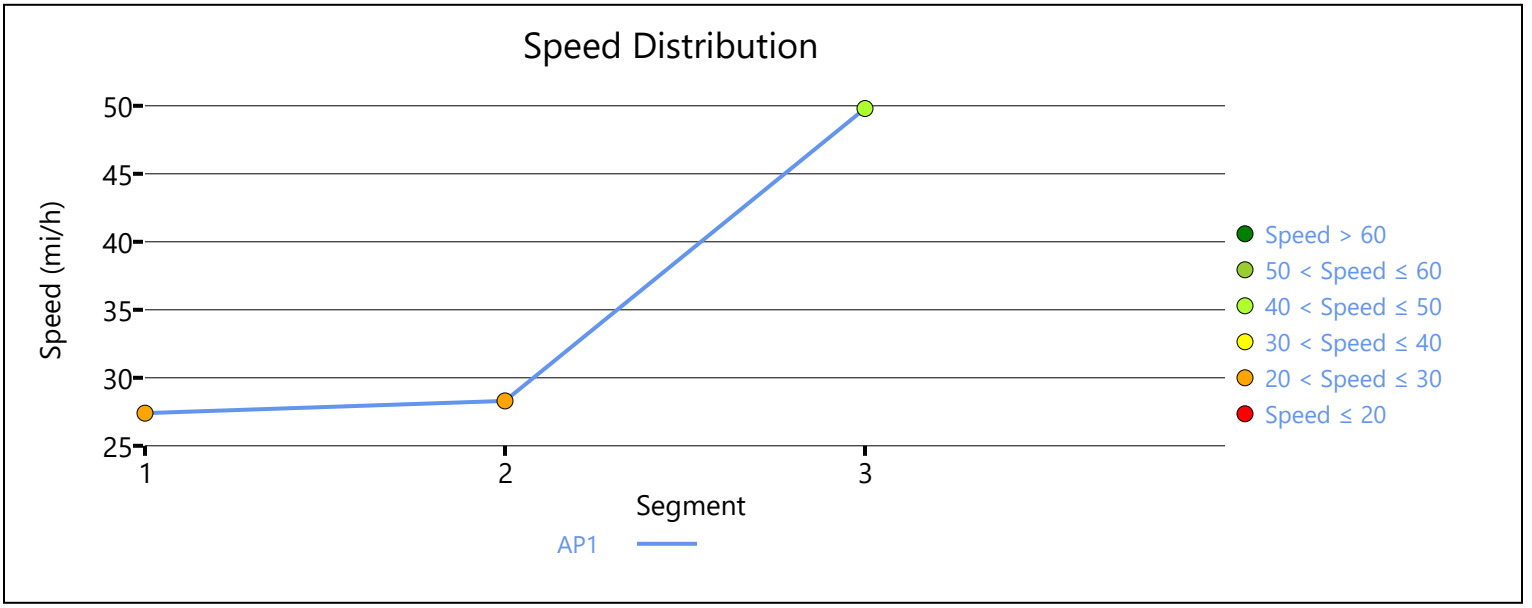
Subsegment Data

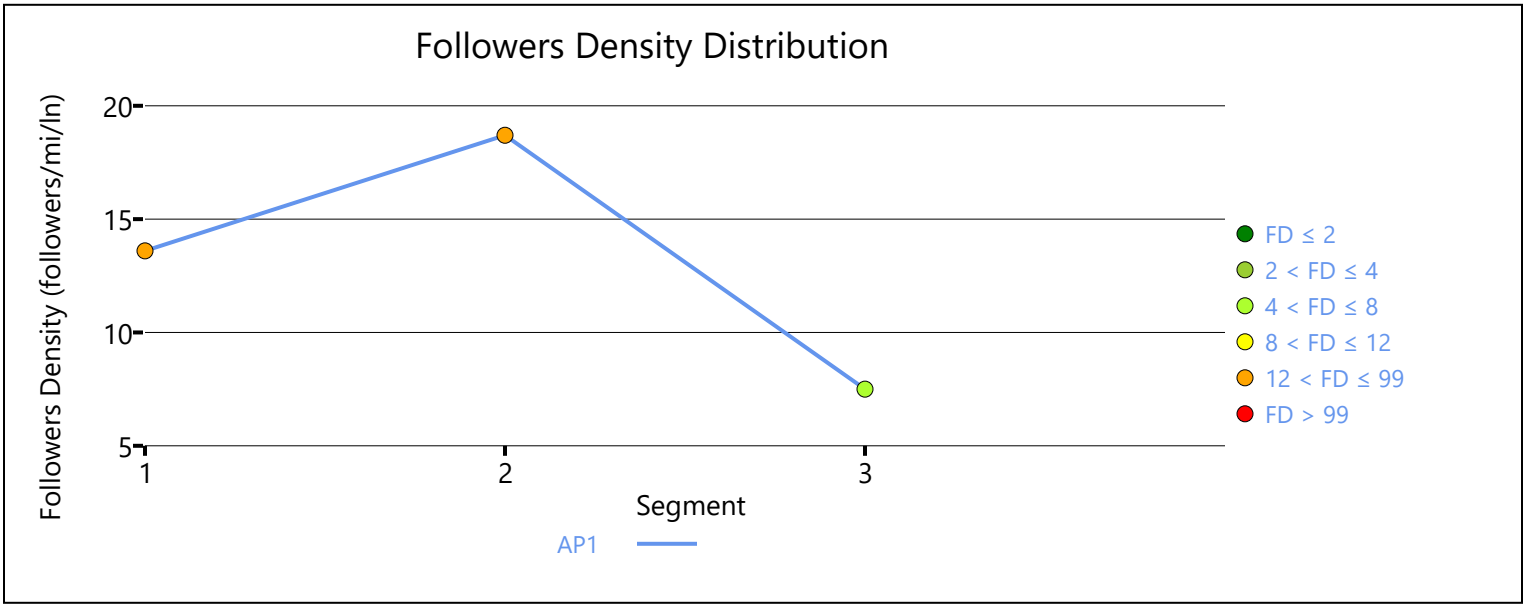
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11035	-	-	49.8

Vehicle Results

Average Speed, mi/h	49.8	Percent Followers, %	61.7
Segment Travel Time, minutes	2.52	Follower Density (FD), followers/mi/ln	7.5
Vehicle LOS	C		

Facility Results				
T	**VMT veh-mi/AP**	**VHD veh-h/p**	**Follower Density, followers/ mi/ln**	**LOS**
1	883	1.50	11.8	D





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1187	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	676
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.36

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	15.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1277	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	726
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.5
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between Jones Avenue and Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1896	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1058
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	20.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1683	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	939
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	18.0
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	876	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	489
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.23

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	8.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1327	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	740
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	12.8
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13939
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	615	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.36

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.19114	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42590	PF Power Coefficient (p)	0.66617
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13939	-	-	44.9

Vehicle Results

Average Speed, mi/h	44.9	Percent Followers, %	64.4
Segment Travel Time, minutes	3.53	Follower Density (FD), followers/mi/ln	8.8
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	374	0.42	8.8	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	309	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.18

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	3.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.7

Vehicle Results

Average Speed, mi/h	43.7	Percent Followers, %	47.9
Segment Travel Time, minutes	3.46	Follower Density (FD), followers/mi/ln	3.4
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	580
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	409	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	35.2
Speed Slope Coefficient (m)	2.41416	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49747	PF Power Coefficient (p)	0.65535
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	580	-	-	33.7

Vehicle Results

Average Speed, mi/h	33.7	Percent Followers, %	56.5
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/ln	6.9
Vehicle LOS	C		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6336
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	413	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75727	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39061	PF Power Coefficient (p)	0.69627
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	5.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

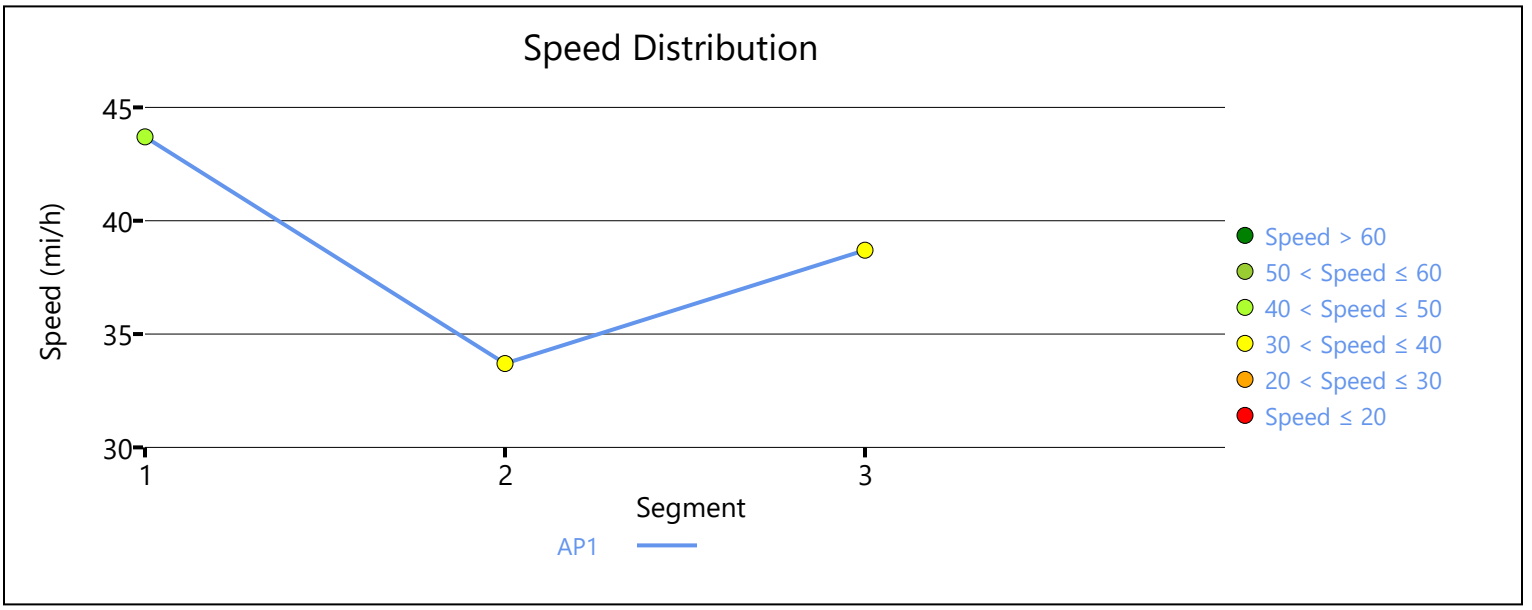
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.7

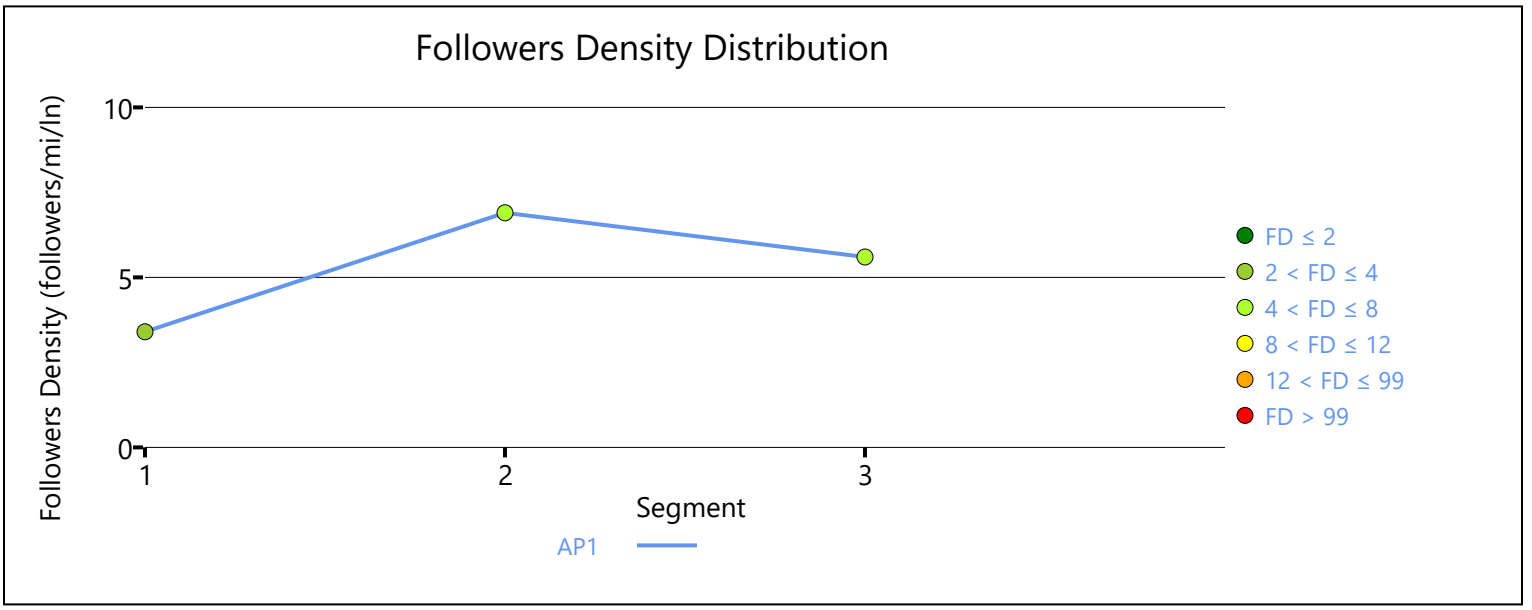
Vehicle Results

Average Speed, mi/h	38.7	Percent Followers, %	52.8
Segment Travel Time, minutes	1.86	Follower Density (FD), followers/mi/ln	5.6
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	303	0.28	4.2	B





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	374	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.22

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	5.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	33.2

Vehicle Results

Average Speed, mi/h	33.2	Percent Followers, %	51.1
Segment Travel Time, minutes	1.97	Follower Density (FD), followers/mi/ln	5.8
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	94	0.12	5.8	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	159	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35149	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37634	PF Power Coefficient (p)	0.66322
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	32.2

Vehicle Results

Average Speed, mi/h	32.2	Percent Followers, %	33.4
Segment Travel Time, minutes	2.22	Follower Density (FD), followers/mi/ln	1.6
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	43	0.03	1.6	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	89	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.05

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	34.6

Vehicle Results

Average Speed, mi/h	34.6	Percent Followers, %	26.6
Segment Travel Time, minutes	0.42	Follower Density (FD), followers/mi/ln	0.7
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	445
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	98	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	445	-	-	34.6

Vehicle Results

Average Speed, mi/h	34.6	Percent Followers, %	28.0
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	0.8
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1000
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	187	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

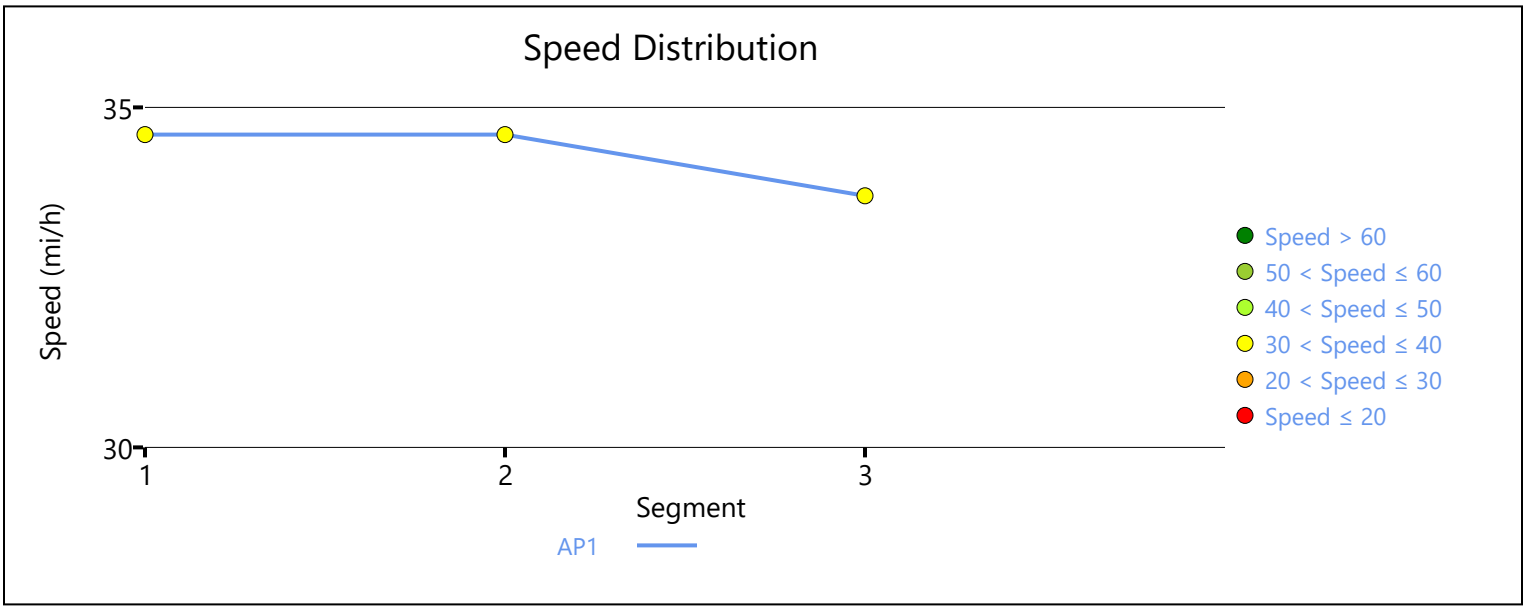
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1000	-	-	33.7

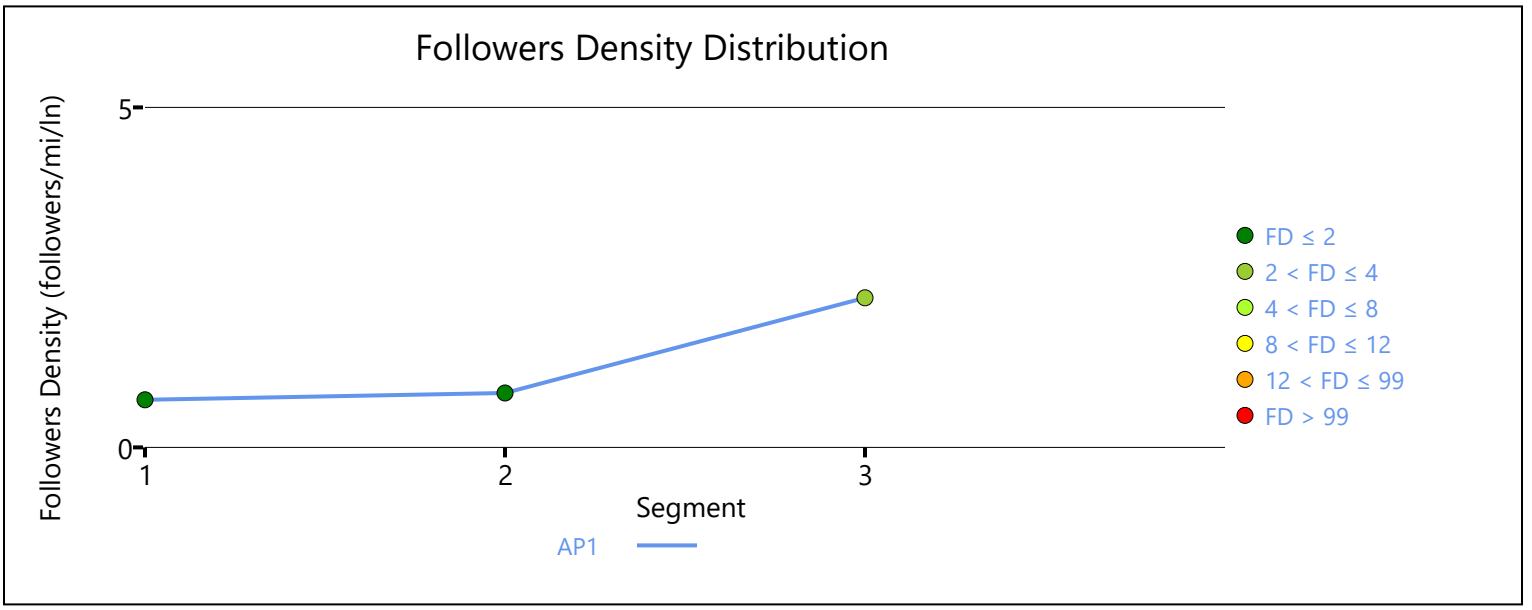
Vehicle Results

Average Speed, mi/h	33.7	Percent Followers, %	39.4
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	2.2
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	15	0.01	1.3	A





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	33	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80915	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28942	PF Power Coefficient (p)	0.60656
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	22.8

Vehicle Results

Average Speed, mi/h	22.8	Percent Followers, %	14.9
Segment Travel Time, minutes	3.42	Follower Density (FD), followers/mi/ln	0.2
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	10	0.00	0.2	A

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	2250	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
8	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
9	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	3235	4654	0.70	62.5	25.9	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	3235	2070	4600	1900	0.70	1.09	47.3	47.3	34.2	28.5	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.962		1165		4654		0.24		62.0		9.3		A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1165	781	4600	1900	0.24	0.41	49.7	49.7	11.7	10.7	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	384	4654	0.07	61.0	3.1	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1134	750	4600	1900	0.23	0.39	56.6	56.6	10.0	9.0	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1134	4654	0.23	61.9	9.0	A

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1367	233	4600	1900	0.28	0.12	56.6	56.6	12.1	11.1	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1367	4654	0.28	62.7	10.9	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1282	1078	1.82	45.61	57.6	13.9	13.4	3.50	F

Facility Overall Results

Space Mean Speed, mi/h	57.6	Average Density, veh/mi/ln	13.4
Average Travel Time, min	3.50	Average Density, pc/mi/ln	13.9
Total VMT, veh-mi	1282	Total VHD, veh-h	1.82
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	45.61

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between SR 33 and Relocated SR 115 NB Off Ramp	5280	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
3	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	1000	2
6	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	2250	2
8	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
9	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	925	4654	0.20	62.7	7.4	A

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	925	679	4600	1900	0.20	0.36	49.9	49.9	9.3	8.6	A

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.968		238		4654		0.05		61.0		1.9		A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	240	166	4600	1900	0.05	0.09	50.8	50.8	2.4	2.7	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	70	4654	0.02	61.1	0.6	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1290	1220	4600	1900	0.28	0.64	56.6	56.6	11.4	10.0	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1313	4654	0.28	62.4	10.5	A

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2425	1112	4600	2000	0.53	0.56	56.3	56.3	21.5	18.9	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	2464	4654	0.53	62.3	19.6	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	929	708	0.81	20.27	59.5	9.8	9.4	3.40	A

Facility Overall Results

Space Mean Speed, mi/h	59.5	Average Density, veh/mi/ln	9.4
Average Travel Time, min	3.40	Average Density, pc/mi/ln	9.8
Total VMT, veh-mi	929	Total VHD, veh-h	0.81
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	20.27

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2690	4574	0.59	58.7	22.9	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	2690	131	4500	1900	0.60	0.07	49.2	49.2	27.3	23.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2555	4574	0.56	57.9	21.8	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	3782	1227	4500	1900	0.84	0.65	51.2	51.2	36.9	29.5	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3822	4574	0.84	57.4	33.3	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1068	907	1.44	36.01	54.4	30.1	28.5	1.50	D

Facility Overall Results

Space Mean Speed, mi/h	54.4	Average Density, veh/mi/ln	28.5
Average Travel Time, min	1.50	Average Density, pc/mi/ln	30.1
Total VMT, veh-mi	1068	Total VHD, veh-h	1.44
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	36.01

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1623	4574	0.35	58.7	13.8	B

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2117	3488	0.61	44.2	16.0	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1183	4574	0.26	57.9	10.1	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1453	1297	1.01	25.13	56.4	13.8	13.1	3.90	B

Facility Overall Results

Space Mean Speed, mi/h	56.4	Average Density, veh/mi/ln	13.1
Average Travel Time, min	3.90	Average Density, pc/mi/ln	13.8
Total VMT, veh-mi	1453	Total VHD, veh-h	1.01

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	25.13

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2751	4574	0.60	58.7	23.4	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2751	1141	4500	1900	0.61	0.60	47.7	47.7	28.8	24.3	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1589	4574	0.35	57.9	13.5	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2639	1050	4500	1900	0.59	0.55	53.1	53.1	24.8	20.6	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2659	4574	0.58	57.3	22.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2621	2346	1.10	27.59	57.3	23.0	22.2	4.30	C

Facility Overall Results

Space Mean Speed, mi/h	57.3	Average Density, veh/mi/ln	22.2
Average Travel Time, min	4.30	Average Density, pc/mi/ln	23.0
Total VMT, veh-mi	2621	Total VHD, veh-h	1.10
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	27.59

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1578	4574	0.34	58.7	13.4	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1578	169	4500	1900	0.35	0.09	49.1	49.1	16.1	14.2	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1407	4574	0.31	58.0	12.0	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2964	1557	4500	1900	0.66	0.82	52.7	52.7	28.1	22.9	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2993	4574	0.65	58.7	25.5	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2284	2004	0.77	19.36	57.6	23.5	22.6	3.70	C

Facility Overall Results

Space Mean Speed, mi/h	57.6	Average Density, veh/mi/ln	22.6
Average Travel Time, min	3.70	Average Density, pc/mi/ln	23.5
Total VMT, veh-mi	2284	Total VHD, veh-h	0.77
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	19.36

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4586	1.03	36.4	57.5	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	4190	1709	4500	1900	1.05	0.90	47.0	47.0	44.6	36.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2481	4586	0.65	59.1	20.9	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1138	1209	6.26	156.41	44.7	38.0	36.0	1.90	F

Facility Overall Results

Space Mean Speed, mi/h	44.7	Average Density, veh/mi/ln	36.0
Average Travel Time, min	1.90	Average Density, pc/mi/ln	38.0
Total VMT, veh-mi	1138	Total VHD, veh-h	6.26

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	156.41

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3255	4564	0.71	58.2	28.0	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	3255	1061	4500	1900	0.72	0.56	47.6	47.6	34.2	28.6	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2174	4564	0.48	56.8	18.7	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2340	166	4500	1900	0.52	0.09	53.0	53.0	22.1	18.7	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2752	409	4500	1900	0.61	0.22	52.7	52.7	26.1	21.8	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2760	4564	0.60	58.2	23.7	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2718	2465	1.50	37.48	56.4	24.3	23.4	4.40	C

Facility Overall Results

Space Mean Speed, mi/h	56.4	Average Density, veh/mi/ln	23.4
Average Travel Time, min	4.40	Average Density, pc/mi/ln	24.3
Total VMT, veh-mi	2718	Total VHD, veh-h	1.50
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	37.48

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	704	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.41

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	11.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	43.1

Vehicle Results

Average Speed, mi/h	43.1	Percent Followers, %	69.0
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	11.3
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	979	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.58

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	18.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.5

Vehicle Results

Average Speed, mi/h	40.5	Percent Followers, %	74.7
Segment Travel Time, minutes	2.76	Follower Density (FD), followers/mi/ln	18.1
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	853	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.50

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	14.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.4

Vehicle Results

Average Speed, mi/h	41.4	Percent Followers, %	71.0
Segment Travel Time, minutes	1.83	Follower Density (FD), followers/mi/ln	14.6
Vehicle LOS	D		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1534	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.90

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.1
Speed Slope Coefficient (m)	2.96721	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44619	PF Power Coefficient (p)	0.70843
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	31.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	41.6

Vehicle Results

Average Speed, mi/h	41.6	Percent Followers, %	85.9
Segment Travel Time, minutes	0.63	Follower Density (FD), followers/mi/ln	31.7
Vehicle LOS	E		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1367	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.80

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.6
Speed Slope Coefficient (m)	2.94157	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.44398	PF Power Coefficient (p)	0.70754
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	27.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	41.3

Vehicle Results

Average Speed, mi/h	41.3	Percent Followers, %	83.5
Segment Travel Time, minutes	0.66	Follower Density (FD), followers/mi/ln	27.6
Vehicle LOS	E		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1188	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.70

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	22.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

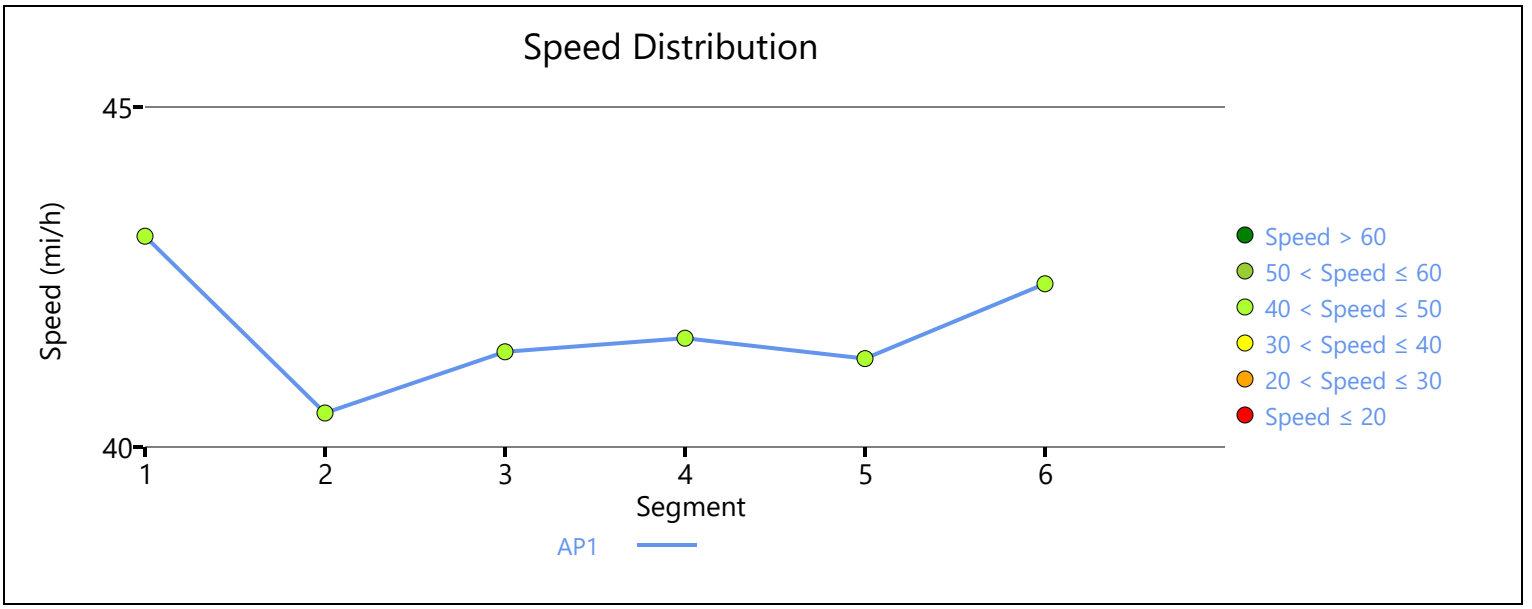
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.4

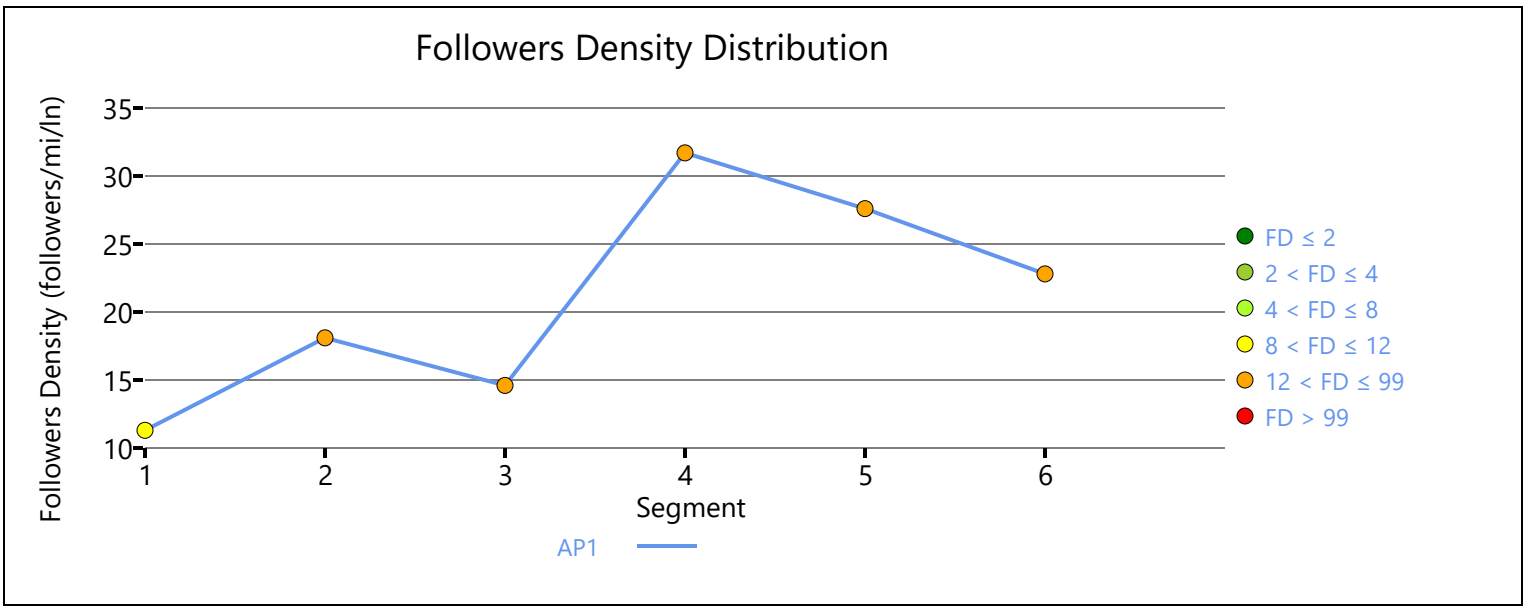
Vehicle Results

Average Speed, mi/h	42.4	Percent Followers, %	81.5
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	22.8
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	983	1.59	19.5	E





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	22800
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	571	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.34

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	13.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	22800	-	-	27.4

Vehicle Results

Average Speed, mi/h	27.4	Percent Followers, %	64.7
Segment Travel Time, minutes	9.45	Follower Density (FD), followers/mi/ln	13.5
Vehicle LOS	D		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	633
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	691	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.41

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.1
Speed Slope Coefficient (m)	2.13774	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46977	PF Power Coefficient (p)	0.62860
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	16.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	633	-	-	28.3

Vehicle Results

Average Speed, mi/h	28.3	Percent Followers, %	68.8
Segment Travel Time, minutes	0.25	Follower Density (FD), followers/mi/ln	16.8
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11035
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	562	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.33

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.4
Speed Slope Coefficient (m)	3.44371	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36622	PF Power Coefficient (p)	0.70787
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

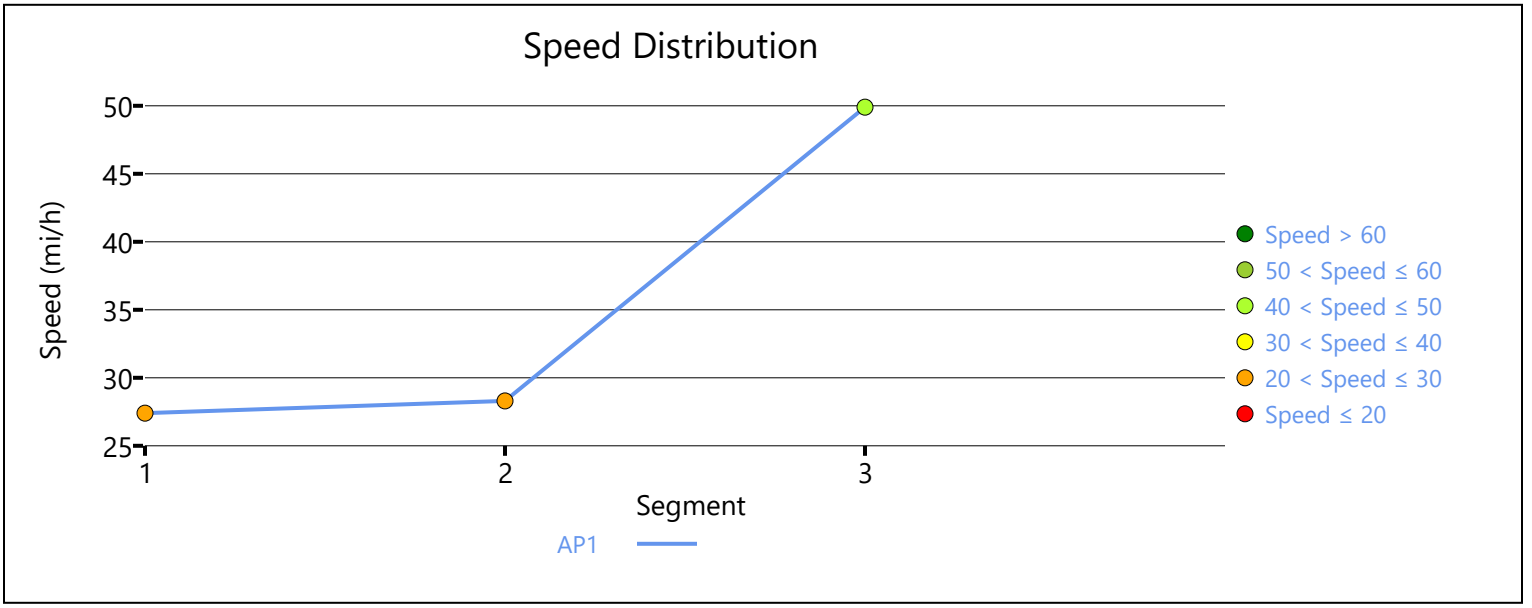
Subsegment Data

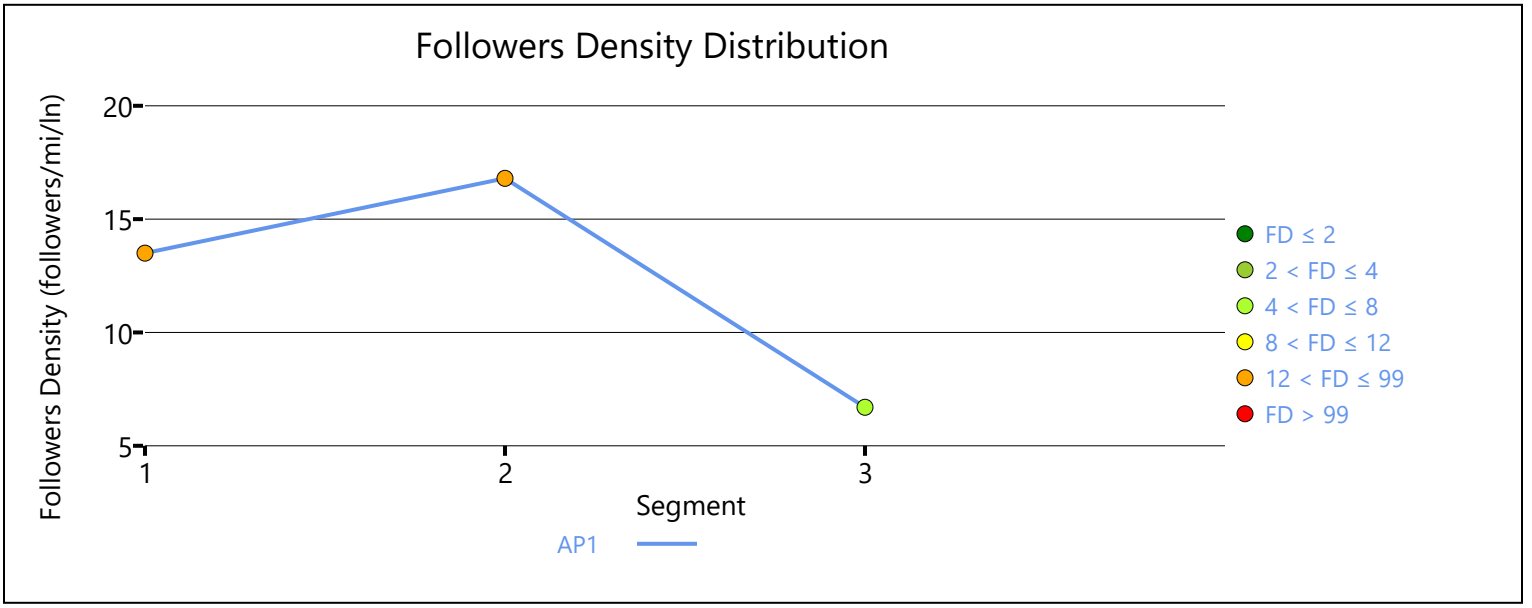
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11035	-	-	49.9

Vehicle Results

Average Speed, mi/h	49.9	Percent Followers, %	59.7
Segment Travel Time, minutes	2.52	Follower Density (FD), followers/mi/ln	6.7
Vehicle LOS	C		

Facility Results				
T	**VMT veh-mi/AP**	**VHD veh-h/p**	**Follower Density, followers/ mi/ln**	**LOS**
1	856	1.45	11.4	D





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1535	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	874
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.46

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	19.8
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data			
Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1063	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	605
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.32

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	13.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between Jones Avenue to Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	2909	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1623
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.79

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	50.4
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	32.2
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	D
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1531	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	854
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.42

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1178	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	658
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.30

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	11.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	970	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	541
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	9.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	410	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.24

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.13620	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37437	PF Power Coefficient (p)	0.72181
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	45.4

Vehicle Results

Average Speed, mi/h	45.4	Percent Followers, %	51.4
Segment Travel Time, minutes	1.57	Follower Density (FD), followers/mi/ln	4.6
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	112	0.10	4.6	B

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	399	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.23

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.4

Vehicle Results

Average Speed, mi/h	43.4	Percent Followers, %	53.8
Segment Travel Time, minutes	3.48	Follower Density (FD), followers/mi/ln	4.9
Vehicle LOS	B		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	580
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	390	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.23

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	35.2
Speed Slope Coefficient (m)	2.41416	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49747	PF Power Coefficient (p)	0.65535
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	580	-	-	33.7

Vehicle Results

Average Speed, mi/h	33.7	Percent Followers, %	55.4
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/ln	6.4
Vehicle LOS	C		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6336
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	334	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.20

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75727	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39061	PF Power Coefficient (p)	0.69627
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

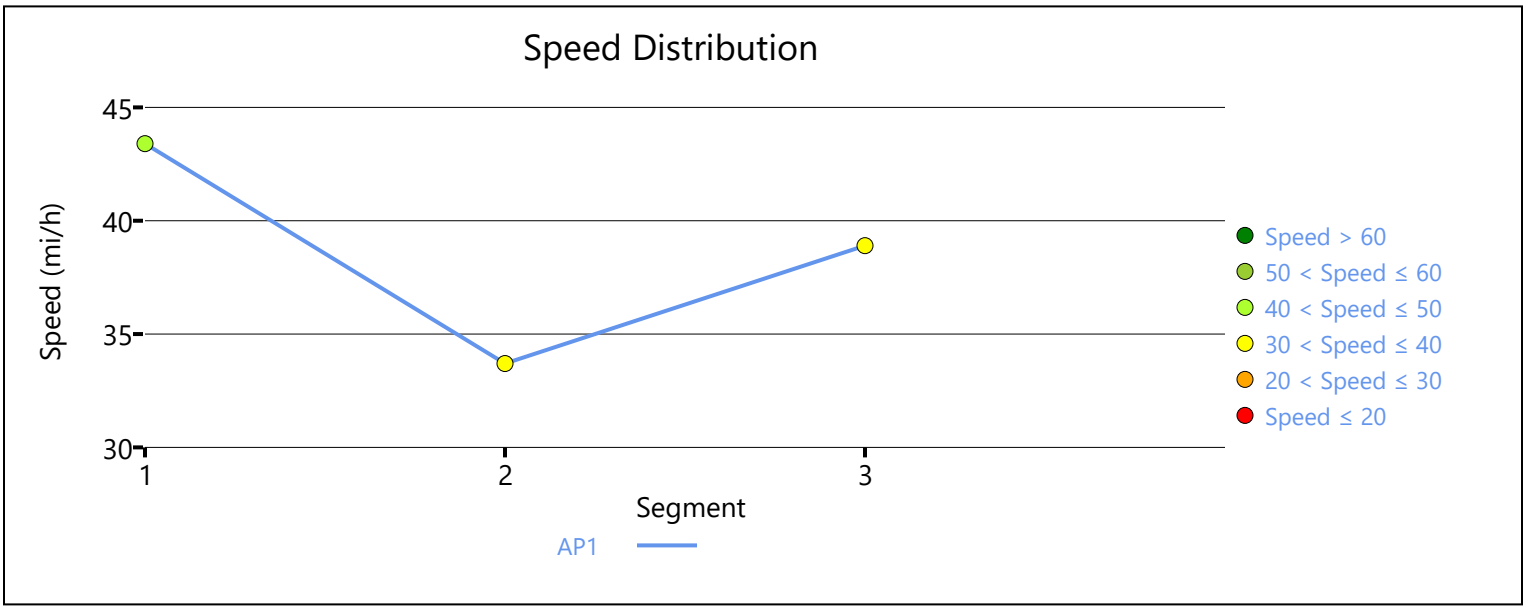
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.9

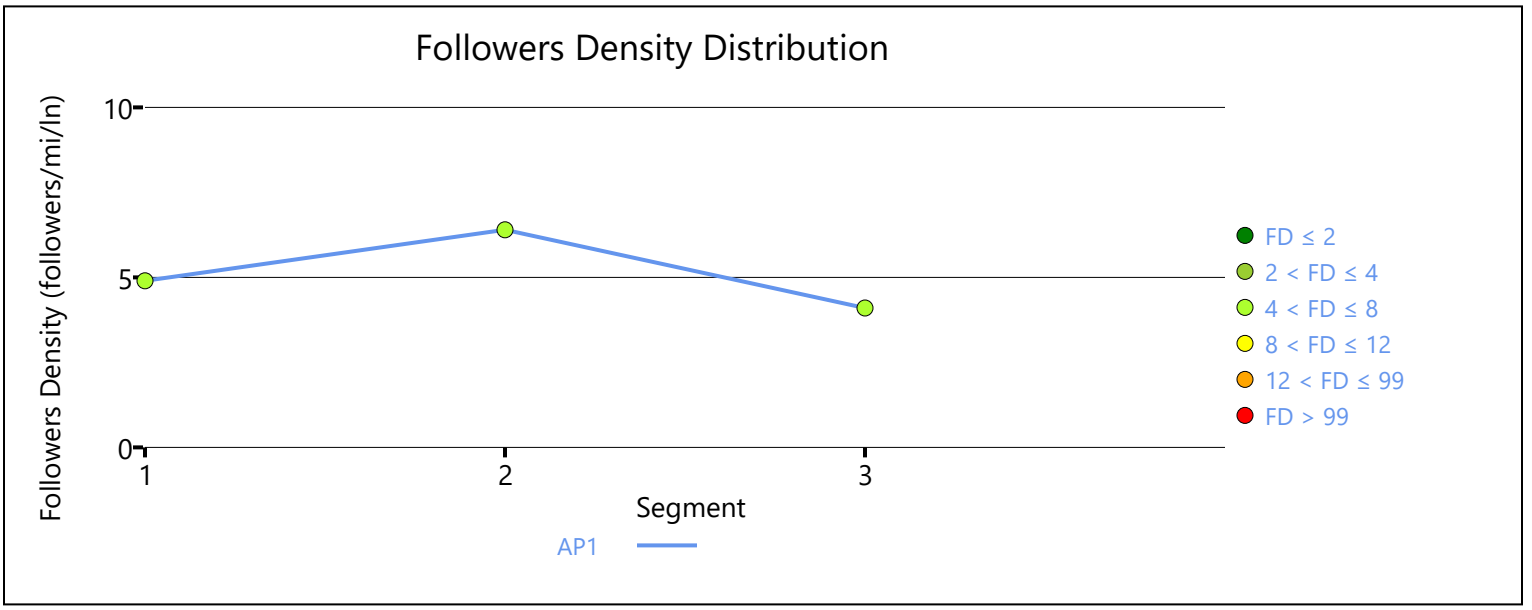
Vehicle Results

Average Speed, mi/h	38.9	Percent Followers, %	47.7
Segment Travel Time, minutes	1.85	Follower Density (FD), followers/mi/ln	4.1
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	333	0.32	4.7	B





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	338	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.20

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	4.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	33.3

Vehicle Results

Average Speed, mi/h	33.3	Percent Followers, %	48.7
Segment Travel Time, minutes	1.97	Follower Density (FD), followers/mi/ln	4.9
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	85	0.10	4.9	B

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	151	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.09

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35149	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37634	PF Power Coefficient (p)	0.66322
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	32.2

Vehicle Results

Average Speed, mi/h	32.2	Percent Followers, %	32.5
Segment Travel Time, minutes	2.22	Follower Density (FD), followers/mi/ln	1.5
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	41	0.03	1.5	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	98	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.8
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	34.6

Vehicle Results

Average Speed, mi/h	34.6	Percent Followers, %	28.0
Segment Travel Time, minutes	0.42	Follower Density (FD), followers/mi/ln	0.8
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	445
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	115	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	445	-	-	34.1

Vehicle Results

Average Speed, mi/h	34.1	Percent Followers, %	30.6
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	1.0
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1000
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	177	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.10

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

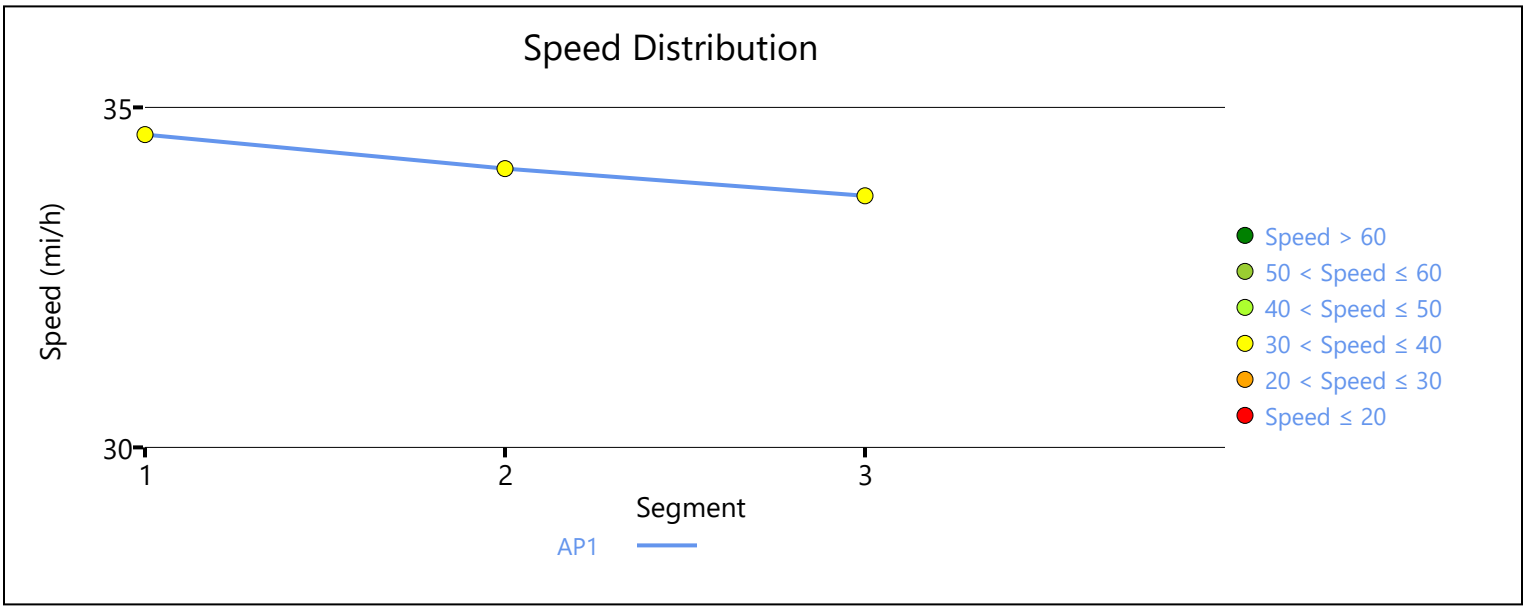
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2580	-	-	33.7

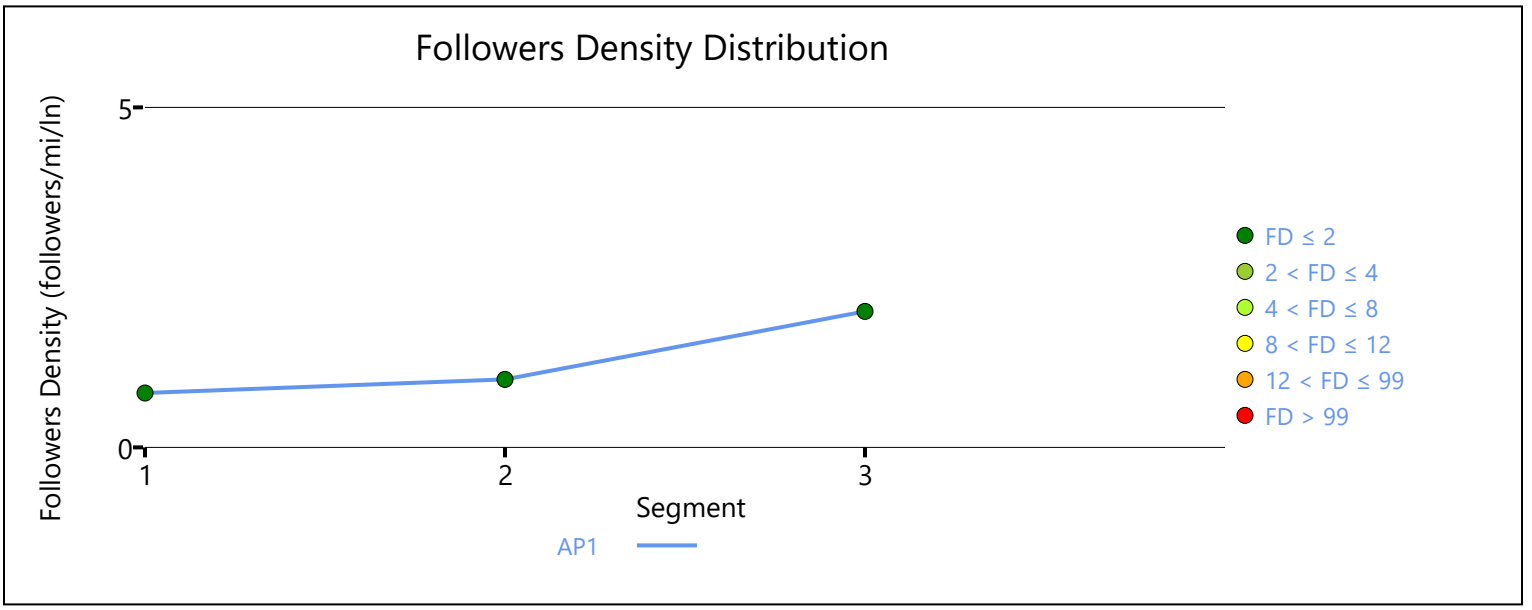
Vehicle Results

Average Speed, mi/h	33.7	Percent Followers, %	38.3
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	2.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	15	0.01	1.3	A





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	43	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.03

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80915	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28942	PF Power Coefficient (p)	0.60656
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	22.8

Vehicle Results

Average Speed, mi/h	22.8	Percent Followers, %	17.5
Segment Travel Time, minutes	3.42	Follower Density (FD), followers/mi/ln	0.3
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	13	0.00	0.3	A

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	2250	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
8	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
9	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	4064	4654	0.87	58.1	35.0	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	4064	2405	4600	1900	0.88	1.27	46.7	46.7	43.5	35.6	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.962		1659		4654		0.34		61.9		13.2		B

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1659	1398	4600	1900	0.34	0.74	48.5	48.5	17.1	14.9	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	261	4654	0.03	60.8	2.1	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1188	927	4600	1900	0.24	0.49	56.6	56.6	10.5	9.4	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1188	4654	0.24	61.9	9.5	A

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1387	199	4600	2000	0.28	0.10	56.9	56.9	12.2	11.3	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1387	4654	0.28	62.7	11.1	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1505	1263	2.85	71.17	56.1	16.8	16.1	3.60	F

Facility Overall Results

Space Mean Speed, mi/h	56.1	Average Density, veh/mi/ln	16.1
Average Travel Time, min	3.60	Average Density, pc/mi/ln	16.8
Total VMT, veh-mi	1505	Total VHD, veh-h	2.85
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	71.17

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between SR 33 and Relocated SR 115 NB Off Ramp	5280	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
3	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	1000	2
6	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	2250	2
8	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
9	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	2077	4654	0.45	62.7	16.6	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	2077	1146	4600	1900	0.45	0.60	49.0	49.0	21.2	18.5	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.968		931		4654		0.20		60.9		7.4		A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	931	227	4600	1900	0.20	0.12	50.7	50.7	9.2	8.7	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	704	4654	0.15	61.1	5.6	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1901	1197	4600	1900	0.41	0.63	56.3	56.3	16.9	14.8	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1901	4654	0.41	62.4	15.2	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	3801	2783	4600	1900	1.02	1.46	48.9	48.9	47.9	35.8	F

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3801	4654	0.83	60.1	31.6	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1714	1386	2.57	64.22	57.3	19.4	18.7	3.50	F

Facility Overall Results

Space Mean Speed, mi/h	57.3	Average Density, veh/mi/ln	18.7
Average Travel Time, min	3.50	Average Density, pc/mi/ln	19.4
Total VMT, veh-mi	1714	Total VHD, veh-h	2.57
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	64.22

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3561	4574	0.91	23.1	77.1	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	3471	207	4500	1900	0.93	0.11	23.3	49.1	74.4	36.6	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3138	4574	0.87	18.1	86.8	F

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	4190	1415	4500	1900	1.20	0.74	47.8	47.8	47.6	35.4	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4574	1.19	54.9	38.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1239	1355	16.84	421.10	32.6	59.0	56.0	2.50	F

Facility Overall Results

Space Mean Speed, mi/h	32.6	Average Density, veh/mi/ln	56.0
Average Travel Time, min	2.50	Average Density, pc/mi/ln	59.0
Total VMT, veh-mi	1239	Total VHD, veh-h	16.84
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	421.10

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2719	4574	0.82	25.0	54.4	F

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3263	3504	1.23	39.5	27.5	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	901	4574	0.43	57.6	7.7	A

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2411	2950	48.56	1214.10	26.9	46.9	45.1	8.30	F

Facility Overall Results

Space Mean Speed, mi/h	26.9	Average Density, veh/mi/ln	45.1
Average Travel Time, min	8.30	Average Density, pc/mi/ln	46.9
Total VMT, veh-mi	2411	Total VHD, veh-h	48.56

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	1214.10

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4190	4574	0.99	41.7	50.2	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	4190	898	4500	1900	1.00	0.47	48.0	48.0	43.6	36.7	E

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3134	4574	0.79	25.2	62.2	F

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	4190	1640	4500	1900	1.16	0.86	47.5	47.5	50.3	37.0	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4190	4574	1.15	54.9	38.2	F

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4064	3996	30.19	754.64	40.9	50.6	48.7	6.00	F

Facility Overall Results

Space Mean Speed, mi/h	40.9	Average Density, veh/mi/ln	48.7
Average Travel Time, min	6.00	Average Density, pc/mi/ln	50.6
Total VMT, veh-mi	4064	Total VHD, veh-h	30.19
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	754.64

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1559	4574	0.34	58.7	13.3	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1559	421	4500	1900	0.35	0.22	48.7	48.7	16.0	14.1	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1130	4574	0.25	58.0	9.6	A

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2940	1810	4500	1900	0.65	0.95	52.8	52.8	27.8	22.6	C

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2974	4574	0.65	58.7	25.3	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2247	1953	0.77	19.35	57.5	23.1	22.2	3.70	C

Facility Overall Results

Space Mean Speed, mi/h	57.5	Average Density, veh/mi/ln	22.2
Average Travel Time, min	3.70	Average Density, pc/mi/ln	23.1
Total VMT, veh-mi	2247	Total VHD, veh-h	0.77
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	19.35

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	3468	4586	0.76	59.1	29.3	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	3468	1544	4500	1900	0.77	0.81	47.2	47.2	36.7	30.5	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	1874	4586	0.41	59.1	15.8	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	914	841	1.05	26.27	55.5	24.5	23.3	1.50	C

Facility Overall Results

Space Mean Speed, mi/h	55.5	Average Density, veh/mi/ln	23.3
Average Travel Time, min	1.50	Average Density, pc/mi/ln	24.5
Total VMT, veh-mi	914	Total VHD, veh-h	1.05

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	26.27

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3477	4564	0.76	58.1	29.9	D

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	3477	1424	4500	1900	0.77	0.75	47.1	47.1	36.9	30.6	D

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2026	4564	0.44	56.7	17.4	B

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2253	227	4500	1900	0.50	0.12	53.0	53.0	21.3	18.0	B

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	3161	903	4500	1900	0.70	0.48	52.2	52.2	30.3	24.8	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3177	4564	0.70	58.2	27.3	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3054	2739	1.69	42.25	56.4	27.3	26.3	4.40	D

Facility Overall Results

Space Mean Speed, mi/h	56.4	Average Density, veh/mi/ln	26.3
Average Travel Time, min	4.40	Average Density, pc/mi/ln	27.3
Total VMT, veh-mi	3054	Total VHD, veh-h	1.69
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	42.25

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1061	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.62

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	19.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.6

Vehicle Results

Average Speed, mi/h	42.6	Percent Followers, %	78.9
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	19.6
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1057	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.62

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	20.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.4

Vehicle Results

Average Speed, mi/h	40.4	Percent Followers, %	76.5
Segment Travel Time, minutes	2.76	Follower Density (FD), followers/mi/ln	20.0
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	701	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.41

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	11.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.6

Vehicle Results

Average Speed, mi/h	41.6	Percent Followers, %	65.9
Segment Travel Time, minutes	1.82	Follower Density (FD), followers/mi/ln	11.1
Vehicle LOS	D		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1789	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.05

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	-

Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1790	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.05

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	-

Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1232	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.72

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	23.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

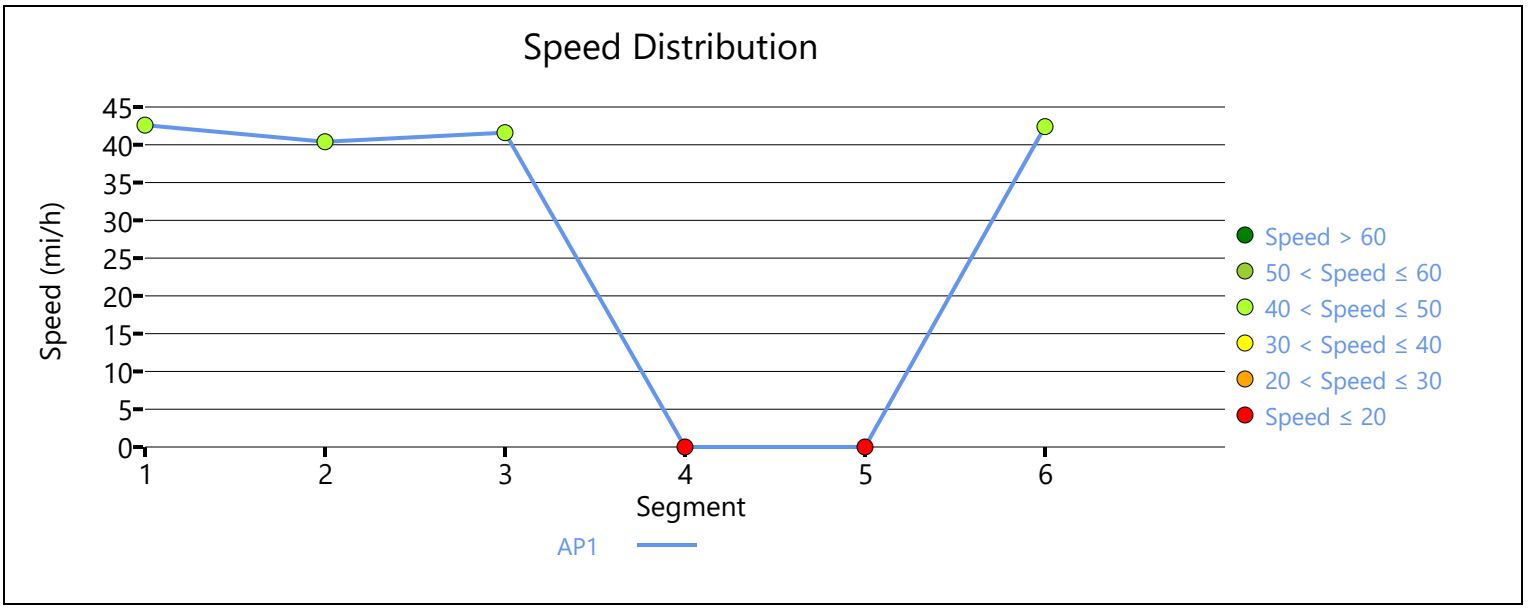
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.4

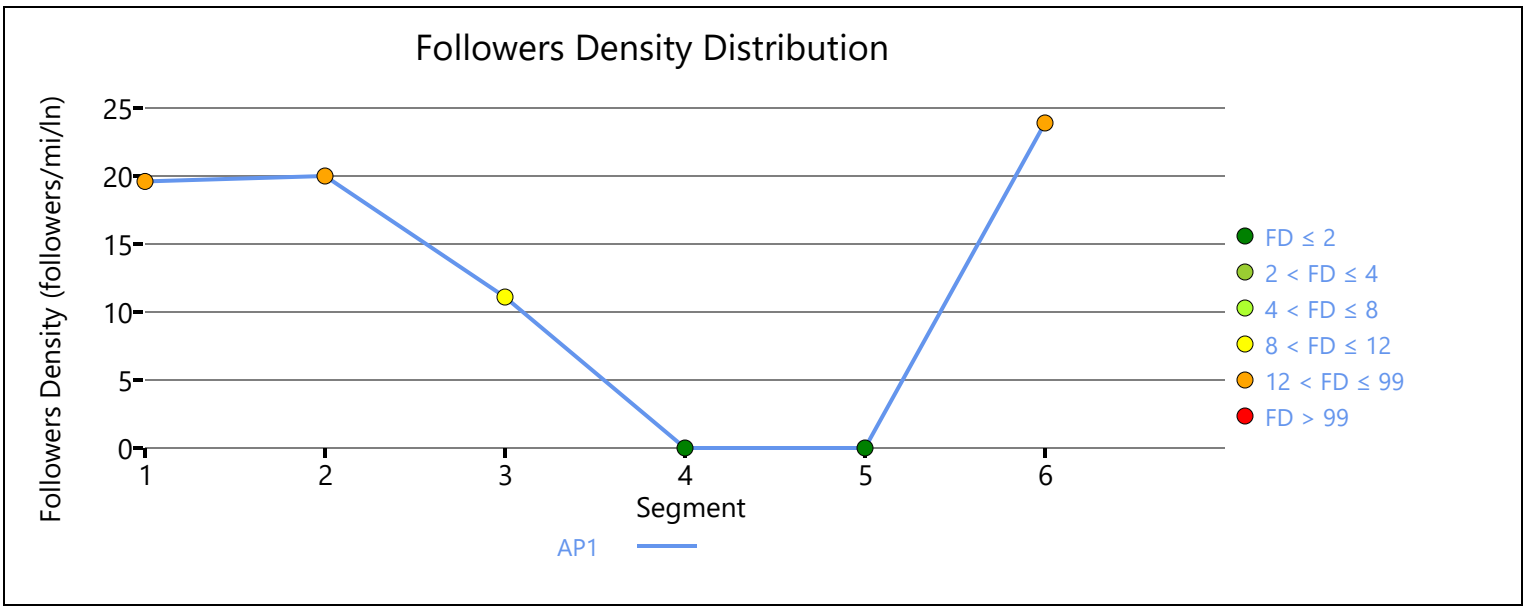
Vehicle Results

Average Speed, mi/h	42.4	Percent Followers, %	82.2
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	23.9
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	-	-	-	F





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	22800
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	692	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.41

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	17.5
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	22800	-	-	27.3

Vehicle Results

Average Speed, mi/h	27.3	Percent Followers, %	68.8
Segment Travel Time, minutes	9.51	Follower Density (FD), followers/mi/ln	17.5
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	633
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	858	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.50

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.1
Speed Slope Coefficient (m)	2.13774	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46977	PF Power Coefficient (p)	0.62860
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	22.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	633	-	-	28.2

Vehicle Results

Average Speed, mi/h	28.2	Percent Followers, %	73.7
Segment Travel Time, minutes	0.26	Follower Density (FD), followers/mi/ln	22.4
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11035
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	687	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.40

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.4
Speed Slope Coefficient (m)	3.44371	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36622	PF Power Coefficient (p)	0.70787
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	9.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

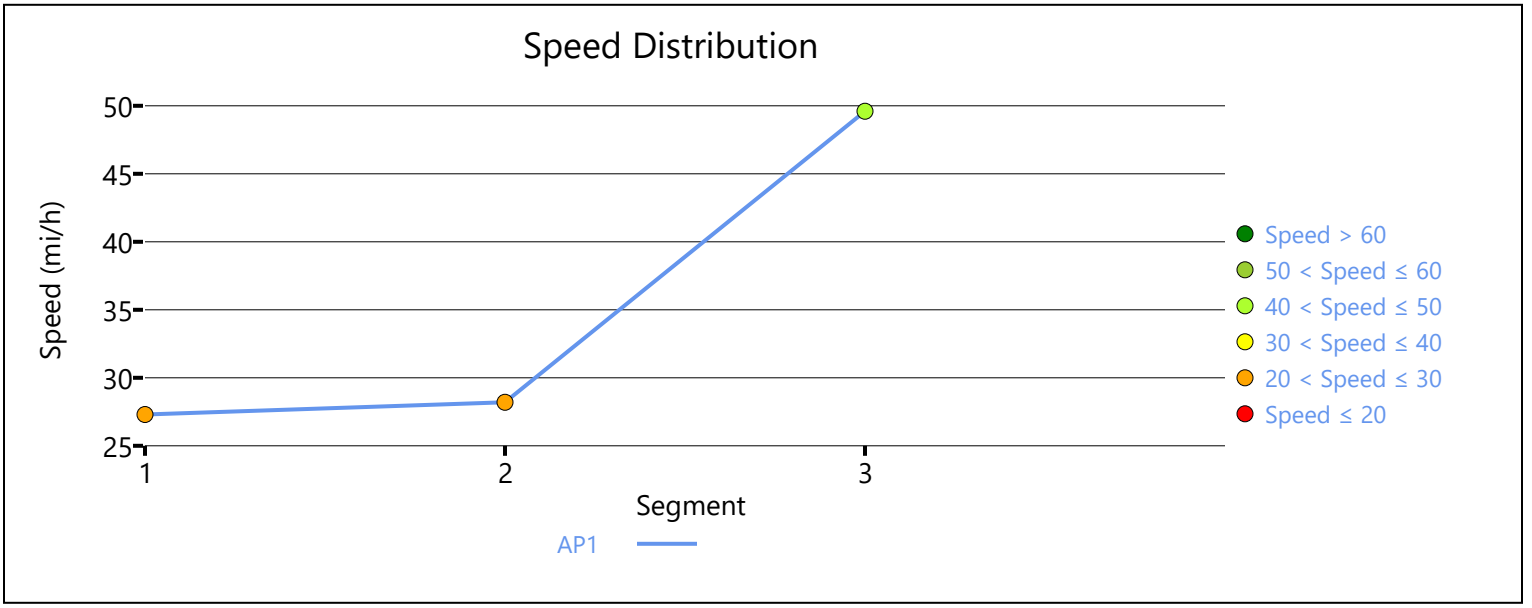
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11035	-	-	49.6

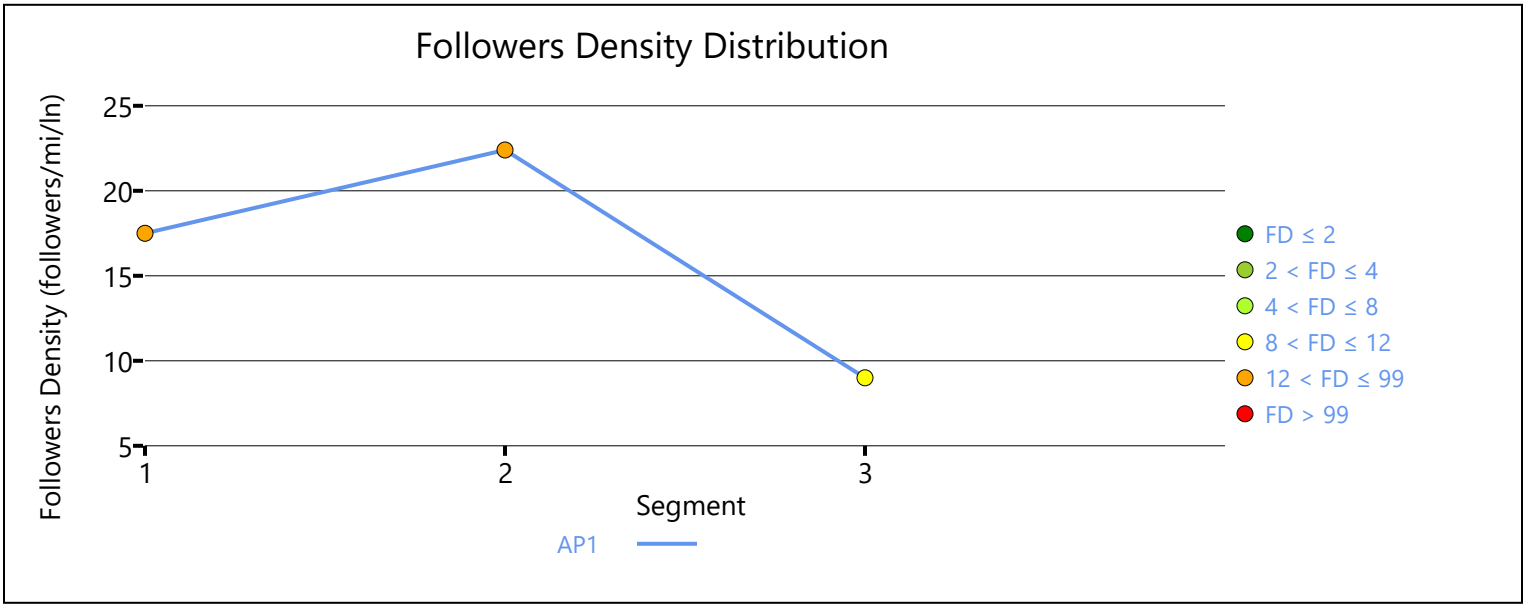
Vehicle Results

Average Speed, mi/h	49.6	Percent Followers, %	64.9
Segment Travel Time, minutes	2.53	Follower Density (FD), followers/mi/ln	9.0
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	1042	1.95	14.8	D





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1291	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	734
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.39

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	16.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1376	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	783
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.41

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	17.8
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 between Jones Avenue and Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	2164	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1208
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.59

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	23.2
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data			
Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors			
Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity			
Volume (V) veh/h	1898	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1059
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.52

Direction 2 Speed and Density			
Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	20.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	979	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	546
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.25

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	9.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1483	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	828
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.38

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	14.3
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13939
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	800	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.47

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.19114	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42590	PF Power Coefficient (p)	0.66617
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	12.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13939	-	-	44.6

Vehicle Results

Average Speed, mi/h	44.6	Percent Followers, %	70.7
Segment Travel Time, minutes	3.55	Follower Density (FD), followers/mi/ln	12.7
Vehicle LOS	D		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	486	0.63	12.7	D

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	436	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.26

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	5.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.4

Vehicle Results

Average Speed, mi/h	43.4	Percent Followers, %	56.0
Segment Travel Time, minutes	3.49	Follower Density (FD), followers/mi/ln	5.6
Vehicle LOS	C		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	580
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	542	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.32

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	35.2
Speed Slope Coefficient (m)	2.41416	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49747	PF Power Coefficient (p)	0.65535
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	10.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	580	-	-	33.4

Vehicle Results

Average Speed, mi/h	33.4	Percent Followers, %	63.3
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/ln	10.3
Vehicle LOS	D		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6336
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	548	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.32

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75727	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39061	PF Power Coefficient (p)	0.69627
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

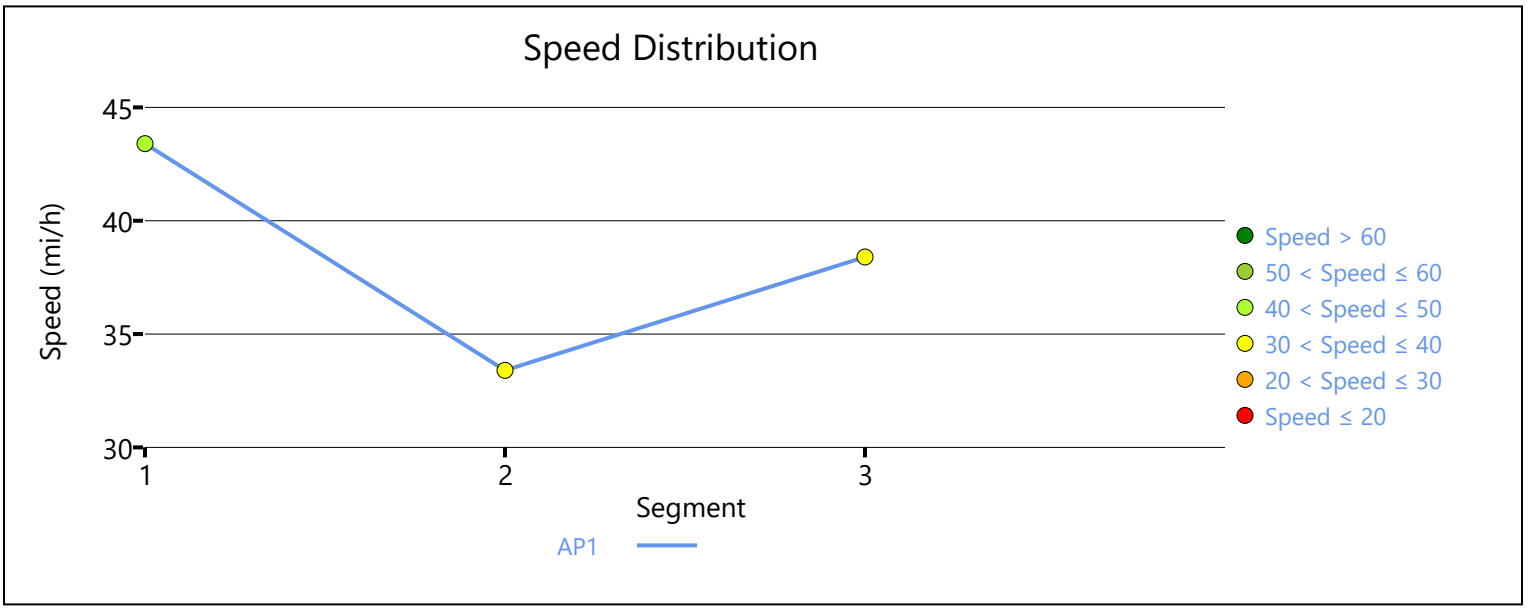
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.4

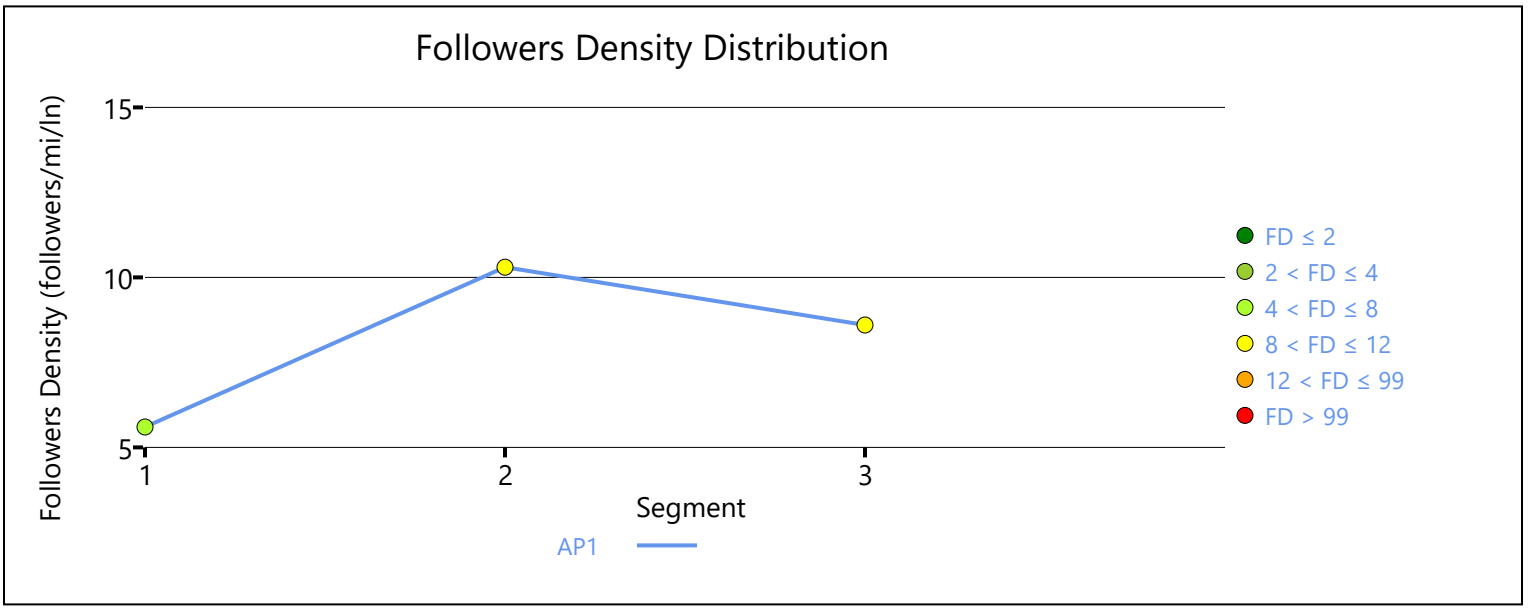
Vehicle Results

Average Speed, mi/h	38.4	Percent Followers, %	59.9
Segment Travel Time, minutes	1.88	Follower Density (FD), followers/mi/ln	8.6
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	418	0.46	6.7	C





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	468	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.28

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	33.0

Vehicle Results

Average Speed, mi/h	33.0	Percent Followers, %	56.5
Segment Travel Time, minutes	1.98	Follower Density (FD), followers/mi/ln	8.0
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	117	0.17	8.0	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	183	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35149	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37634	PF Power Coefficient (p)	0.66322
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	32.0

Vehicle Results

Average Speed, mi/h	32.0	Percent Followers, %	36.0
Segment Travel Time, minutes	2.23	Follower Density (FD), followers/mi/ln	2.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	50	0.04	2.0	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	109	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.06

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	34.2

Vehicle Results

Average Speed, mi/h	34.2	Percent Followers, %	29.6
Segment Travel Time, minutes	0.42	Follower Density (FD), followers/mi/ln	0.9
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	445
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	120	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	445	-	-	34.1

Vehicle Results

Average Speed, mi/h	34.1	Percent Followers, %	31.2
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1000
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	223	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.13

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

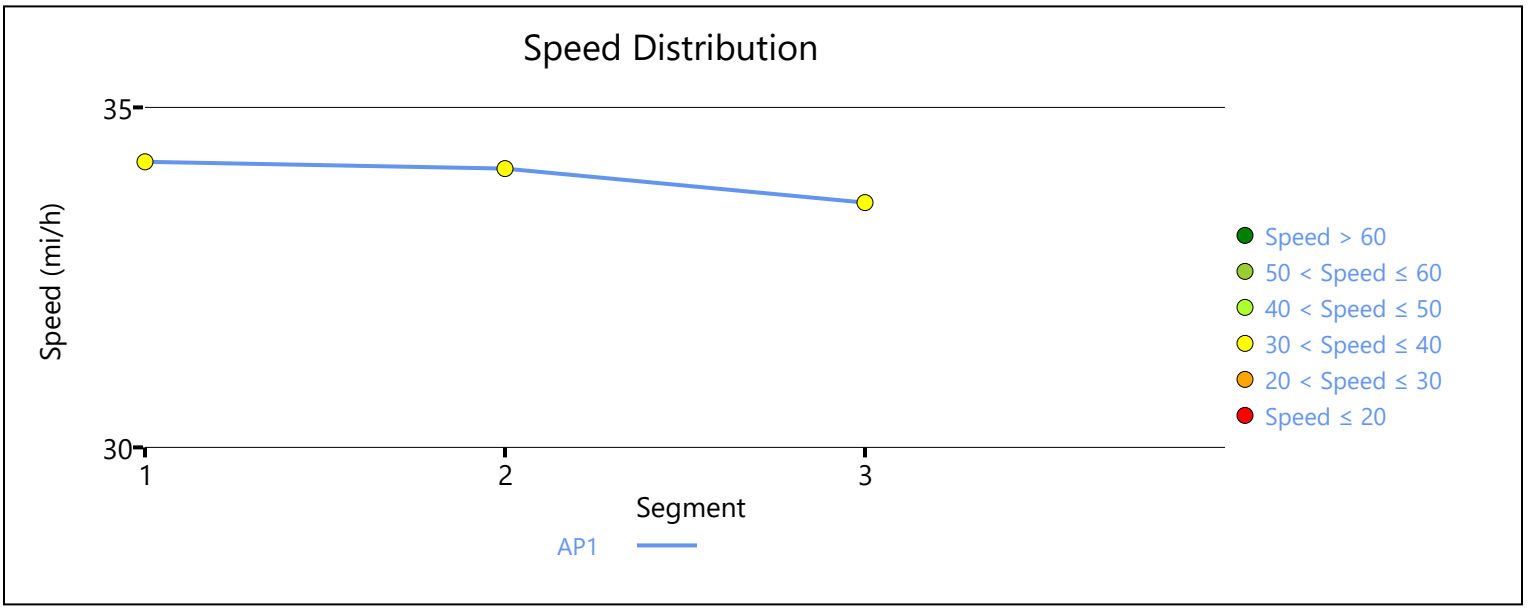
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1000	-	-	33.6

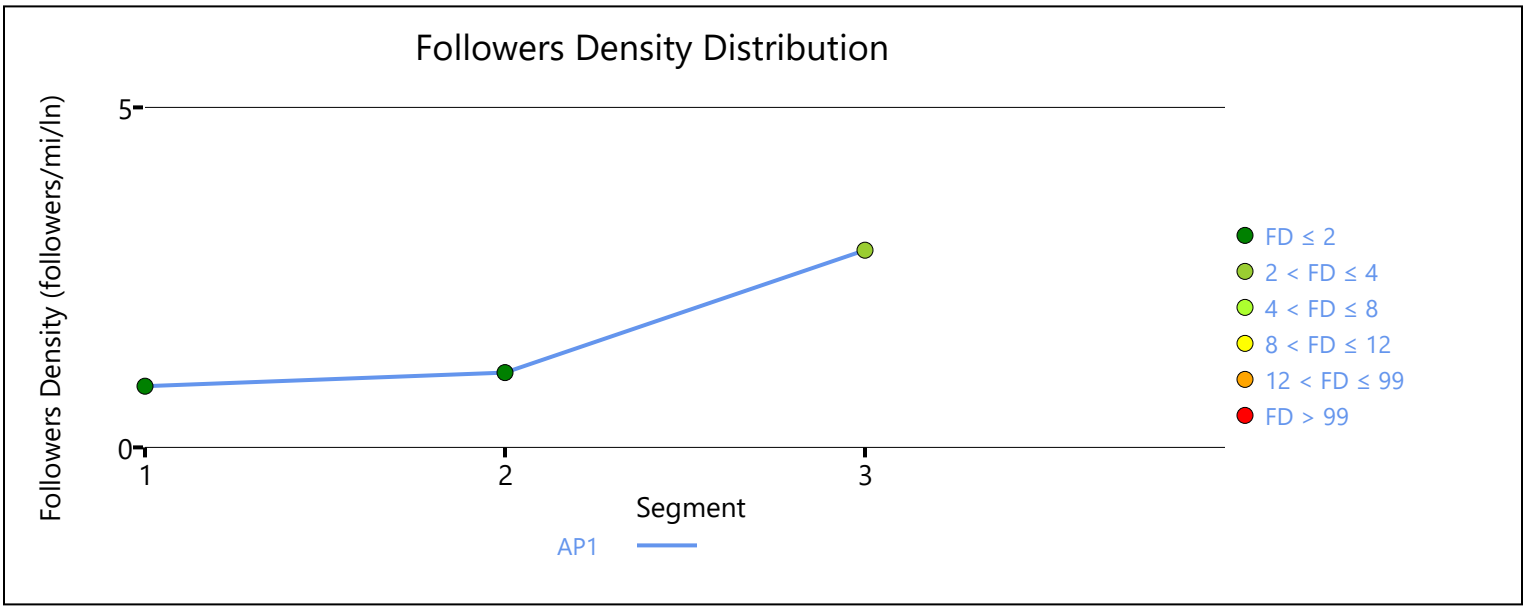
Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	43.0
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	2.9
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	18	0.01	1.7	A





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	35	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.02

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80915	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28942	PF Power Coefficient (p)	0.60656
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	22.8

Vehicle Results

Average Speed, mi/h	22.8	Percent Followers, %	15.5
Segment Travel Time, minutes	3.42	Follower Density (FD), followers/mi/ln	0.2
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	10	0.00	0.2	A

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 EB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 west of SR 115	2000	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 SB	1500	2
3	Basic	Basic	I-140 between SR 115 SB Off Ramp and Relocated SR 115 SB Off Ramp	2250	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 NB On Ramp	1000	2
6	Merge	Merge	SR 115 NB On Ramp to I-140 EB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and Relocated SR 115 SB On Ramp	1000	2
8	Merge	Merge	Relocated SR 115 NB On Ramp to I-140 EB	1500	2
9	Basic	Basic	I-140 between Relocated SR 115 NB On Ramp and SR 33	5280	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.955	4283	4654	1.10	37.9	56.6	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.955	0.980	4283	3262	4600	1900	1.12	1.72	45.1	45.1	47.5	37.5	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.962		1021		4654		0.38		61.9		8.1		A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1267	1266	4600	1900	0.39	0.67	48.8	48.8	13.0	11.5	B

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1	4654	0.10	60.9	0.0	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	1231	1230	4600	1900	0.37	0.65	56.6	56.6	10.9	9.6	A

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1231	4654	0.37	61.9	9.8	A

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1580	349	4600	2000	0.45	0.17	56.8	56.8	13.9	12.7	B

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1580	4654	0.45	62.7	12.6	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1500	1722	6.62	165.38	49.1	19.2	18.4	4.10	F

Facility Overall Results

Space Mean Speed, mi/h	49.1	Average Density, veh/mi/ln	18.4
Average Travel Time, min	4.10	Average Density, pc/mi/ln	19.2
Total VMT, veh-mi	1500	Total VHD, veh-h	6.62
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	165.38

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	I-140 WB	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	9
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.32		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	I-140 between SR 33 and Relocated SR 115 NB Off Ramp	5280	2
2	Diverge	Diverge	I-140 Off Ramp to SR 115 NB	1500	2
3	Basic	Basic	I-140 between Relocated SR 115 NB Off Ramp and Relocated SR 115 SB Off Ramp	1000	2
4	Diverge	Diverge	I-140 Off Ramp to Relocated SR 115 SB	1500	2
5	Basic	Basic	I-140 between Relocated SR 115 SB Off Ramp and Relocated SR 115 SB On Ramp	1000	2
6	Merge	Merge	Relocated SR 115 SB On Ramp to I-140 WB	1500	2
7	Basic	Basic	I-140 between Relocated SR 115 SB On Ramp and SR 115 SB On Ramp	2250	2
8	Merge	Merge	SR 115 SB On Ramp to I-140 WB	1500	2
9	Basic	Basic	I-140 west of SR 115	2000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.968	1480	4654	0.32	62.7	11.8	B

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.968	0.980	1480	1110	4600	1900	0.32	0.58	49.1	49.1	15.1	13.4	B

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS

1	0.92		0.968		356		4654		0.08		60.9		2.8		A

Segment 4: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	358	245	4600	1900	0.08	0.13	50.7	50.7	3.5	3.7	A

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	108	4654	0.02	61.1	0.9	A

Segment 6: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2065	1957	4600	1900	0.45	1.03	56.2	56.2	18.4	15.7	B

Segment 7: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2044	4654	0.44	62.4	16.3	B

Segment 8: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	3784	1740	4600	1900	0.82	0.92	53.3	53.3	35.5	29.2	D

Segment 9: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3817	4654	0.82	60.0	31.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1463	1113	1.81	45.13	58.2	15.7	15.1	3.40	B

Facility Overall Results

Space Mean Speed, mi/h	58.2	Average Density, veh/mi/ln	15.1
Average Travel Time, min	3.40	Average Density, pc/mi/ln	15.7
Total VMT, veh-mi	1463	Total VHD, veh-h	1.81
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	45.13

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 NB between SR 35 to SR 335	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.37		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 south of SR 35	250	2
2	Diverge	Diverge	SR 115 NB Off-Ramp to SR 35 SB	1500	2
3	Basic	Basic	S.R. 115 between SR 35 SB Off-Ramp to SR 35 NB On Ramp	1500	2
4	Merge	Merge	SR 35 NB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 between SR 35 to SR 335 Bridge	2500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2989	4574	0.65	58.7	25.5	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	2989	160	4500	1900	0.66	0.08	49.1	49.1	30.4	26.4	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2824	4574	0.62	57.9	24.1	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	4297	1473	4500	1900	0.95	0.78	49.2	49.2	43.7	33.4	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4346	4574	0.95	53.4	40.7	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1203	1016	2.50	62.42	52.3	35.2	33.4	1.60	E

Facility Overall Results

Space Mean Speed, mi/h	52.3	Average Density, veh/mi/ln	33.4
Average Travel Time, min	1.60	Average Density, pc/mi/ln	35.2
Total VMT, veh-mi	1203	Total VHD, veh-h	2.50
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	62.42

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.70		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16000	2
2	Weaving	Weaving	SR 115 between I-140 EB On Ramp and I-140 WB Off Ramp	1800	3
3	Basic	Basic	SR 115 north of I-140	1750	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2529	4574	0.55	58.7	21.5	C

Segment 2: Weaving

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3307	3478	0.95	39.4	28.0	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	1846	4574	0.40	57.6	15.7	B

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	2265	2022	2.34	58.49	55.3	21.9	20.8	4.00	C

Facility Overall Results

Space Mean Speed, mi/h	55.3	Average Density, veh/mi/ln	20.8
Average Travel Time, min	4.00	Average Density, pc/mi/ln	21.9
Total VMT, veh-mi	2265	Total VHD, veh-h	2.34

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	58.49

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to I-140	16700	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 EB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1800	2
4	Merge	Merge	I-140 WB On Ramp to SR 115 NB	1500	2
5	Basic	Basic	SR 115 north of I-140	250	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4228	4574	0.92	54.5	38.8	E

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	4228	1800	4500	1900	0.94	0.95	46.7	46.7	45.3	37.0	E

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2394	4574	0.52	57.9	20.4	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	4115	1721	4500	1900	0.91	0.91	50.0	50.0	41.2	31.8	D

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4148	4574	0.91	55.2	37.6	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	4029	3599	6.42	160.47	53.7	37.9	36.4	4.60	E

Facility Overall Results

Space Mean Speed, mi/h	53.7	Average Density, veh/mi/ln	36.4
Average Travel Time, min	4.60	Average Density, pc/mi/ln	37.9
Total VMT, veh-mi	4029	Total VHD, veh-h	6.42
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	160.47

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2026
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Existing SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	5
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	3.51		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB Off Ramp	1800	2
4	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
5	Basic	Basic	SR 115 between SR 335 to I-140	13500	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2463	4574	0.54	58.7	21.0	C

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2463	264	4500	1900	0.55	0.14	49.0	49.0	25.1	21.8	C

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2199	4574	0.48	58.0	18.7	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	4099	2456	4500	1900	1.03	1.29	47.5	47.5	49.0	35.7	F

Segment 5: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4099	4574	0.90	55.6	36.9	E

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3177	2820	4.12	103.05	54.6	34.9	33.6	3.90	F

Facility Overall Results

Space Mean Speed, mi/h	54.6	Average Density, veh/mi/ln	33.6
Average Travel Time, min	3.90	Average Density, pc/mi/ln	34.9
Total VMT, veh-mi	3177	Total VHD, veh-h	4.12
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	103.05

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	SR 115 between SR 335 to SR 35	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	3
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	1.41		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 between SR 335 to SR 35	2500	2
2	Diverge	Diverge	S.R. 115 SB Off-Ramp to SR 35	1500	2
3	Basic	Basic	SR 115 south of SR 35	3450	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	4190	4586	1.10	36.4	57.5	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.949	0.980	4190	2051	4500	1900	1.12	1.08	46.4	46.4	45.2	36.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.949	2139	4586	0.64	59.1	18.0	C

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	1085	1256	6.33	158.29	44.1	36.8	34.9	1.90	F

Facility Overall Results

Space Mean Speed, mi/h	44.1	Average Density, veh/mi/ln	34.9
Average Travel Time, min	1.90	Average Density, pc/mi/ln	36.8
Total VMT, veh-mi	1085	Total VHD, veh-h	6.33

Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	158.29

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HCS Freeway Facilities Report

Project Information

Analyst	Humayra	Date	9/5/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Facility Name	Relocated SR 115 between SR 335 to I-140	Units	U.S. Customary
Project Description	Pellissippi Parkway Extension		

Facility Global Input

Jam Density, pc/mi/ln	190.0	Density at Capacity, pc/mi/ln	45.0
Queue Discharge Capacity Drop, %	7	Total Segments	6
Total Analysis Periods	1	Analysis Period Duration, min	15
Facility Length, mi	4.12		

Facility Segment Data

No.	Coded	Analyzed	Name	Length, ft	Lanes
1	Basic	Basic	SR 115 north of I-140	250	2
2	Diverge	Diverge	SR 115 Off Ramp to I-140 WB	1500	2
3	Basic	Basic	SR 115 between I-140 EB Off Ramp and I-140 WB On Ramp	1000	2
4	Merge	Merge	I-140 WB On Ramp to SR 115	1500	2
5	Merge	Merge	I-140 EB On Ramp to SR 115	1500	2
6	Basic	Basic	SR 115 between SR 335 to I-140	16000	2

Facility Segment Data

Segment 1: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	4190	4564	1.11	36.8	56.9	F

Segment 2: Diverge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	4190	1736	4500	1900	1.13	0.91	46.6	46.6	45.0	36.7	F

Segment 3: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	2454	4564	0.73	56.7	21.1	C

Segment 4: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	2699	245	4500	1900	0.79	0.13	52.7	52.7	25.6	21.5	C

Segment 5: Merge

AP	PHF		fHV		Flow Rate (pc/h)		Capacity (pc/h)		d/c Ratio		Speed (mi/h)		Density (pc/mi/ln)		LOS
	F	R	F	R	Freeway	Ramp	Freeway	Ramp	F	R	F	R Infl.	F	R Infl.	
1	0.92	0.92	0.962	0.980	3353	654	4500	1900	0.94	0.34	51.8	51.8	32.4	26.4	C

Segment 6: Basic

AP	PHF	fHV	Flow Rate (pc/h)	Capacity (pc/h)	d/c Ratio	Speed (mi/h)	Density (pc/mi/ln)	LOS
1	0.92	0.962	3353	4564	0.93	58.2	28.8	D

Facility Analysis Results

AP	VMT veh-mi/AP	VMT-Demand veh-mi/AP	VHD veh-h/AP	Total Delay Cost $/AP	Speed mi/h	Density pc/mi/ln	Density veh/mi/ln	TT min	LOS
1	3303	3777	2.57	64.23	55.7	29.9	28.8	4.40	F

Facility Overall Results

Space Mean Speed, mi/h	55.7	Average Density, veh/mi/ln	28.8
Average Travel Time, min	4.40	Average Density, pc/mi/ln	29.9
Total VMT, veh-mi	3303	Total VHD, veh-h	2.57
Vehicle Value of Time (VOT), $/h	25.00	Total Delay Cost, $	64.23

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	AM Peak
Project Description	SR 33	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1061	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.62

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.6
Speed Slope Coefficient (m)	2.97784	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49479	PF Power Coefficient (p)	0.69769
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	19.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.6

Vehicle Results

Average Speed, mi/h	42.6	Percent Followers, %	78.9
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	19.6
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	9820
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	9.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1057	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.62

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	43.3
Speed Slope Coefficient (m)	2.94356	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39543	PF Power Coefficient (p)	0.68806
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	20.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	9820	-	-	40.4

Vehicle Results

Average Speed, mi/h	40.4	Percent Followers, %	76.5
Segment Travel Time, minutes	2.76	Follower Density (FD), followers/mi/ln	20.0
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6652
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	6.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	701	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.41

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	44.0
Speed Slope Coefficient (m)	2.95938	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38433	PF Power Coefficient (p)	0.70914
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	11.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6652	-	-	41.6

Vehicle Results

Average Speed, mi/h	41.6	Percent Followers, %	65.9
Segment Travel Time, minutes	1.82	Follower Density (FD), followers/mi/ln	11.1
Vehicle LOS	D		

Segment 4

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2300
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1789	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.05

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2300	-	-	-

Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Segment 5

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	2400
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1790	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	1.05

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	-
Speed Slope Coefficient (m)	-	Speed Power Coefficient (p)	-
PF Slope Coefficient (m)	-	PF Power Coefficient (p)	-
In Passing Lane Effective Length?	-	Total Segment Density, veh/mi/ln	-
%Improvement to Percent Followers	-	%Improvement to Speed	-

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	2400	-	-	-

Vehicle Results

Average Speed, mi/h	-	Percent Followers, %	-
Segment Travel Time, minutes	-	Follower Density (FD), followers/mi/ln	-
Vehicle LOS	F		

Segment 6

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	250
Lane Width, ft	12	Shoulder Width, ft	6
Speed Limit, mi/h	40	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	1232	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.72

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.5
Speed Slope Coefficient (m)	2.97542	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49476	PF Power Coefficient (p)	0.69773
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	23.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

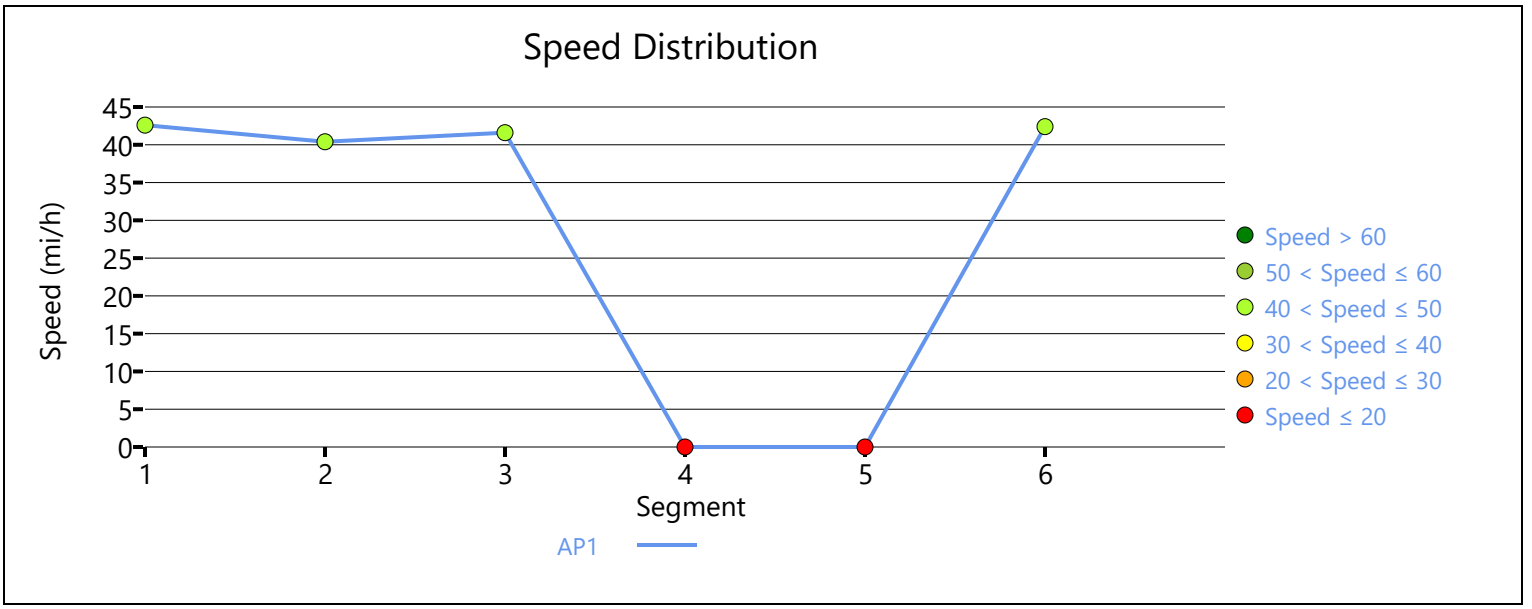
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	250	-	-	42.4

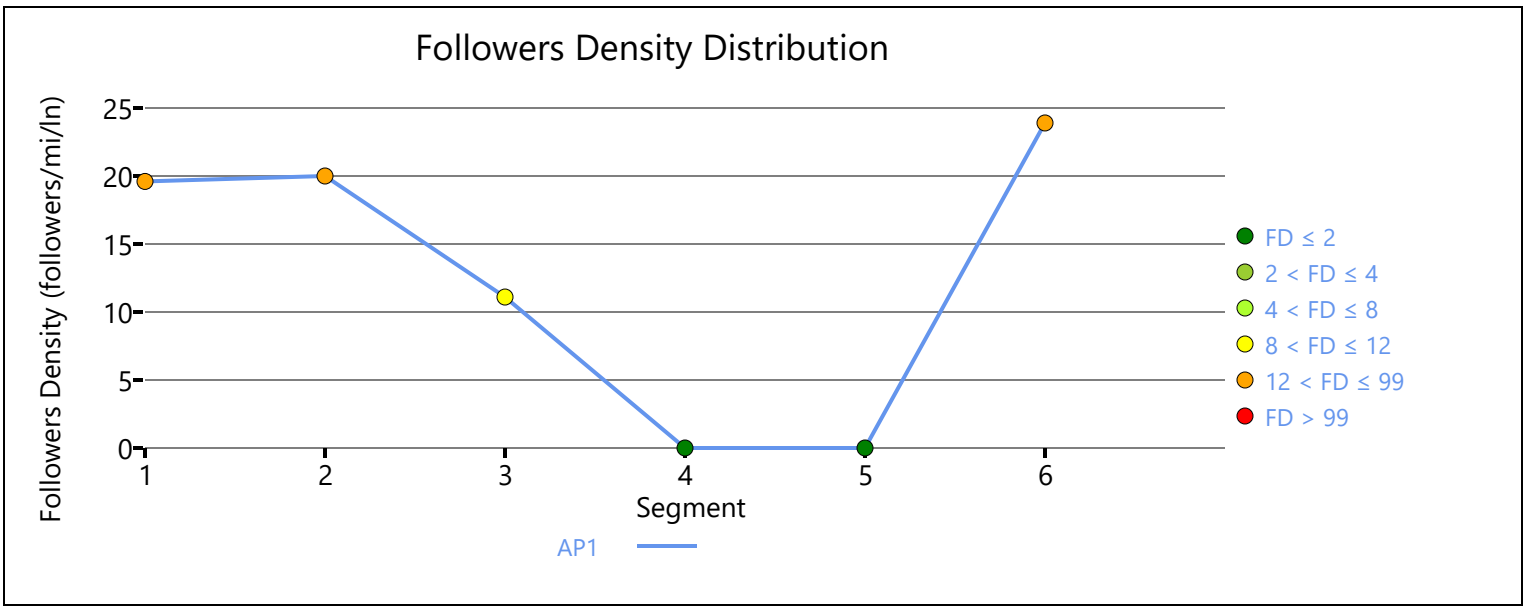
Vehicle Results

Average Speed, mi/h	42.4	Percent Followers, %	82.2
Segment Travel Time, minutes	0.07	Follower Density (FD), followers/mi/ln	23.9
Vehicle LOS	E		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	-	-	-	F





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 35 between SR 447 and Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	22800
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	675	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	2.00
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.40

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	29.0
Speed Slope Coefficient (m)	2.20911	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.43450	PF Power Coefficient (p)	0.56892
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	16.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	22800	-	-	27.3

Vehicle Results

Average Speed, mi/h	27.3	Percent Followers, %	68.2
Segment Travel Time, minutes	9.50	Follower Density (FD), followers/mi/ln	16.9
Vehicle LOS	E		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	633
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	30	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	792	Opposing Demand Flow Rate, veh/h	-

Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.47

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	30.1
Speed Slope Coefficient (m)	2.13774	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.46977	PF Power Coefficient (p)	0.62860
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	20.2
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	633	-	-	28.2

Vehicle Results

Average Speed, mi/h	28.2	Percent Followers, %	71.9
Segment Travel Time, minutes	0.25	Follower Density (FD), followers/mi/ln	20.2
Vehicle LOS	E		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	11035
Lane Width, ft	11	Shoulder Width, ft	1
Speed Limit, mi/h	50	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	651	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.38

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	52.4
Speed Slope Coefficient (m)	3.44371	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.36622	PF Power Coefficient (p)	0.70787
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.3
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

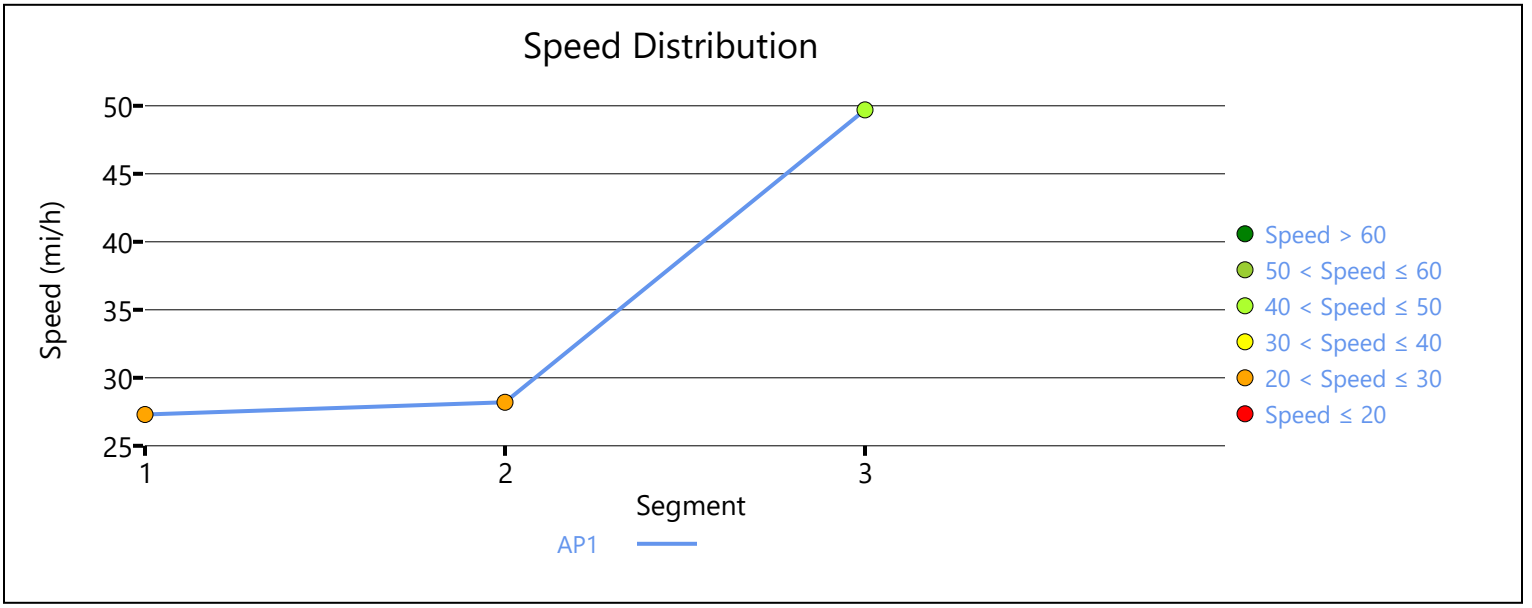
Subsegment Data

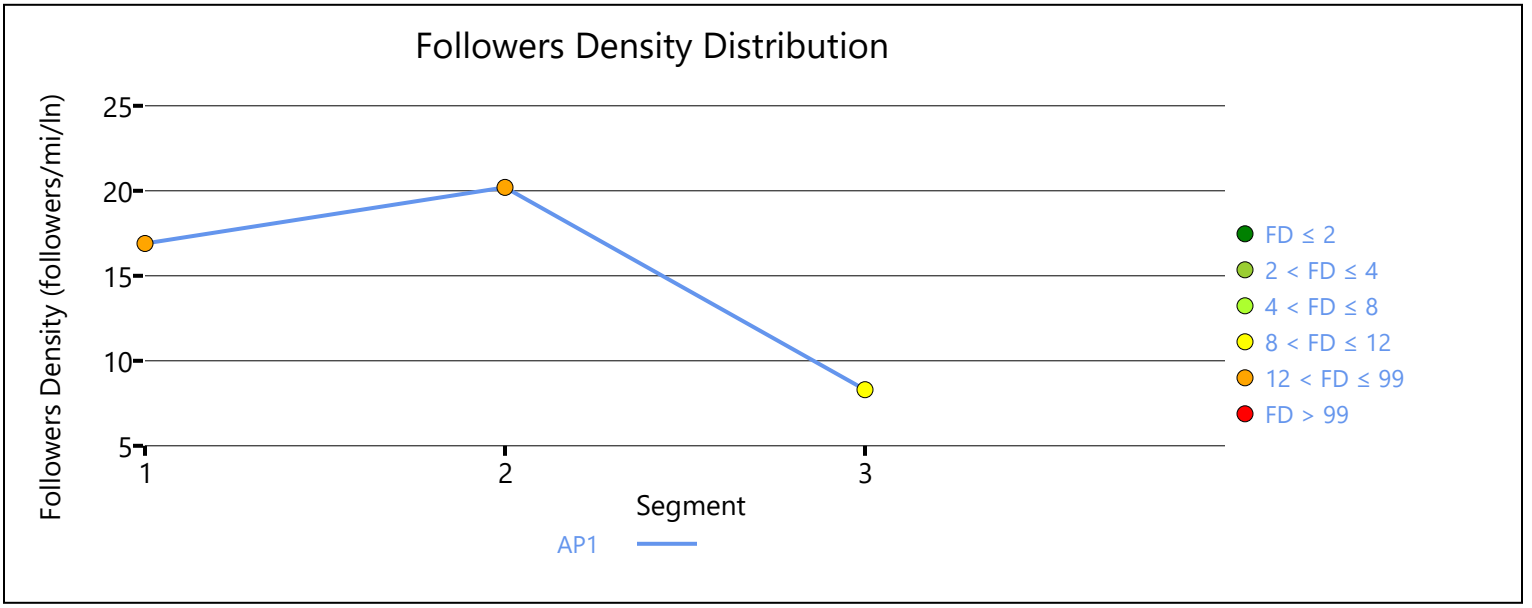
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	11035	-	-	49.7

Vehicle Results

Average Speed, mi/h	49.7	Percent Followers, %	63.5
Segment Travel Time, minutes	2.52	Follower Density (FD), followers/mi/ln	8.3
Vehicle LOS	D		

Facility Results				
T	**VMT veh-mi/AP**	**VHD veh-h/p**	**Follower Density, followers/ mi/ln**	**LOS**
1	1005	1.86	14.2	D





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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between SR 33 and SR 35/SR 447	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1676	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	954
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.50

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	21.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	47.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	44.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1130	Heavy Vehicle Adjustment Factor (f_{HV})	0.955
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	643
Total Trucks, %	4.67	Capacity (c), pc/h/ln	1900
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	1900
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	44.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	14.6
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 between Jones Avenue to Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	3323	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	1854
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.91

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	47.8
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	38.8
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	E
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	55.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	TWLTL	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	52.1	Total Lateral Clearance (TLC), ft	8

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1747	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	975
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2042
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2042
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.48

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	52.1
Total Lateral Clearance Adj. (f_{LLC})	0.9	Density (D), pc/mi/ln	18.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	C
Access Point Density Adjustment (f_A)	2.0		

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HCS Multilane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	SR 73 East of Helton Road	Units	U.S. Customary

Direction 1 Geometric Data

Direction 1	EB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 1 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 1 Demand and Capacity

Volume (V) veh/h	1318	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	736
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.34

Direction 1 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	12.7
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	B
Access Point Density Adjustment (f_A)	2.0		

Direction 2 Geometric Data

Direction 2	WB		
Number of Lanes (N), ln	2	Terrain Type	Level
Measured or Base Free-Flow Speed	Base	Percent Grade, %	-
Base Free-Flow Speed (BFFS), mi/h	60.0	Grade Length, mi	-
Lane Width, ft	12	Access Point Density, pts/mi	8.0
Median Type	Divided	Left-Side Lateral Clearance (LC_R), ft	6
Free-Flow Speed (FFS), mi/h	58.0	Total Lateral Clearance (TLC), ft	12

Direction 2 Adjustment Factors

Driver Population	All Familiar	Final Speed Adjustment Factor (SAF)	1.000
Driver Population SAF	1.000	Final Capacity Adjustment Factor (CAF)	1.000
Driver Population CAF	1.000		

Direction 2 Demand and Capacity

Volume (V) veh/h	1083	Heavy Vehicle Adjustment Factor (f_{HV})	0.974
Peak Hour Factor	0.92	Flow Rate (V_p), pc/h/ln	604
Total Trucks, %	2.67	Capacity (c), pc/h/ln	2160
Single-Unit Trucks (SUT), %	-	Adjusted Capacity (c_{adj}), pc/h/ln	2160
Tractor-Trailers (TT), %	-	Volume-to-Capacity Ratio (v/c)	0.28

Direction 2 Speed and Density

Lane Width Adjustment (f_{LW})	0.0	Average Speed (S), mi/h	58.0
Total Lateral Clearance Adj. (f_{LLC})	0.0	Density (D), pc/mi/ln	10.4
Median Type Adjustment (f_M)	0.0	Level of Service (LOS)	A
Access Point Density Adjustment (f_A)	2.0		

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Sam Houston School Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	11	Shoulder Width, ft	2
Speed Limit, mi/h	45	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	533	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.31

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	47.4
Speed Slope Coefficient (m)	3.13620	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37437	PF Power Coefficient (p)	0.72181
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	45.1

Vehicle Results

Average Speed, mi/h	45.1	Percent Followers, %	58.2
Segment Travel Time, minutes	1.58	Follower Density (FD), followers/mi/ln	6.9
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	146	0.15	6.9	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/23/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	13306
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	45	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	562	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.33

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	45.3
Speed Slope Coefficient (m)	3.07619	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.42524	PF Power Coefficient (p)	0.66547
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	13306	-	-	43.1

Vehicle Results

Average Speed, mi/h	43.1	Percent Followers, %	62.1
Segment Travel Time, minutes	3.51	Follower Density (FD), followers/mi/ln	8.1
Vehicle LOS	C		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	580
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	628	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.37

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	35.2
Speed Slope Coefficient (m)	2.41416	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49747	PF Power Coefficient (p)	0.65535
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	12.6
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	580	-	-	33.3

Vehicle Results

Average Speed, mi/h	33.3	Percent Followers, %	66.9
Segment Travel Time, minutes	0.20	Follower Density (FD), followers/mi/ln	12.6
Vehicle LOS	D		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6336
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	40	Access Point Density, pts/mi	2.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	539	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.32

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	40.4
Speed Slope Coefficient (m)	2.75727	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.39061	PF Power Coefficient (p)	0.69627
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	8.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

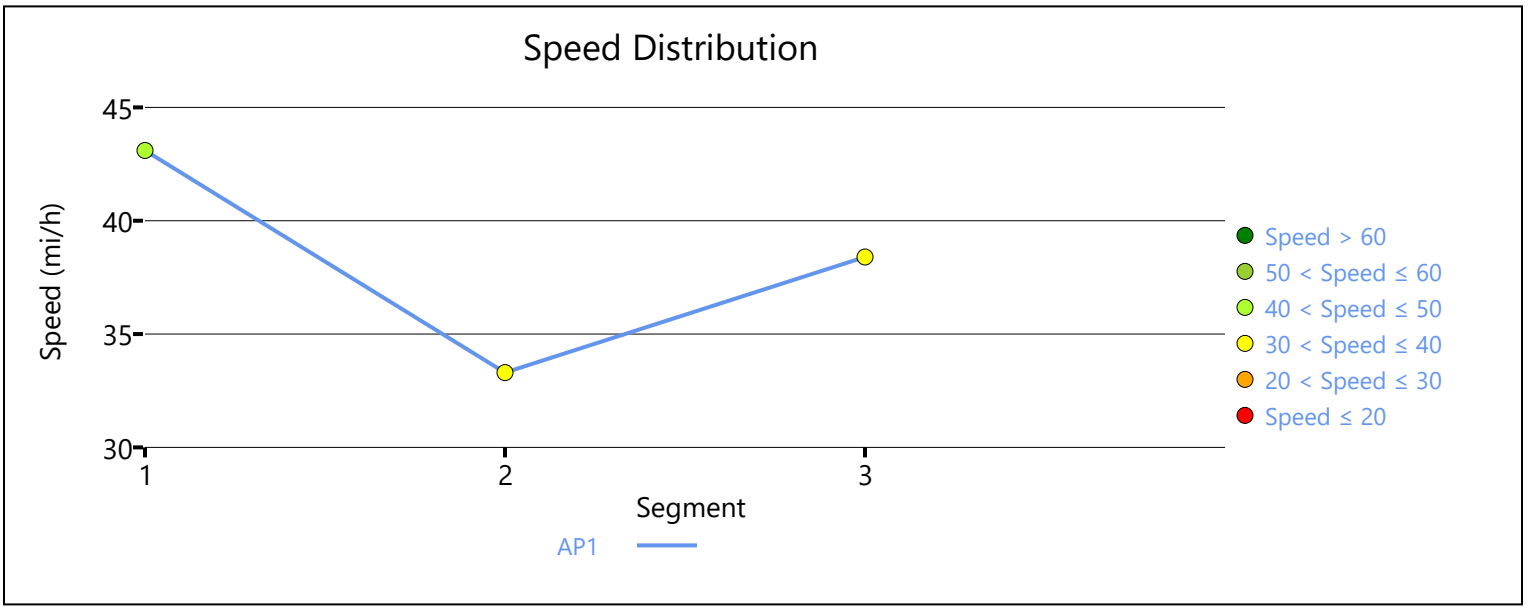
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6336	-	-	38.4

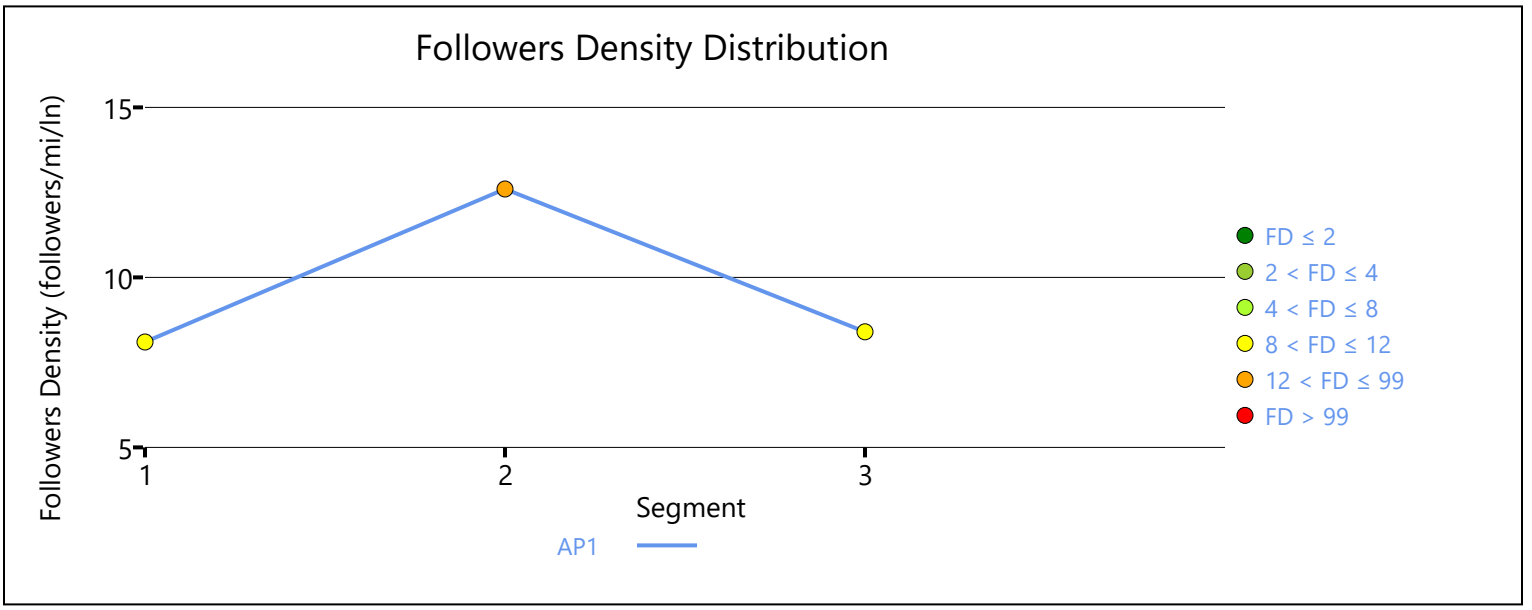
Vehicle Results

Average Speed, mi/h	38.4	Percent Followers, %	59.5
Segment Travel Time, minutes	1.88	Follower Density (FD), followers/mi/ln	8.4
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	490	0.59	8.3	C





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Peppermint Road Between SR 35 and Wildwood Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	5755
Lane Width, ft	10	Shoulder Width, ft	2
Speed Limit, mi/h	35	Access Point Density, pts/mi	5.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	422	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.25

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.44033	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.38514	PF Power Coefficient (p)	0.67306
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	6.9
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	5755	-	-	33.1

Vehicle Results

Average Speed, mi/h	33.1	Percent Followers, %	53.9
Segment Travel Time, minutes	1.98	Follower Density (FD), followers/mi/ln	6.9
Vehicle LOS	C		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	106	0.14	6.9	C

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Hitch Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6283
Lane Width, ft	9	Shoulder Width, ft	0
Speed Limit, mi/h	35	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	179	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.11

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	32.9
Speed Slope Coefficient (m)	2.35149	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.37634	PF Power Coefficient (p)	0.66322
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.0
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6283	-	-	32.1

Vehicle Results

Average Speed, mi/h	32.1	Percent Followers, %	35.6
Segment Travel Time, minutes	2.23	Follower Density (FD), followers/mi/ln	2.0
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	49	0.04	2.0	A

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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/24/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Davis Ford Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1280
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	121	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.07

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.1
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1280	-	-	34.1

Vehicle Results

Average Speed, mi/h	34.1	Percent Followers, %	31.4
Segment Travel Time, minutes	0.43	Follower Density (FD), followers/mi/ln	1.1
Vehicle LOS	A		

Segment 2

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	445
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	141	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33

Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.08

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	1.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	445	-	-	33.9

Vehicle Results

Average Speed, mi/h	33.9	Percent Followers, %	34.1
Segment Travel Time, minutes	0.15	Follower Density (FD), followers/mi/ln	1.4
Vehicle LOS	A		

Segment 3

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	1000
Lane Width, ft	9	Shoulder Width, ft	1
Speed Limit, mi/h	35	Access Point Density, pts/mi	0.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	213	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	1.33
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.13

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	34.6
Speed Slope Coefficient (m)	2.38164	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.49530	PF Power Coefficient (p)	0.65241
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	2.7
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

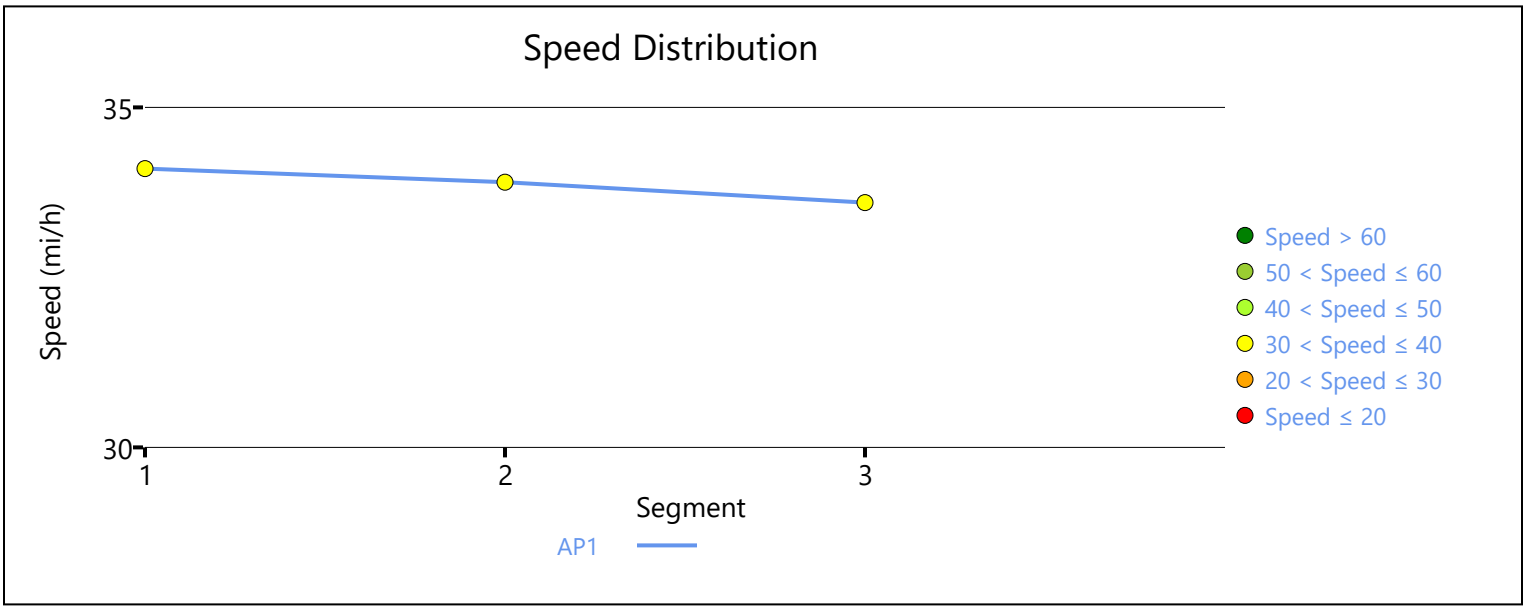
#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	1000	-	-	33.6

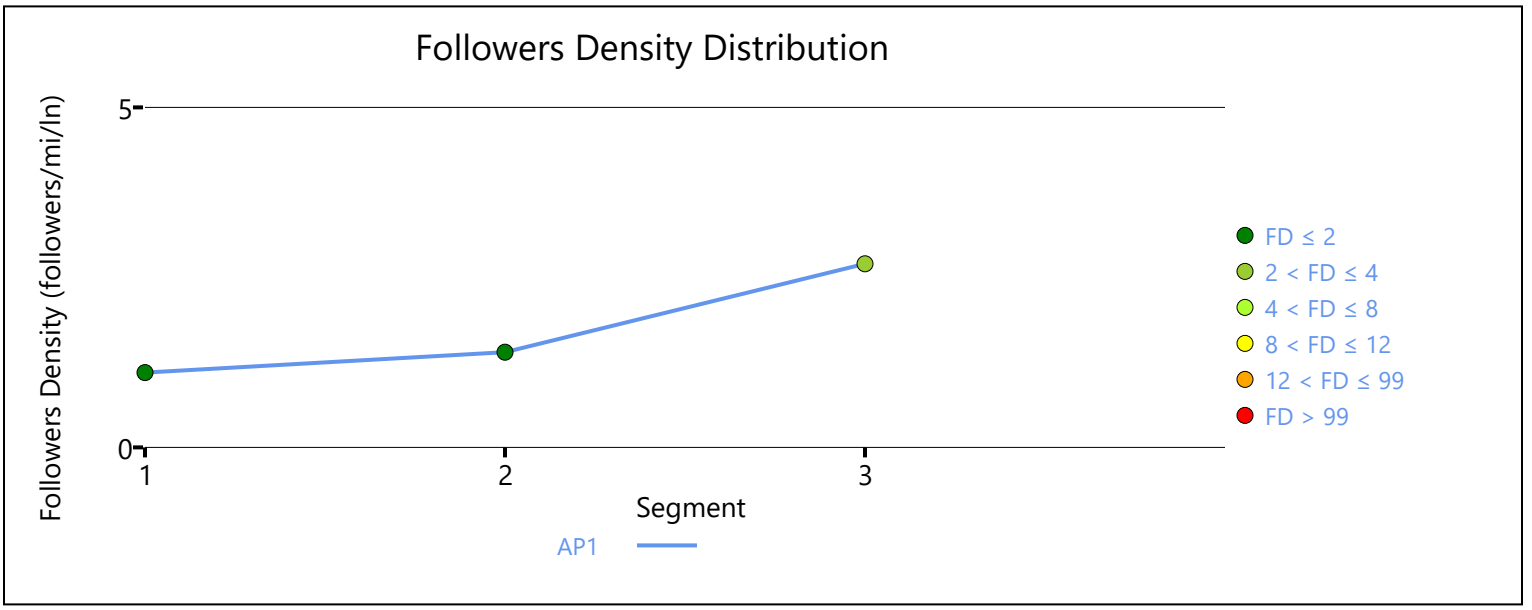
Vehicle Results

Average Speed, mi/h	33.6	Percent Followers, %	42.0
Segment Travel Time, minutes	0.34	Follower Density (FD), followers/mi/ln	2.7
Vehicle LOS	B		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	19	0.01	1.7	A





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HCS Two-Lane Highway Report

Project Information

Analyst	Humayra	Date	8/25/2023
Agency	HNTB	Analysis Year	2046
Jurisdiction	Blount County	Time Analyzed	PM Peak
Project Description	Helton Road	Units	U.S. Customary

Segment 1

Vehicle Inputs

Segment Type	Passing Constrained	Length, ft	6864
Lane Width, ft	10	Shoulder Width, ft	1
Speed Limit, mi/h	25	Access Point Density, pts/mi	4.0

Demand and Capacity

Directional Demand Flow Rate, veh/h	47	Opposing Demand Flow Rate, veh/h	-
Peak Hour Factor	0.92	Total Trucks, %	0.67
Segment Capacity, veh/h	1700	Demand/Capacity (D/C)	0.03

Intermediate Results

Segment Vertical Class	1	Free-Flow Speed, mi/h	22.8
Speed Slope Coefficient (m)	1.80915	Speed Power Coefficient (p)	0.41674
PF Slope Coefficient (m)	-1.28942	PF Power Coefficient (p)	0.60656
In Passing Lane Effective Length?	No	Total Segment Density, veh/mi/ln	0.4
%Improvement to Percent Followers	0.0	%Improvement to Speed	0.0

Subsegment Data

#	Segment Type	Length, ft	Radius, ft	Superelevation, %	Average Speed, mi/h
1	Tangent	6864	-	-	22.8

Vehicle Results

Average Speed, mi/h	22.8	Percent Followers, %	18.2
Segment Travel Time, minutes	3.42	Follower Density (FD), followers/mi/ln	0.4
Vehicle LOS	A		

Facility Results

T	VMT veh-mi/AP	VHD veh-h/p	Follower Density, followers/ mi/ln	LOS
1	14	0.00	0.4	A

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STATE OF TENNESSEE
DEPARTMENT OF TRANSPORTATION
STRATEGIC TRANSPORTATION INVESTMENTS DIVISION
SUITE 1000, JAMES K. POLK BUILDING
505 DEADERICK STREET
NASHVILLE, TENNESSEE 37243-1402
(615) 741-2208

BUTCH ELEY
DEPUTY GOVERNOR &
COMMISSIONER OF TRANSPORTATION

BILL LEE
GOVERNOR

January 23, 2024

Ms. Valerie Birch
TDOT, Environmental Division
505 Deaderick St. Suite 900
Nashville, TN 37243

RE: SR-162 (Pellissippi Pkwy) Extension
Traffic & Safety Report
Blount County, PIN 101423.00

Dear Ms. Birch,

The Project Coordination and Investigation Office has reviewed the Traffic Operations and Safety Technical Report submitted on January 23, 2024. This report has our approval for use in the further development of this project. If I can be of further assistance, please feel free to contact me at (615) 532- 3200 or by email at Jim.Waters@tn.gov.

Sincerely,

Jim Waters (Jan 23, 2024 11:21 CST)

Jim Waters
Assistant Director

JW/DMG

Cc: Mr. Steve Allen
Mr. Mike Gilbert
Mr. Caleb Smith
Mr. Tony Armstrong
File