

Final Report

## Lewisburg Community Transportation Planning Grant 2015

Traffic Signal Timing Optimization Program

TDOT PIN: 104685.10



Prepared for:



Prepared by:

**Kimley»Horn**

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# City of Lewisburg Community Transportation Planning Grant 2015

## Traffic Signal Timing Optimization Program



City of Lewisburg



TDOT  
Long Range Planning Division

AUGUST 2016

Prepared By:



# Kimley»»Horn

214 Oceanside Drive, Nashville, TN 37204

(615) 564-2701

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**Contents**

1.0 Introduction .....4

2.0 Data Collection.....7

3.0 Existing Conditions.....7

4.0 Timing Plan Development .....9

    4.1 Vehicular and Pedestrian Clearance Intervals..... 9

    4.2 Cycle Length Determination ..... 10

    4.3 Split Allocation ..... 11

    4.4 Offset Manipulation / Optimization ..... 11

    4.5 Phase Operation / Sequencing..... 12

    4.6 Time of Day Clock Development ..... 12

5.0 Field Implementation.....12

6.0 Before and After Comparisons ..... 13

    6.1 Travel Time Study ..... 13

    6.2 Economic Evaluation..... 17

**Figures**

Figure 1 – Project Corridors .....6

**Tables**

Table 1 - Intersection List.....5

Table 2 - Cycle Lengths ..... 11

Table 3 - Travel Time Study Results Ellington Parkway (US 431 / SR 11/106/272)..... 14

Table 4 - Travel Time Study Results Commerce Street (SR 373)..... 15

Table 5 - Total Project Delay Reduction..... 16

Table 6 – Emissions Economic Analysis ..... 18

Table 7 - Fuel Consumption Economic Analysis ..... 19

Table 8 – Economic Analysis Results ..... 19

**Appendices**

- Appendix A – Turning Movement Counts
- Appendix B – Existing Conditions and Operational Analysis Memorandum
- Appendix C – Approved Local Controller Settings
- Appendix D – Cycle Length Evaluation Memorandum
- Appendix E – Time of Day Clock Settings
- Appendix F – Coding Sheets
- Appendix G – Field Implementation Memorandum
- Appendix H – Travel Time Study
- Appendix I – Economic Analysis

## 1.0 INTRODUCTION

Kimley-Horn was selected by TDOT and the City of Lewisburg to perform a traffic signal timing optimization program, along with our sub-consultant, Marr Traffic, Inc., within Lewisburg, Tennessee. The project scope included 19 traffic signals and nine (9) flashing beacons.

This project awarded was by TDOT as part of the Community Transportation Planning Grant program. The City of Lewisburg submitted the grant application in early 2015 and the project was awarded later that year. Kimley-Horn began work on the project in January 2016.

The purpose of this project was to improve traffic signal timing along the signalized corridors in the City of Lewisburg, which in turn reduces vehicle emissions, driver delay, and driver stops / starts. The scope of services for this project included: data collection, an operational analysis of each of the signalized intersections, a communications master plan, timing plan development for the typical weekday peak periods, field implementation of the weekday timing plans, before and after travel time evaluations of the weekday timing plans, and project documentation. The project includes the following two (2) coordinated signal system groups:

- Ellington Parkway (8 intersections)
- Downtown / West Commerce Street (6 intersections)

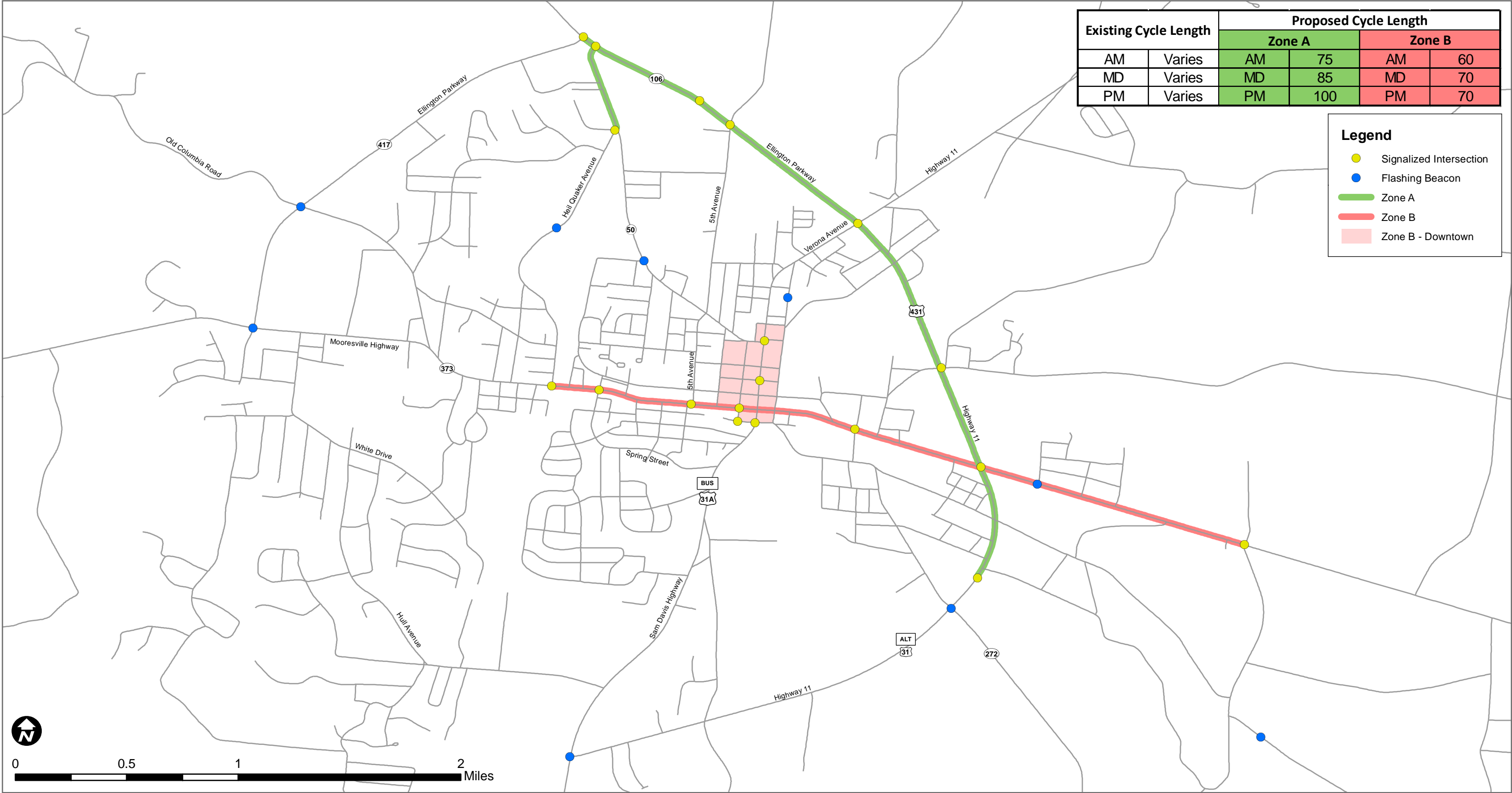
**Table 1** details each of the 19 signalized intersections and nine (9) flashing beacon locations, including each intersection's identification number. **Figure 1** shows each of the corridors shown above as well as cycle lengths for regular weekday timings.

**Table 1 - Intersection List**

<b>ID #</b>	<b>Main Street</b>	<b>Side Street</b>
3	West Commerce Street (State Route (SR) 373)	Heil Quaker Avenue
4	North Ellington Parkway (SR 106)	West Ellington Parkway (SR 417)
5	West Commerce Street (SR 373)	8 <sup>th</sup> Avenue S
6	North Ellington Parkway (SR 106)	Franklin Road
7	West Commerce Street (SR 373)	5 <sup>th</sup> Avenue
8	North Ellington Parkway (SR 106)	Wal-Mart Entrance
9	West Commerce Street (SR 373)	North 3 <sup>rd</sup> Avenue / Franklin Road
10	North Ellington Parkway (SR 106)	North 5 <sup>th</sup> Avenue / Rock Crusher Road
11	East Commerce Street (SR 50)	Legion Avenue / Martin Avenue
12	North Ellington Parkway (SR 111/106/272)	Nashville Highway (SR 11)
13	East Commerce Street (SR 50) / Fayetteville Highway	Creekside Drive / Garrett Parkway
14	North Ellington Parkway (SR 11/106/272)	Finley Beech Road
17	West Ewing Street	Franklin Road
15	West Ewing Street	US-31 Alt Business
16	East Commerce Street (SR 50) / Fayetteville Highway	Ellington Parkway (SR 11/106/272)
18	South Ellington Parkway (SR 11)	Higgs Road
19	North 2 <sup>nd</sup> Avenue / US 431 Business	Water Street
21	North 2 <sup>nd</sup> Avenue / US 431 Business	College Street
23	Franklin Road (SR 50)	Heil Quaker Avenue / Dodson Drive
A	West Ellington Parkway (SR 417)	Old Columbia Road / Jason Maxwell Boulevard
B	West Ellington Parkway (SR 417) / Freeman Drive	West Commerce Street / Mooresville Highway (SR 373)
C	East Commerce Street (SR 50) / Fayetteville Highway	Armory Drive
D	South Ellington Parkway (SR 11)	Springplace Road / Ostella Road (SR 272)
E	Franklin Avenue (SR 50)	North Church Street
F	North First Avenue between	Bates Street and Adams Street
G	South Ellington Parkway (SR 11)	US-31 Alt Business / Cornersville Road
H	Heil Quaker Avenue	International Comfort Products Entrance
I	Old Belfast Road	Nichirin Tennessee, Inc. Entrance

# Project Corridors

City of Lewisburg Community Transportation Planning Grant 2015



Existing Cycle Length		Proposed Cycle Length			
		Zone A		Zone B	
AM	Varies	AM	75	AM	60
MD	Varies	MD	85	MD	70
PM	Varies	PM	100	PM	70

**Legend**

- Signalized Intersection
- Flashing Beacon
- Zone A
- Zone B
- Zone B - Downtown



## 2.0 DATA COLLECTION

In order to develop the models and simulations for the signal timing study, several types of data were needed. This data was collected by Marr Traffic, Inc., TDOT, City of Lewisburg staff, Lewisburg Electric Service (LES) staff, and Kimley-Horn staff. Data collection efforts for this project included the following items:

- Turning Movement Counts (TMC) – *provided by the City of Lewisburg and Marr Traffic, Inc.*
- Average Daily Traffic (ADT) tube counts – *weekday data provided by TDOT*
- Existing signal timing and operation settings – *provided by Kimley-Horn and LES*
- Field inventories (including intersection geometry) and observations – *provided by Kimley-Horn*

Weekday morning and afternoon peak period vehicle turning movement counts were performed by the City of Lewisburg in the spring of 2015, prior to the award of the CTPG grant. The volumes were collected in 15-minute intervals to determine the AM and PM peak hour volumes as well as the peak hour factors. Kimley-Horn was provided the raw data in January 2016, which was then processed and analyzed for accuracy.

Marr Traffic, Inc. completed 12 hour turning movement counts (6:00AM – 6:00PM) at nine (9) of the intersections on Wednesday, February 17, 2016. The volumes were, once again, collected in 15-minute intervals to determine the AM and PM peak hour volumes as well as the peak hour factors. These additional TMCs were collected in order to complete signal warrant analyses and to confirm that peak hours had been captured in the TMCs collected by the City. TMCs are included in **Appendix A**.

Hourly ADT data was provided by TDOT along roads in proximity to the project area. This information allowed for the development of the time-of-day clock.

Existing signal timings and operation settings were provided by LES and field verified by Kimley-Horn during field inventories and operations. Field inventories occurred in January and February of 2016.

## 3.0 EXISTING CONDITIONS

Prior to developing the new signal timing plans, it was important to understand and validate the existing conditions for each intersection. An existing conditions evaluation was conducted based upon the data collection efforts discussed in **Section 2.0**. All of the data collected was compiled in *Synchro* and *SimTraffic*, which is a signal timing / optimization / simulation software package. The output from the existing *Synchro* model, which includes the existing overall Level of Service (LOS), average vehicle delay in seconds per vehicle, and overall volume-to-capacity ratio (v/c) for each intersection, was used to perform an operational analysis at each intersection.



Utilizing the six-hour turning movement counts collected by the City of Lewisburg in the spring of 2015, a preliminary signal warrant analysis was completed at each of the 19 traffic signals and nine (9) flashing beacons. Kimley-Horn analyzed this preliminary analysis and ordered 12 hour turning movement counts at nine (9) locations in order to analyze further. The nine (9) locations where 12 hour turning movements were collected are as follows:

- West Commerce Street (SR 373) at 8th Avenue S
- West Ewing Street at Franklin Road
- West Ewing Street at US-31 Alt Business
- West Ellington Parkway (SR 417) / Freeman Drive at West Commerce Street / Mooresville Highway (SR 373) (flashing beacon)
- South Ellington Parkway (SR 11) at US-31 Alt Business / Cornersville Road (flashing beacon)
- West Commerce Street (SR 373) at North 3rd Avenue / Franklin Road
- East Commerce Street (SR 50) at Legion Avenue / Martin Avenue
- North 2nd Avenue / US-431 Business at Water Street
- Franklin Road (SR 50) at Heil Quaker Avenue at Dodson Drive

These signal warrant analyses were performed based upon the criteria contained in the *Manual on Uniform Traffic Control Devices (MUTCD), 2009 Edition*, published by the Federal Highway Administration (FHWA). The MUTCD provides the following standards:

- An engineering study of traffic conditions, pedestrian characteristics, and physical characteristics of the location shall be performed to determine whether installation of a traffic control signal is justified at a particular location.
- The investigation of the need for a traffic control signal shall include an analysis of factors related to the existing operation and safety at the study location and the potential to improve these conditions, and the applicable factors contained in the following signal warrants:
  - Warrant 1, Eight-Hour Vehicular Volume
  - Warrant 2, Four-Hour Vehicular Volume
  - Warrant 3, Peak Hour
  - Warrant 4, Pedestrian Volume
  - Warrant 5, School Crossing
  - Warrant 6, Coordinated Signal System
  - Warrant 7, Crash Experience
  - Warrant 8, Intersection Near a Grade Crossing
- The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Warrant 1 Condition A is intended for application at locations where a large volume of intersecting traffic is the principal reason to consider installing a traffic signal. Warrant 1 Condition B is intended for applications where Condition A is not satisfied and where the traffic volume on a major street is so heavy that traffic on a minor intersecting street suffers excessive delay or conflict in entering or crossing the major street. If both Condition A and Condition B are eighty (80) percent satisfied, Warrant 1 would be satisfied.

Warrant 2 is intended to be applied where the volume of intersecting traffic is the principal reason to consider installing a traffic signal.

Warrant 3 is intended for use at a location where traffic conditions are such that for a minimum of one (1) hour of an average day, the minor street traffic suffers undue delay when entering or crossing the major street.

Following completion of the existing conditions analysis, including the signal warrant analysis, recommended improvements were made for each intersection that would enhance the overall performance and travel conditions. This information was also included in the Existing Conditions and Operational Analysis Memorandum provided in **Appendix B**.

## 4.0 TIMING PLAN DEVELOPMENT

The timing plan development process for each intersection was developed with three key objectives: (1) to progress all through movements on the arterial route, (2) to favor progression in the predominant direction, and (3) to minimize overall system vehicular delay at all signalized intersections.

The timing plan development process includes six distinct tasks:

- Vehicular and pedestrian clearance intervals
- Cycle length determination
- Split allocation
- Offset manipulation / optimization
- Phase operation / sequencing
- Time of day clock development

The following subsections describe the methodology and tools used in each of the components of the timing plan development process.

### 4.1 Vehicular and Pedestrian Clearance Intervals

As part of this study, a review of both the vehicular (yellow and all red times) and pedestrian (walk and flashing don't walk times) clearance intervals was performed at all intersections within the project scope. The calculations for the clearance intervals were developed using current MUTCD and Institute of

Transportation Engineers (ITE) standards and guidelines. Recommendations were made to the City, and the clearance intervals were approved by City staff. The approved clearance intervals were included on the coding sheets and implemented at the same time as the new signal timings. **Appendix C** contains summary sheets for the approved vehicular and pedestrian clearance intervals.

## 4.2 Cycle Length Determination

Cycle length evaluations were analyzed along each of the coordinated traffic signal corridors. The following information was used when determining cycle lengths:

- ADT and TMC count data
- Signal spacing
- Cycle length requirements (minimum allowable cycle lengths at each intersection)
- Driver expectancy
- Traffic patterns (vehicle platooning)
- Existing features (line of sight, topography, change in arterial cross section)
- *Synchro* coordinatability factors
- Coupling indices ( $CI = V/D$ , where  $CI$  = coupling index,  $V$  = link volume,  $D$  = distance); the need for coordination between any two signals is directly proportional to the traffic volume and inversely proportional to the distance between the two signals
- Information gathered from the field observations
- *Synchro* performance indices comparison of evaluated cycle lengths

Determined cycle lengths are depicted in **Figure 1**, and a summary of cycle lengths is shown in **Table 2**. A Cycle Length Evaluation Memorandum was previously submitted to the City in April 2016. This memorandum summarized the cycle evaluation process for the project and can be found in **Appendix D**.

Table 2 - Cycle Lengths					
Timing Plan	System	Existing Cycle Length	Minimum Cycle Length	Synchro Cycle Length	Recommended Cycle Length
AM MD PM WKND	Ellington Parkway (US 431 / SR 11/106/272)	Varies	70 w/o Peds 95 w/ Mainline Peds 125 w/ All Peds	70 70 70 70	75 85 100 85
AM MD PM WKND	Commerce Street (SR 373) and North 2 <sup>nd</sup> Avenue (US-431)	Varies	60	60 85 80 85	60 70 70 70

### 4.3 Split Allocation

Once cycle lengths and clearance intervals were determined, each intersection was evaluated to determine the optimal vehicle split allocations. Split allocations were determined by using a “uniform arrival approach,” which is based upon the Poisson distribution. This methodology calculates all movements based upon the uniform arrival of vehicles. An equal amount of green time is assigned to the first three vehicles in the queue. This is followed by a smaller allocation for the remaining vehicles in the queue, as these vehicles gain momentum, thereby requiring less time to clear the intersection. These values were then tallied with the vehicle clearance intervals and compared against the minimum vehicle splits and any pedestrian timing requirements. The chosen splits were then coded into the proposed *Synchro* models and simulated in *SimTraffic* to identify any queuing issues or storage bay spillovers prior to implementation of the timing plans.

Appropriate split determination is important such that mainline coordination improvements are not made at the expense of overall system delay. In essence, proper split allocation is critical to provide sufficient mainline progression and to provide sufficient split times for all of the remaining intersection movements.

### 4.4 Offset Manipulation / Optimization

Once the cycle length was chosen and the splits were allocated for each phase, the next step was the determination of the optimal offset per intersection in order to optimize traffic progression along the corridor. This optimization task was performed in the *Synchro* model for each timing plan. The focus on selecting the individual offsets was to maximize the amount of time (greenband width) a platoon of vehicles has to pass through the corridors without incurring a stop (red indication at a traffic signal). Progression of traffic along the heavier direction of travel was the goal during the AM and PM peak timing plans. Dual progression (equal allotments of greenband widths in both directions) was the goal during the MD peak timing plan as traffic is typically more balanced during this period of the day.

#### 4.5 Phase Operation / Sequencing

While developing the optimized timing plans, each intersection was analyzed for potential changes to the phase operation or sequencing. A lead-lag pattern reversal can be proposed in order to increase the efficiency of the progression along the corridors. Besides the intersections which currently have lagging left-turn phasing, there were no proposed reversals of a leading left-turn phase to a lagging left-turn phase.

#### 4.6 Time of Day Clock Development

The final step in developing the timing plans was to determine the time of day (TOD) clock settings. These are the time frames during the day chosen to run each individual plan. The TOD clock settings were developed using historical ADT data provided by City staff and from the TDOT Office of Mapping and Statistics. The ADT counts were used to determine the duration of the peak periods and to determine what times of day that they occur. **Appendix E** contains summary sheets for each zone and its TOD clock settings. This data was also placed on each of the coding sheets.

### 5.0 FIELD IMPLEMENTATION

Prior to implementing newly developed timing plans, Kimley-Horn staff performed simulations for each timing plan utilizing *SimTraffic*. Progression and platooning of mainline traffic was checked as well as side street and mainline left-turn lane split allocations. This step, based upon past experience, has proven beneficial to identify any potential problems prior to putting the new timing plans in service. The next step was to transfer the timing plan data from *Synchro* into spreadsheets, referred to as coding sheets, which replicate the format of the City's *Econolite ASC/3-2100* controllers and *Eagle EPAC300* controllers. **Appendix F** includes copies of the coding sheets that have been updated to reflect the field implemented changes. Time-space diagrams were generated, using *Synchro*, for each timing plan developed. These were instrumental during the field implementation process to give a graphical representation of the timing plans and traffic volumes.

Field implementation began with the consultant team manually keying in the new timing plans to the local controllers along the corridors. Once the data was input and the system was operating with the new timing plans, Kimley-Horn staff extensively observed the entire system during each of the weekday peak periods. All corridors were observed by Kimley-Horn and CCI staff in May 2016. The following items were performed during the field implementation efforts:

- Confirm cycle lengths
- Confirm offsets
- Monitor vehicle split allocations
- Observe progression and platooning of vehicles
- Check for unexpected queuing

- Drive the corridor during each peak period for multiple runs (at the beginning of the platoon, the middle of the platoon, and the trailing end of the platoon)
- Document any changes so that they can be edited and changed during the field implementation process

There were instances during field implementation where offsets, splits, and TOD clock settings were adjusted in order to better accommodate the actual field conditions observed during the field implementation process. The adjustments are recorded in the field implementation memorandum in **Appendix G**, and the *Synchro* files have been updated to reflect the implemented timing plans. General observations that were made during field implementation are also included in the attached memorandum.

## 6.0 BEFORE AND AFTER COMPARISONS

In order to effectively determine whether or not the development and implementation of the new coordinated timing plans were successful, a before and after travel time study was performed. This study provides data that allows for analyses to determine the effectiveness of the new signal timing plans. It is important to note that this study gives “real-world” data and not the output from a model or simulation.

### 6.1 Travel Time Study

A travel time study was conducted for before and after conditions for each of the study corridors. For both conditions, at least five runs were completed for both directions in the AM, MD, and PM peak periods. These runs were conducted during weekdays when school was in session, omitting the Monday and Friday peak periods.

The travel time study was conducted using a GPS antenna connected to a notebook computer, which recorded data points once per second using the Jamar *GPS2LT* data collection software. The floating car method was utilized, by which the data collection vehicle travels with the flow of traffic along the corridor. The “before” travel time runs were performed prior to implementation of the new timing plans, and the data was collected in April 2016. The “after” travel time data was collected in May 2016 after the new timing plans had been implemented and fine-tuned. The data collected was compiled and analyzed using Jamar’s *PC-Travel for Windows 2.2.27*. The reports generated by this software are contained in **Appendix H**.

**Tables 3 and 4** show the results of the travel time study for each corridor for the AM, MD, and PM peak periods. The data includes the total average travel time in seconds, the average number of stops (being defined as the number of instances that speed crosses below five miles per hour (mph)), the average speed in mph, and the average total delay (amount of time spent when speed was less than five mph). The percent change is also shown for each criteria mentioned.

**Table 3 - Travel Time Study Results  
Ellington Parkway (US 431 / SR 11/106/272)**

	AM Peak				MD Peak				PM Peak			
	Travel Time (sec)	No. of Stops	Avg. Speed (mph)	Total Delay (sec)	Travel Time (sec)	No. of Stops	Avg. Speed (mph)	Total Delay (sec)	Travel Time (sec)	No. of Stops	Avg. Speed (mph)	Total Delay (sec)
<b>NORTHBOUND</b>												
<b>Before</b>	413.5	4.3	26.5	167.5	393.8	3.3	27.9	149.0	480.8	4.8	22.8	236.8
<b>After</b>	374.8	3.5	29.3	130.0	359.3	2.8	30.6	113.5	369.5	2.0	29.7	125.5
<b>Difference</b>	-38.7	-0.8	2.8	-37.5	-34.5	-0.5	2.7	-35.5	-111.3	-2.8	6.9	-111.3
<b>% Change</b>	-9%	-19%	11%	<b>-22%</b>	-9%	-15%	10%	<b>-24%</b>	-23%	-58%	30%	<b>-47%</b>
<b>SOUTHBOUND</b>												
<b>Before</b>	385.5	2.8	28.1	142	379.8	3.3	28.5	136.5	431	4.0	25.1	91.8
<b>After</b>	297.3	1.0	36.4	54.5	340.3	2.8	31.8	97.5	342.5	2.0	31.6	45.0
<b>Difference</b>	-88.2	-1.8	8.3	-87.5	-39.5	-0.5	3.3	-39.0	-88.5	-2.0	6.5	-46.8
<b>% Change</b>	-23%	-64%	30%	<b>-62%</b>	-10%	-15%	12%	<b>-29%</b>	-21%	-50%	26%	<b>-51%</b>

For the Ellington Parkway corridor, the delay reduction is over 20 percent for each time of day in each primary direction. The southbound direction experienced a 62 percent delay reduction in the AM peak period. Average vehicular speed was increased by at least 10 percent for each direction during all times of day, and travel times and number of stops were reduced across the board.

**Table 4 - Travel Time Study Results  
Commerce Street (SR 373)**

	AM Peak				MD Peak				PM Peak			
	Travel Time (sec)	No. of Stops	Avg. Speed (mph)	Total Delay (sec)	Travel Time (sec)	No. of Stops	Avg. Speed (mph)	Total Delay (sec)	Travel Time (sec)	No. of Stops	Avg. Speed (mph)	Total Delay (sec)
<b>EASTBOUND</b>												
<b>Before</b>	99.5	0.8	25.8	19.5	103.0	1.3	25.0	18.3	115.5	1.5	22.3	31.0
<b>After</b>	93.0	0.8	27.6	8.8	99.0	0.8	26.0	14.3	104.5	1.3	24.6	20.0
<b>Difference</b>	-6.5	0.0	1.8	-10.7	-4.0	-0.5	1.0	-4.0	-11.0	-0.2	2.3	-11.0
<b>% Change</b>	-7%	0%	7%	<b>-55%</b>	-4%	-38%	4%	<b>-22%</b>	-10%	-13%	10%	<b>-35%</b>
<b>WESTBOUND</b>												
<b>Before</b>	99	0.5	25.1	17.8	107	1.0	23.2	24.3	98.8	1	25.1	16.5
<b>After</b>	98.5	0.8	25.2	15.8	89	0.3	27.9	6.5	92.5	0.5	26.8	9.8
<b>Difference</b>	-0.5	0.3	0.1	-2.0	-18.0	-0.7	4.7	-17.8	-6.3	-0.5	1.7	-6.7
<b>% Change</b>	-1%	60%	0%	<b>-11%</b>	-17%	-70%	20%	<b>-73%</b>	-6%	-50%	7%	<b>-41%</b>

The Commerce Street corridor experiences a delay reduction of more than 10 percent for each time of day in each direction. The westbound direction of the midday peak experiences a delay reduction of over 70 percent. The corridor consists of only four (4) traffic signals and had minimal stops during the before travel times; however, the increase in average speed and decrease in delay and total travel time indicates that each stop was shorter and travel flow is more consistent after implementation.



**Table 5** shows the total project delay reduction for all peak periods as measured during the before and after travel time studies.

<b>Table 5 - Total Project Delay Reduction</b>			
	<b>Ellington Parkway (US 431 / SR 11/106/272)</b>	<b>Commerce Street (SR 373)</b>	<b>Total</b>
<b>Before (sec)</b>	923.6	127.4	1051
<b>After (sec)</b>	566.0	75.2	641.2
<b>Difference (sec)</b>	-357.6	-52.2	-409.8
<b>% Change</b>	<b>-39%</b>	<b>-41%</b>	<b>-39%</b>

As summarized above, each corridor experiences reductions in overall travel time and delay. This equates to roughly a 39 percent reduction for the overall project.

## 6.2 Economic Evaluation

The economic benefits from implementing new signal timing plans along a corridor are multifaceted. One of the primary sources of the economic benefit is due to the reduced road user cost that results from reduced delay experienced by the motoring public. Other economic benefits are realized from reduced fuel consumption.

By realizing reductions in delay experienced by the motoring public, an economic evaluation may be made to determine the benefit of the improved signal timing plans in terms of annual dollar value. To calculate the cost savings resulting in the reduction of delay by the motoring public, a dollar value must be assigned to the delay. The United States Department of Transportation (USDOT) provides data<sup>1</sup> for this purpose. Recommended values of \$24.40 per hour for work related trips, and \$12.50 per hour for non-work related trips should be used for travel time savings analyses. Based upon FHWA guidelines<sup>2</sup>, 49 percent of trips during the AM and 35 percent of trips during the PM peak periods are work related. For the MD peak period a 50 percent split was assumed for work and non-work trips.

By using the total delay data obtained from the travel time study, and the above mentioned value of time figures, calculations may be made to find an annual benefit (or cost) of the improved signal timing plans. To perform this calculation, the following equation is used:

$$B = \frac{D V P C}{3600}$$

where,

- B = Annual Delay Benefit (dollars / year)
- D = Change in Delay (seconds / vehicle)
- V = Peak Period Volume (vehicles / peak)
- P = Annual Peak Periods (peaks / year)
- C = Hourly User Cost (dollars / hour)
- 1/3600 = Time Unit Conversion Factor (seconds to hours)

The change in delay is expressed in seconds per vehicle and is a direct output of the travel time study. The peak period volumes were calculated from averaging the TMCs collected along each corridor and validating by comparing volumes with TDOT ADTs in the vicinity of the corridors. TDOT was not able to provide directional ADTs for all corridors; therefore, the economic evaluation was only calculated for the one-hour peak hour for each corridor during the AM, MD, and PM peak hours. As a result, any delay and fuel consumption reductions realized for the remainder of the typical weekday were not analyzed or included in

<sup>1</sup> United States, Department of Transportation, Revised Departmental Guidance on Valuation of Travel Time in Economic Analysis, Table 4, (Washington, DC: 2014)

<sup>2</sup> Santos, Adella. (2011, November 17). *National Household Travel Survey*, PowerPoint presentation at Highway Information Seminar, Arlington, Virginia.

the results. There are 250 instances of each peak period annually. This is determined from the number of weekdays in one year, accounting for holidays.

The annual delay benefit is calculated for each peak period per direction (e.g. North Ellington Parkway, AM peak, southbound). To find the total benefit for this system, all of the annual delay benefits are added together. For a one-year period, the total benefit realized due to reduced delay to the motoring public is \$308,800. However, the newly implemented signal timing plans will be used, and prove to be beneficial, for a time period longer than one year. Typically, the useful life for signal timing plans is believed to be three years. An *ITE Journal* article<sup>3</sup> states, “At a minimum, an operating agency should budget to retime traffic signals at least every three years.” Therefore, the overall benefit of delay reduction over three years would be \$926,400. **Appendix I** shows the calculations for the economic analysis. It is important to note that the figures presented here for savings due to delay only take into account the AM, MD, and PM peak periods. Delay savings are also realized for portions of the other hours each day, which is not included in the calculations. Furthermore, these delay reductions are only measured for the arterial, mainline movements along the before and after travel time corridors within the system. Any delay reductions that are realized for the remainder of the system (i.e. side street and left-turning movements) are not included within the calculations.

Reduced emissions are realized as a result of the improved signal timings; however, no economic benefit was analyzed. Emission benefits were obtained for the three major sources of emissions: hydrocarbons (HC), nitrogen oxides (NOx), and carbon monoxide (CO). **Table 6** shows the results of the reduced emissions.

<b>Table 6 – Emissions Economic Analysis</b>			
	<b>HC</b>	<b>NOx</b>	<b>CO</b>
<b>Before (pounds / year)</b>	116.33	68.27	1162.52
<b>After (pounds / year)</b>	95.82	52.86	1000.48
<b>Difference (pounds / year)</b>	-20.51	-15.41	-162.04
<b>% Change</b>	-17.6%	-22.6%	-13.9%

The other component to the economic benefit is reduced fuel consumption. An analysis was completed to estimate the changes in fuel consumption resulting from implementation of the new coordinated timing plans. The *PC-Travel* fuel consumption rates (in gallons per vehicle) are based on the actual travel time

<sup>3</sup> Srinivasa Sunkari, PE. “The Benefits of Retiming Traffic Signals,” *ITE Journal* April 2004: 26-29.

studies and were multiplied by the average travel volume on each link to estimate fuel consumption (in gallons) for each link. Fuel consumption was summed across all links to arrive at the total fuel consumption for each peak period before and after implementation. **Table 7** shows the results of this analysis.

<b>Table 7 - Fuel Consumption Economic Analysis</b>					
		<b>Annual Reduction Amount (gal/peak)</b>	<b>Unit Cost (per gal)</b>	<b>Annual Peak Period Savings (per year)</b>	<b>Total Annual Peak Period Savings (per year)</b>
Ellington Parkway (US 431 / SR 11/106/272)	<b>AM</b>	-28.37	\$2.15	-\$15,250	<b>\$55,200</b>
	<b>MD</b>	-2.12		-\$1,141	
	<b>PM</b>	-56.34		-\$30,282	
Commerce Street (SR 373)	<b>AM</b>	-2.12		-\$1,140	
	<b>MD</b>	-5.40		-\$2,903	
	<b>PM</b>	-8.32		-\$4,474	

The cost associated with the improved signal timing plans is simply the fee of the consultant. The fee for data collection, timing plan development, field implementation, and before and after studies was \$87,900. The one year benefit to cost ratio for the City of Lewisburg is 4:1. The three year benefit to cost ratio is 10:1, which takes into account an annual \$500 cost per signal for signal timing maintenance applied over three years. **Table 8** presents a summary of the economic analysis. As shown, the benefits greatly outweigh the cost for the project.

<b>Table 8 – Economic Analysis Results</b>					
<b>Time Frame</b>	<b>Benefits</b>			<b>Cost</b>	<b>B:C Ratio</b>
	<b>Delay Reduction</b>	<b>Fuel</b>	<b>Total</b>		
<b>1 Year</b>	\$308,800	\$55,200	\$364,000	\$87,900	<b>4:1</b>
<b>3 Year</b>	\$926,400	\$165,600	\$1,092,000	\$108,900	<b>10:1</b>

**Appendix A:**  
**Turning Movement Counts**

# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Rock Crusher Rd / N 5th Ave  
E/W Street: N Ellington Parkway

File Name : Lewisburg-10  
Site Code : 00000008  
Start Date : 3/19/2015  
Page No : 1

Counted by: City of Lewisburg

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	9	2	3	0	14	14	120	9	0	143	7	2	14	0	23	5	103	2	0	110	290
07:15 AM	8	8	6	0	22	18	150	17	0	185	5	6	11	0	22	2	108	2	0	112	341
07:30 AM	13	11	12	0	36	15	138	15	1	169	4	7	16	0	27	3	169	5	0	177	409
07:45 AM	12	4	2	0	18	11	93	16	0	120	2	5	10	0	17	1	152	7	0	160	315
<b>Total</b>	<b>42</b>	<b>25</b>	<b>23</b>	<b>0</b>	<b>90</b>	<b>58</b>	<b>501</b>	<b>57</b>	<b>1</b>	<b>617</b>	<b>18</b>	<b>20</b>	<b>51</b>	<b>0</b>	<b>89</b>	<b>11</b>	<b>532</b>	<b>16</b>	<b>0</b>	<b>559</b>	<b>1355</b>
08:00 AM	15	1	2	0	18	7	70	10	0	87	11	6	6	0	23	2	65	8	0	75	203
08:15 AM	5	5	0	0	10	12	78	20	0	110	4	6	10	0	20	2	72	7	0	81	221
08:30 AM	9	5	4	0	18	8	74	16	0	98	6	8	13	0	27	1	94	0	0	95	238
08:45 AM	8	7	6	0	21	2	83	16	0	101	6	8	6	0	20	1	64	2	0	67	209
<b>Total</b>	<b>37</b>	<b>18</b>	<b>12</b>	<b>0</b>	<b>67</b>	<b>29</b>	<b>305</b>	<b>62</b>	<b>0</b>	<b>396</b>	<b>27</b>	<b>28</b>	<b>35</b>	<b>0</b>	<b>90</b>	<b>6</b>	<b>295</b>	<b>17</b>	<b>0</b>	<b>318</b>	<b>871</b>
*** BREAK ***																					
11:00 AM	19	5	5	0	29	18	94	26	0	138	6	11	16	0	33	2	80	12	0	94	294
11:15 AM	29	9	2	0	40	14	91	28	0	133	9	8	15	0	32	0	96	15	0	111	316
11:30 AM	22	5	4	0	31	18	83	36	0	137	1	6	13	0	20	3	110	15	0	128	316
11:45 AM	26	6	2	0	34	17	84	36	0	137	15	10	19	0	44	3	87	19	0	109	324
<b>Total</b>	<b>96</b>	<b>25</b>	<b>13</b>	<b>0</b>	<b>134</b>	<b>67</b>	<b>352</b>	<b>126</b>	<b>0</b>	<b>545</b>	<b>31</b>	<b>35</b>	<b>63</b>	<b>0</b>	<b>129</b>	<b>8</b>	<b>373</b>	<b>61</b>	<b>0</b>	<b>442</b>	<b>1250</b>
12:00 PM	28	7	5	0	40	21	109	41	0	171	5	9	13	0	27	1	94	10	0	105	343
12:15 PM	24	8	5	0	37	20	119	36	0	175	5	13	12	0	30	1	93	11	0	105	347
12:30 PM	37	10	0	0	47	11	91	37	0	139	8	9	15	0	32	0	101	9	0	110	328
12:45 PM	25	11	0	0	36	19	101	24	0	144	6	11	18	0	35	2	69	14	0	85	300
<b>Total</b>	<b>114</b>	<b>36</b>	<b>10</b>	<b>0</b>	<b>160</b>	<b>71</b>	<b>420</b>	<b>138</b>	<b>0</b>	<b>629</b>	<b>24</b>	<b>42</b>	<b>58</b>	<b>0</b>	<b>124</b>	<b>4</b>	<b>357</b>	<b>44</b>	<b>0</b>	<b>405</b>	<b>1318</b>
*** BREAK ***																					
04:00 PM	32	18	4	0	54	21	119	51	0	191	9	17	15	0	41	2	143	9	0	154	440
04:15 PM	36	18	2	0	56	20	139	25	0	184	9	14	8	0	31	5	129	14	0	148	419
04:30 PM	37	9	1	0	47	22	138	26	0	186	11	11	16	0	38	8	122	23	0	153	424
04:45 PM	28	12	5	0	45	9	132	34	0	175	9	17	19	0	45	5	122	11	0	138	403
<b>Total</b>	<b>133</b>	<b>57</b>	<b>12</b>	<b>0</b>	<b>202</b>	<b>72</b>	<b>528</b>	<b>136</b>	<b>0</b>	<b>736</b>	<b>38</b>	<b>59</b>	<b>58</b>	<b>0</b>	<b>155</b>	<b>20</b>	<b>516</b>	<b>57</b>	<b>0</b>	<b>593</b>	<b>1686</b>
05:00 PM	29	17	2	0	48	22	139	25	0	186	13	7	11	0	31	3	148	21	0	172	437
05:15 PM	25	9	2	0	36	6	117	31	0	154	11	11	10	0	32	5	120	11	0	136	358
05:30 PM	21	9	6	0	36	23	132	23	0	178	3	13	20	0	36	5	129	16	0	150	400
05:45 PM	37	8	6	0	51	19	96	28	0	143	7	15	11	0	33	3	103	15	0	121	348
<b>Total</b>	<b>112</b>	<b>43</b>	<b>16</b>	<b>0</b>	<b>171</b>	<b>70</b>	<b>484</b>	<b>107</b>	<b>0</b>	<b>661</b>	<b>34</b>	<b>46</b>	<b>52</b>	<b>0</b>	<b>132</b>	<b>16</b>	<b>500</b>	<b>63</b>	<b>0</b>	<b>579</b>	<b>1543</b>
<b>Grand Total</b>	<b>534</b>	<b>204</b>	<b>86</b>	<b>0</b>	<b>824</b>	<b>367</b>	<b>2590</b>	<b>626</b>	<b>1</b>	<b>3584</b>	<b>172</b>	<b>230</b>	<b>317</b>	<b>0</b>	<b>719</b>	<b>65</b>	<b>2573</b>	<b>258</b>	<b>0</b>	<b>2896</b>	<b>8023</b>
<b>Apprch %</b>	<b>64.8</b>	<b>24.8</b>	<b>10.4</b>	<b>0</b>		<b>10.2</b>	<b>72.3</b>	<b>17.5</b>	<b>0</b>		<b>23.9</b>	<b>32</b>	<b>44.1</b>	<b>0</b>		<b>2.2</b>	<b>88.8</b>	<b>8.9</b>	<b>0</b>		
<b>Total %</b>	<b>6.7</b>	<b>2.5</b>	<b>1.1</b>	<b>0</b>	<b>10.3</b>	<b>4.6</b>	<b>32.3</b>	<b>7.8</b>	<b>0</b>	<b>44.7</b>	<b>2.1</b>	<b>2.9</b>	<b>4</b>	<b>0</b>	<b>9</b>	<b>0.8</b>	<b>32.1</b>	<b>3.2</b>	<b>0</b>	<b>36.1</b>	
<b>Passenger Vehicles</b>																					
<b>% Passenger Vehicles</b>	<b>97.8</b>	<b>99</b>	<b>91.9</b>	<b>0</b>	<b>97.5</b>	<b>98.4</b>	<b>94.6</b>	<b>98.7</b>	<b>100</b>	<b>95.7</b>	<b>97.7</b>	<b>99.6</b>	<b>97.8</b>	<b>0</b>	<b>98.3</b>	<b>100</b>	<b>95.5</b>	<b>98.4</b>	<b>0</b>	<b>95.8</b>	<b>96.2</b>
<b>Heavy Vehicles</b>	<b>12</b>	<b>2</b>	<b>7</b>	<b>0</b>	<b>21</b>	<b>6</b>	<b>139</b>	<b>8</b>	<b>0</b>	<b>153</b>	<b>4</b>	<b>1</b>	<b>7</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>117</b>	<b>4</b>	<b>0</b>	<b>121</b>	<b>307</b>
<b>% Heavy Vehicles</b>	<b>2.2</b>	<b>1</b>	<b>8.1</b>	<b>0</b>	<b>2.5</b>	<b>1.6</b>	<b>5.4</b>	<b>1.3</b>	<b>0</b>	<b>4.3</b>	<b>2.3</b>	<b>0.4</b>	<b>2.2</b>	<b>0</b>	<b>1.7</b>	<b>0</b>	<b>4.5</b>	<b>1.6</b>	<b>0</b>	<b>4.2</b>	<b>3.8</b>

# Signal Timing Optimization Study

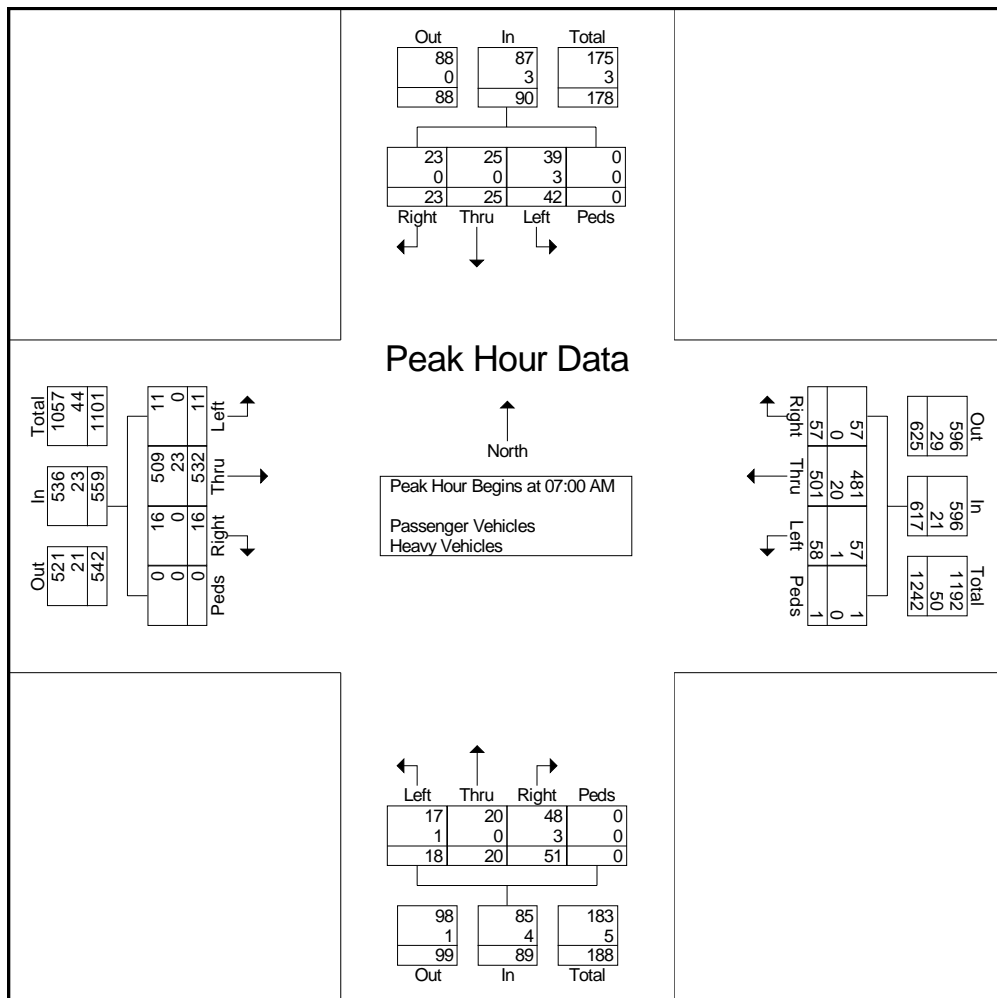
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Rock Crusher Rd / N 5th Ave  
E/W Street: N Ellington Parkway

File Name : Lewisburg-10  
Site Code : 00000008  
Start Date : 3/19/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	9	2	3	0	14	14	120	9	0	143	7	2	14	0	23	5	103	2	0	110	290
07:15 AM	8	8	6	0	22	18	150	17	0	185	5	6	11	0	22	2	108	2	0	112	341
07:30 AM	13	11	12	0	36	15	138	15	1	169	4	7	16	0	27	3	169	5	0	177	409
07:45 AM	12	4	2	0	18	11	93	16	0	120	2	5	10	0	17	1	152	7	0	160	315
Total Volume	42	25	23	0	90	58	501	57	1	617	18	20	51	0	89	11	532	16	0	559	1355
% App. Total	46.7	27.8	25.6	0		9.4	81.2	9.2	0.2		20.2	22.5	57.3	0		2	95.2	2.9	0		
PHF	.808	.568	.479	.000	.625	.806	.835	.838	.250	.834	.643	.714	.797	.000	.824	.550	.787	.571	.000	.790	.828
Passenger Vehicles	39	25	23	0	87	57	481	57	1	596	17	20	48	0	85	11	509	16	0	536	1304
% Passenger Vehicles	92.9	100	100	0	96.7	98.3	96.0	100	100	96.6	94.4	100	94.1	0	95.5	100	95.7	100	0	95.9	96.2
Heavy Vehicles	3	0	0	0	3	1	20	0	0	21	1	0	3	0	4	0	23	0	0	23	51
% Heavy Vehicles	7.1	0	0	0	3.3	1.7	4.0	0	0	3.4	5.6	0	5.9	0	4.5	0	4.3	0	0	4.1	3.8



# Signal Timing Optimization Study

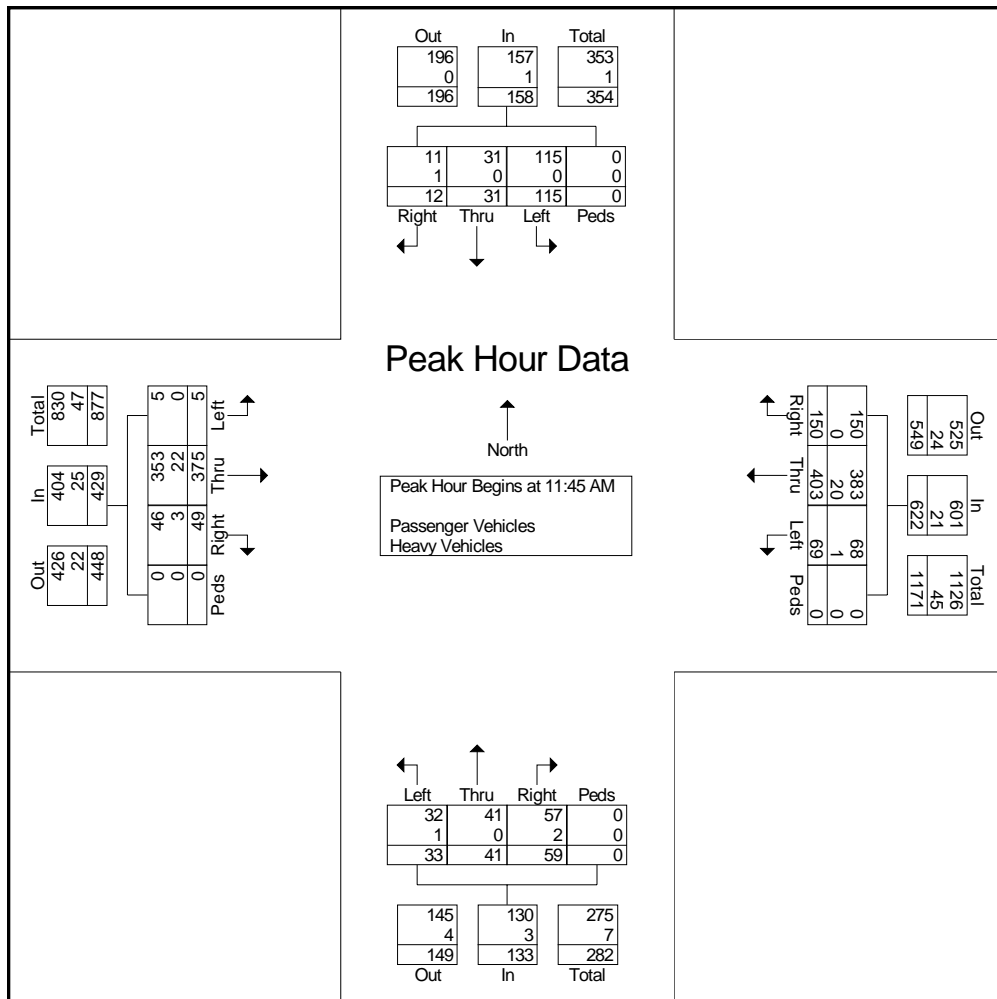
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Rock Crusher Rd / N 5th Ave  
E/W Street: N Ellington Parkway

File Name : Lewisburg-10  
Site Code : 00000008  
Start Date : 3/19/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	26	6	2	0	34	17	84	36	0	137	15	10	19	0	44	3	87	19	0	109	324
12:00 PM	28	7	5	0	40	21	109	41	0	171	5	9	13	0	27	1	94	10	0	105	343
12:15 PM	24	8	5	0	37	20	119	36	0	175	5	13	12	0	30	1	93	11	0	105	347
12:30 PM	37	10	0	0	47	11	91	37	0	139	8	9	15	0	32	0	101	9	0	110	328
Total Volume	115	31	12	0	158	69	403	150	0	622	33	41	59	0	133	5	375	49	0	429	1342
% App. Total	72.8	19.6	7.6	0		11.1	64.8	24.1	0		24.8	30.8	44.4	0		1.2	87.4	11.4	0		
PHF	.777	.775	.600	.000	.840	.821	.847	.915	.000	.889	.550	.788	.776	.000	.756	.417	.928	.645	.000	.975	.967
Passenger Vehicles	115	31	11	0	157	68	383	150	0	601	32	41	57	0	130	5	353	46	0	404	1292
% Passenger Vehicles	100	100	91.7	0	99.4	98.6	95.0	100	0	96.6	97.0	100	96.6	0	97.7	100	94.1	93.9	0	94.2	96.3
Heavy Vehicles	0	0	1	0	1	1	20	0	0	21	1	0	2	0	3	0	22	3	0	25	50
% Heavy Vehicles	0	0	8.3	0	0.6	1.4	5.0	0	0	3.4	3.0	0	3.4	0	2.3	0	5.9	6.1	0	5.8	3.7





# Signal Timing Optimization Study

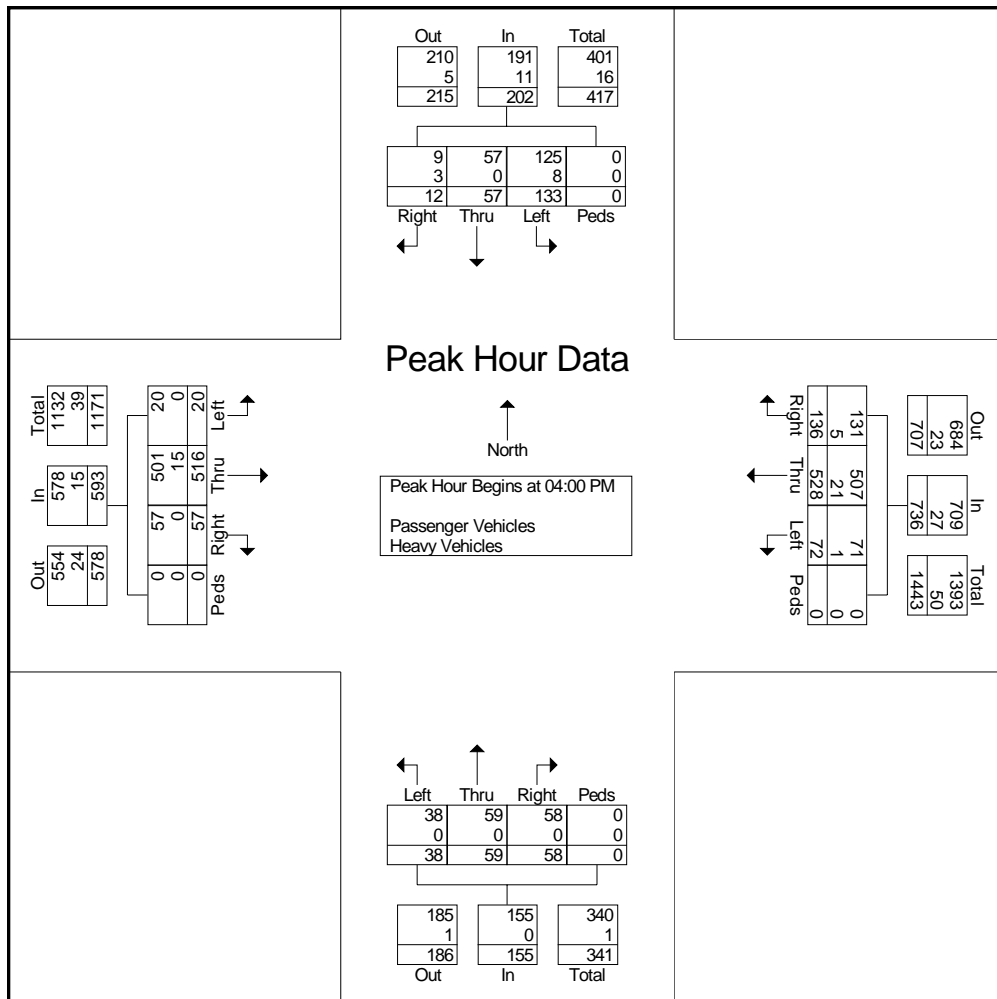
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Rock Crusher Rd / N 5th Ave  
E/W Street: N Ellington Parkway

File Name : Lewisburg-10  
Site Code : 00000008  
Start Date : 3/19/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:00 PM																						
04:00 PM	32	18	4	0	54	21	119	51	0	191	9	17	15	0	41	2	143	9	0	154	440	
04:15 PM	36	18	2	0	56	20	139	25	0	184	9	14	8	0	31	5	129	14	0	148	419	
04:30 PM	37	9	1	0	47	22	138	26	0	186	11	11	16	0	38	8	122	23	0	153	424	
04:45 PM	28	12	5	0	45	9	132	34	0	175	9	17	19	0	45	5	122	11	0	138	403	
Total Volume	133	57	12	0	202	72	528	136	0	736	38	59	58	0	155	20	516	57	0	593	1686	
% App. Total	65.8	28.2	5.9	0		9.8	71.7	18.5	0		24.5	38.1	37.4	0		3.4	87	9.6	0			
PHF	.899	.792	.600	.000	.902	.818	.950	.667	.000	.963	.864	.868	.763	.000	.861	.625	.902	.620	.000	.963	.958	
Passenger Vehicles	125	57	9	0	191	71	507	131	0	709	38	59	58	0	155	20	501	57	0	578	1633	
% Passenger Vehicles	94.0	100	75.0	0	94.6	98.6	96.0	96.3	0	96.3	100	100	100	0	100	100	97.1	100	0	97.5	96.9	
Heavy Vehicles	8	0	3	0	11	1	21	5	0	27	0	0	0	0	0	0	15	0	0	15	53	
% Heavy Vehicles	6.0	0	25.0	0	5.4	1.4	4.0	3.7	0	3.7	0	0	0	0	0	0	2.9	0	0	2.5	3.1	



Lewisburg, TN  
Classified Turn Movement Count

Site 7 of 9  
US-431 East Commerce Street (West)  
US-431 East Commerce Street (East)  
Martin Avenue  
Legion Avenue

Lat/Long  
lat 35.447795° lon -86.782727°

Date  
Wednesday 17 February 2016

Weather  
Cloudy  
Temp: 4°C



41 Peabody Street, Nashville, TN 37210  
1 (615) 431-6750  
1 (800) 615-3765

0600 - 1800 (Weekday 12h Session)

TIME	Eastbound US-431 East Commerce Street (West)						Westbound US-431 East Commerce Street (East)						Northbound Martin Avenue						Southbound Legion Avenue						Int Total
	U-Turn 7.1	Left 7.2	Thru 7.3	Right 7.4	Peds	App Total	U-Turn 7.5	Left 7.6	Thru 7.7	Right 7.8	Peds	App Total	U-Turn 7.9	Left 7.10	Thru 7.11	Right 7.12	Peds	App Total	U-Turn 7.13	Left 7.14	Thru 7.15	Right 7.16	Peds	App Total	
0600 - 0615	0	0	15	0	0	15	0	4	12	0	0	16	0	0	1	3	0	4	0	0	0	0	0	0	35
0615 - 0630	0	0	27	2	0	29	0	2	7	1	0	10	0	0	0	8	0	8	0	0	1	1	0	0	49
0630 - 0645	0	0	32	1	0	33	0	4	24	1	0	29	0	0	1	17	1	19	0	0	0	0	0	0	81
0645 - 0700	0	0	34	2	0	36	0	4	23	2	0	29	0	2	1	6	0	9	0	1	2	1	0	4	78
Hourly Total	0	0	108	5	0	113	0	14	66	4	0	84	0	2	3	34	1	40	0	1	3	2	0	6	243
0700 - 0715	0	0	20	0	0	20	0	4	26	0	0	30	0	2	0	5	0	7	0	1	0	2	0	3	60
0715 - 0730	0	0	26	1	0	27	0	4	43	1	0	48	0	1	4	8	0	13	0	1	1	0	1	3	91
0730 - 0745	0	0	32	4	0	36	0	5	50	2	0	57	0	2	1	5	0	8	0	1	0	0	0	1	102
0745 - 0800	0	0	31	1	0	32	0	2	39	1	0	42	0	3	1	17	0	21	0	3	2	0	0	5	100
Hourly Total	0	0	109	6	0	115	0	15	158	4	0	177	0	8	6	35	0	49	0	6	3	2	1	12	353
0800 - 0815	0	0	28	3	0	31	0	5	30	2	1	38	0	2	0	4	0	6	0	1	0	0	0	1	76
0815 - 0830	0	0	27	1	0	28	0	6	38	0	0	44	0	1	1	6	0	8	0	1	0	0	0	1	81
0830 - 0845	0	0	21	1	0	22	0	4	38	2	0	44	0	3	2	11	0	16	0	1	0	0	0	1	83
0845 - 0900	0	0	25	2	0	27	0	8	28	4	0	40	0	2	1	17	0	20	0	0	2	0	0	2	89
Hourly Total	0	0	101	7	0	108	0	23	134	8	1	166	0	8	4	38	0	50	0	3	2	0	0	5	329
0900 - 0915	0	0	32	2	0	34	0	5	25	0	0	30	0	1	0	8	1	10	0	2	0	0	0	2	76
0915 - 0930	0	0	38	2	0	40	0	1	37	1	0	39	0	2	1	6	0	9	0	1	0	0	2	3	91
0930 - 0945	0	0	36	1	0	37	0	3	34	1	0	38	0	3	3	9	0	15	0	2	0	0	0	2	92
0945 - 1000	0	0	48	4	0	52	0	2	57	2	0	61	0	4	2	8	0	14	0	1	1	0	0	2	129
Hourly Total	0	0	154	9	0	163	0	11	153	4	0	168	0	10	6	31	1	48	0	6	1	0	2	9	388
1000 - 1015	0	2	34	1	0	37	0	4	45	1	0	50	0	4	1	8	0	13	0	2	0	0	1	3	103
1015 - 1030	0	1	36	1	0	38	0	4	50	0	0	54	0	0	1	10	0	11	0	1	1	1	1	4	107
1030 - 1045	0	0	41	1	0	42	0	5	51	2	0	58	0	0	3	9	0	12	0	1	1	0	0	2	114
1045 - 1100	0	0	36	1	0	37	0	5	51	0	0	56	0	3	1	6	0	10	0	0	0	2	0	2	105
Hourly Total	0	3	147	4	0	154	0	18	197	3	0	218	0	7	6	33	0	46	0	4	2	3	2	11	429
1100 - 1115	0	1	33	0	0	34	0	7	51	2	0	60	0	1	0	11	0	12	0	2	0	0	0	2	108
1115 - 1130	0	1	32	1	0	34	0	6	37	1	0	44	0	1	4	8	0	13	0	1	1	2	1	5	96
1130 - 1145	0	1	39	5	0	45	0	10	41	0	0	51	0	2	0	13	0	15	0	4	1	0	0	5	116
1145 - 1200	0	0	34	2	0	36	0	7	57	4	0	68	0	4	1	13	0	18	0	1	1	1	2	5	127
Hourly Total	0	3	138	8	0	149	0	30	186	7	0	223	0	8	5	45	0	58	0	8	3	3	3	17	447
1200 - 1215	0	0	42	2	0	44	0	9	50	2	0	61	0	2	3	10	0	15	0	1	0	0	0	1	121
1215 - 1230	0	0	43	2	0	45	0	10	40	2	0	52	0	4	4	10	0	18	0	3	0	1	0	4	119
1230 - 1245	0	1	49	5	0	55	0	12	45	0	0	57	0	2	2	16	0	20	0	2	1	1	0	4	136
1245 - 1300	0	1	37	1	0	39	0	4	34	2	0	40	0	3	2	9	0	14	0	0	0	0	0	0	93
Hourly Total	0	2	171	10	0	183	0	35	169	6	0	210	0	11	11	45	0	67	0	6	1	2	0	9	469
1300 - 1315	0	0	41	3	1	45	0	8	43	1	0	52	0	5	3	6	0	14	0	1	2	1	1	5	116
1315 - 1330	0	0	37	3	0	40	0	6	46	4	2	58	0	2	2	12	2	18	0	1	0	3	0	4	120
1330 - 1345	0	0	33	3	0	36	0	4	43	0	0	47	0	7	1	8	0	16	0	5	0	1	0	6	105
1345 - 1400	0	0	35	1	0	36	0	9	43	1	0	53	0	1	5	10	0	16	0	2	2	0	0	4	109
Hourly Total	0	0	146	10	1	157	0	27	175	6	2	210	0	15	11	36	2	64	0	9	4	5	1	19	450
1400 - 1415	0	0	46	2	0	48	0	8	33	0	0	41	0	3	1	12	2	18	0	2	1	0	0	3	110
1415 - 1430	0	0	56	5	0	61	0	10	46	4	0	60	0	6	1	17	0	24	0	2	0	1	0	3	148
1430 - 1445	0	0	49	4	0	53	0	9	62	0	0	71	0	4	2	10	0	16	0	0	4	2	1	7	147
1445 - 1500	0	0	35	5	0	40	0	6	59	1	0	66	0	6	2	10	1	19	0	0	0	1	0	1	126
Hourly Total	0	0	186	16	0	202	0	33	200	5	0	238	0	19	6	49	3	77	0	4	5	4	1	14	531
1500 - 1515	0	0	47	3	0	50	0	7	54	2	0	63	0	8	2	19	0	29	0	1	0	1	0	2	144
1515 - 1530	0	0	47	6	0	53	0	15	45	1	1	62	0	7	3	17	2	29	0	1	3	0	0	4	148
1530 - 1545	0	0	50	3	0	53	0	9	68	3	0	80	0	3	2	14	1	20	0	4	0	1	1	6	159
1545 - 1600	0	0	43	6	0	49	0	9	62	3	0	74	0	5	3	8	0	16	0	0	0	1	0	1	140
Hourly Total	0	0	187	18	0	205	0	40	229	9	1	279	0	23	10	58	3	94	0	6	3	3	1	13	591
1600 - 1615	0	1	51	3	0	55	0	6	54	3	0	63	0	3	1	19	0	23	0	2	1	1	0	4	145
1615 - 1630	0	0	50	6	0	56	0	8	58	1	0	67	0	2	3	13	0	18	0	2	0	0	0	2	143
1630 - 1645	0	0	24	4	0	28	0	8	58	4	0	70	0	2	2	10	0	14	0	5	3	0	0	8	120
1645 - 1700	0	1	40	4	0	45	0	7	57	1	0	65	0	4	2	19	0	25	0	1	1	0	0	2	137
Hourly Total	0	2	165	17	0	184	0	29	227	9	0	265	0	11	8	61	0	80	0	10	5	1	0	16	545
1700 - 1715	0	0	48	6	0	54	0	5	65	0	0	70	0	9	1	10	0	20	0	0	1	0	0	1	145
1715 - 1730	0	0	28	4	0	32	0	6	43	0	0	49	0	6	2	7	0	15	0	1	0	0	0	1	97
1730 - 1745	0	0	35	2	0	37	0	9	37	0	0	46	0	6	1	11	0	18	0	0	0	0	0	0	101
1745 - 1800	0	0	35	5	0	40	0	5	48	0	0	53	0	1	0	7	0	8	0	0	1	0	0	1	102
Hourly Total	0	0	146	17	0	163	0	25	193	0	0	218	0	22	4	35	0	61	0	1	2	0	0	3	445
Grand Total	0	10	1758	127	1	1896	0	300	2087	65	4	2456	0	144	80	500	10	734	0	64	34	25	11	134	5220
App Percentage	0.00	0.53	92.72	6.70	0.05		0.00	12.21	84.98	2.65	0.16		0.00	19.62	10.90	68.12	1.36		0.00	47.76	25.37	18.66	8.21		
Int Percentage	0.00	0.19	33.68	2.43	0.02	36.32	0.00	5.75	39.98	1.25	0.08	47.05	0.00	2.76	1.53	9.58	0.19	14.06	0.00	1.23	0.65	0.48	0.21	2.57	
Cars	0	8	1719	127	-	1854	0	295	2050	48	-	2393	0	144	76	497	-	717	0	43	32	22	-	97	
Trucks</																									

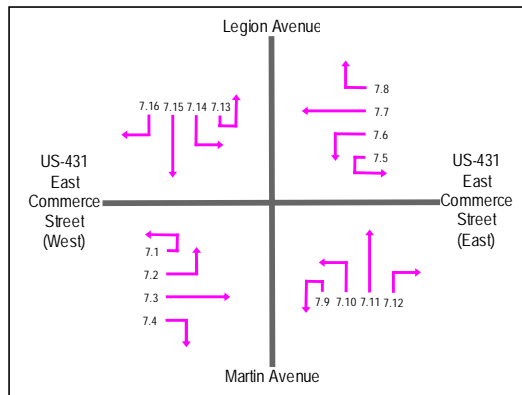
1515 - 1615 (Weekday 12h Peak Hour)

TIME	Eastbound US-431 East Commerce Street (West)						Westbound US-431 East Commerce Street (East)						Northbound Martin Avenue						Southbound Legion Avenue						Int Total
	U-Turn 7.1	Left 7.2	Thru 7.3	Right 7.4	Peds	App Total	U-Turn 7.5	Left 7.6	Thru 7.7	Right 7.8	Peds	App Total	U-Turn 7.9	Left 7.10	Thru 7.11	Right 7.12	Peds	App Total	U-Turn 7.13	Left 7.14	Thru 7.15	Right 7.16	Peds	App Total	
1515 - 1530	0	0	47	6	-	53	0	15	45	1	-	61	0	7	3	17	-	27	0	1	3	0	-	4	145
1530 - 1545	0	0	50	3	-	53	0	9	68	3	-	80	0	3	2	14	-	19	0	4	0	1	-	5	157
1545 - 1600	0	0	43	6	-	49	0	9	62	3	-	74	0	5	3	8	-	16	0	0	0	1	-	1	140
1600 - 1615	0	1	51	3	-	55	0	6	54	3	-	63	0	3	1	19	-	23	0	2	1	1	-	4	145
Hourly Total	0	1	191	18	-	210	0	39	229	10	-	278	0	18	9	58	-	85	0	7	4	3	-	14	587
Grand Total	0	1	191	18	-	210	0	39	229	10	-	278	0	18	9	58	-	85	0	7	4	3	-	14	587
App Percentage	0.00	0.48	90.95	8.57	-		0.00	14.03	82.37	3.60	-		0.00	21.18	10.59	68.24	-		0.00	50.00	28.57	21.43	-		
Int Percentage	0.00	0.17	32.54	3.07	-	35.78	0.00	6.64	39.01	1.70	-	47.36	0.00	3.07	1.53	9.88	-	14.48	0.00	1.19	0.68	0.51	-	2.39	
Cars	0	1	188	18	-	207	0	39	228	10	-	277	0	18	9	58	-	85	0	6	4	3	-	13	582
Trucks	0	0	3	0	-	3	0	0	1	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	5
Cars (%)	0.00	100.00	98.43	100.00	-	98.57	0.00	100.00	99.56	100.00	-	99.64	0.00	100.00	100.00	100.00	-	100.00	0.00	85.71	100.00	100.00	-	92.86	99.15
Trucks (%)	0.00	0.00	1.57	0.00	-	1.43	0.00	0.00	0.44	0.00	-	0.36	0.00	0.00	0.00	0.00	-	0.00	0.00	14.29	0.00	0.00	-	7.14	0.85
PHF	0.000	0.250	0.936	0.750	-	0.955	0.000	0.650	0.842	0.833	-	0.869	0.000	0.643	0.750	0.763	-	0.787	0.000	0.438	0.333	0.750	-	0.700	0.935

(Southbound) Legion Avenue

In	Out	Total
14	20	34

Peds	Right	Thru	Left	U-Turn
-	3	4	7	0



(Eastbound) US-431 East Commerce Street (West)

Out	250
In	210
Total	460

U-Turn	0
Left	1
Thru	191
Right	18
Peds	-

(Westbound) US-431 East Commerce Street (East)

Peds	-
Right	10
Thru	229
Left	39
U-Turn	0

In	278
Out	256
Total	534

(Northbound) Martin Avenue

U-Turn	Left	Thru	Right	Peds
0	18	9	58	-

Out	In	Total
61	85	146

Site 7 of 9  
US-431 East Commerce Street (West)  
US-431 East Commerce Street (East)  
Martin Avenue  
Legion Avenue

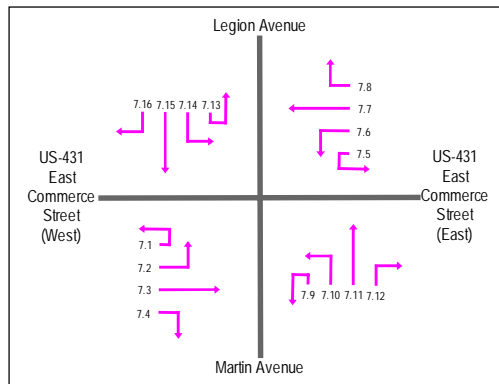
0900 - 1000 (Weekday AM Peak Hour)

TIME	Eastbound US-431 East Commerce Street (West)						Westbound US-431 East Commerce Street (East)						Northbound Martin Avenue						Southbound Legion Avenue						Int Total
	U-Turn 7.1	Left 7.2	Thru 7.3	Right 7.4	Peds	App Total	U-Turn 7.5	Left 7.6	Thru 7.7	Right 7.8	Peds	App Total	U-Turn 7.9	Left 7.10	Thru 7.11	Right 7.12	Peds	App Total	U-Turn 7.13	Left 7.14	Thru 7.15	Right 7.16	Peds	App Total	
0900 - 0915	0	0	32	2	-	34	0	5	25	0	-	30	0	1	0	8	-	9	0	2	0	0	-	2	75
0915 - 0930	0	0	38	2	-	40	0	1	37	1	-	39	0	2	1	6	-	9	0	1	0	0	-	1	89
0930 - 0945	0	0	36	1	-	37	0	3	34	1	-	38	0	3	3	9	-	15	0	2	0	0	-	2	92
0945 - 1000	0	0	48	4	-	52	0	2	57	2	-	61	0	4	2	8	-	14	0	1	1	0	-	2	129
Hourly Total	0	0	154	9	-	163	0	11	153	4	-	168	0	10	6	31	-	47	0	6	1	0	-	7	385
Grand Total	0	0	154	9	-	163	0	11	153	4	-	168	0	10	6	31	-	47	0	6	1	0	-	7	385
App Percentage	0.00	0.00	94.48	5.52	-		0.00	6.55	91.07	2.38	-		0.00	21.28	12.77	65.96	-		0.00	85.71	14.29	0.00	-		
Int Percentage	0.00	0.00	40.00	2.34	-	42.34	0.00	2.86	39.74	1.04	-	43.64	0.00	2.60	1.56	8.05	-	12.21	0.00	1.56	0.26	0.00	-	1.82	
Cars	0	0	150	9	-	159	0	11	150	4	-	165	0	10	5	30	-	45	0	3	1	0	-	4	373
Trucks	0	0	4	0	-	4	0	0	3	0	-	3	0	0	1	1	-	2	0	3	0	0	-	3	12
Cars (%)	0.00	0.00	97.40	100.00	-	97.55	0.00	100.00	98.04	100.00	-	98.21	0.00	100.00	83.33	96.77	-	95.74	0.00	50.00	100.00	0.00	-	57.14	96.88
Trucks (%)	0.00	0.00	2.60	0.00	-	2.45	0.00	0.00	1.96	0.00	-	1.79	0.00	0.00	16.67	3.23	-	4.26	0.00	50.00	0.00	0.00	-	42.86	3.12
PHF	0.000	0.000	0.802	0.563	-	0.784	0.000	0.550	0.671	0.500	-	0.689	0.000	0.625	0.500	0.861	-	0.783	0.000	0.750	0.250	0.000	-	0.875	0.746

(Southbound) Legion Avenue

In	Out	Total
7	10	17

Peds	Right	Thru	Left	U-Turn
-	0	1	6	0



(Westbound) US-431 East Commerce Street (East)

Peds	Right	Thru	Left	U-Turn
-	4	153	11	0

In	Out	Total
168	191	359

(Eastbound) US-431 East Commerce Street (West)

Out	In	Total
163	163	326

U-Turn	Left	Thru	Right	Peds
0	0	154	9	-

(Northbound) Martin Avenue

U-Turn	Left	Thru	Right	Peds
0	10	6	31	-

Out	In	Total
21	47	68

Site 7 of 9  
US-431 East Commerce Street (West)  
US-431 East Commerce Street (East)  
Martin Avenue  
Legion Avenue

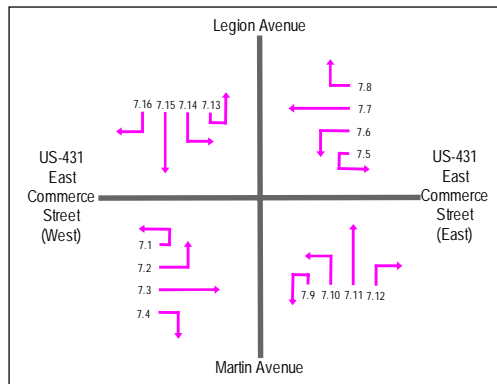
1145 - 1245 (Weekday Inter Peak Hour)

TIME	Eastbound US-431 East Commerce Street (West)						Westbound US-431 East Commerce Street (East)						Northbound Martin Avenue						Southbound Legion Avenue						Int Total
	U-Turn 7.1	Left 7.2	Thru 7.3	Right 7.4	Peds	App Total	U-Turn 7.5	Left 7.6	Thru 7.7	Right 7.8	Peds	App Total	U-Turn 7.9	Left 7.10	Thru 7.11	Right 7.12	Peds	App Total	U-Turn 7.13	Left 7.14	Thru 7.15	Right 7.16	Peds	App Total	
1145 - 1200	0	0	34	2	-	36	0	7	57	4	-	68	0	4	1	13	-	18	0	1	1	1	-	3	125
1200 - 1215	0	0	42	2	-	44	0	9	50	2	-	61	0	2	3	10	-	15	0	1	0	0	-	1	121
1215 - 1230	0	0	43	2	-	45	0	10	40	2	-	52	0	4	4	10	-	18	0	3	0	1	-	4	119
1230 - 1245	0	1	49	5	-	55	0	12	45	0	-	57	0	2	2	16	-	20	0	2	1	1	-	4	136
Hourly Total	0	1	168	11	-	180	0	38	192	8	-	238	0	12	10	49	-	71	0	7	2	3	-	12	501
Grand Total	0	1	168	11	-	180	0	38	192	8	-	238	0	12	10	49	-	71	0	7	2	3	-	12	501
App Percentage	0.00	0.56	93.33	6.11	-		0.00	15.97	80.67	3.36	-		0.00	16.90	14.08	69.01	-		0.00	58.33	16.67	25.00	-		
Int Percentage	0.00	0.20	33.53	2.20	-	35.93	0.00	7.58	38.32	1.60	-	47.50	0.00	2.40	2.00	9.78	-	14.17	0.00	1.40	0.40	0.60	-	2.40	
Cars	0	1	162	11	-	174	0	37	188	7	-	232	0	12	10	49	-	71	0	6	1	3	-	10	487
Trucks	0	0	6	0	-	6	0	1	4	1	-	6	0	0	0	0	-	0	0	1	1	0	-	2	14
Cars (%)	0.00	100.00	96.43	100.00	-	96.67	0.00	97.37	97.92	87.50	-	97.48	0.00	100.00	100.00	100.00	-	100.00	0.00	85.71	50.00	100.00	-	83.33	97.21
Trucks (%)	0.00	0.00	3.57	0.00	-	3.33	0.00	2.63	2.08	12.50	-	2.52	0.00	0.00	0.00	0.00	-	0.00	0.00	14.29	50.00	0.00	-	16.67	2.79
PHF	0.000	0.250	0.857	0.550	-	0.818	0.000	0.792	0.842	0.500	-	0.875	0.000	0.750	0.625	0.766	-	0.888	0.000	0.583	0.500	0.750	-	0.750	0.921

(Southbound) Legion Avenue

In	Out	Total
12	19	31

Peds	Right	Thru	Left	U-Turn
-	3	2	7	0



(Westbound) US-431 East Commerce Street (East)

Peds	Right	Thru	Left	U-Turn
-	8	192	38	0

In	Out	Total
238	224	462

(Northbound) Martin Avenue

U-Turn	Left	Thru	Right	Peds
0	12	10	49	-

Out	In	Total
51	71	122

(Eastbound) US-431 East Commerce Street (West)

Out	In	Total
207	180	387

U-Turn	Left	Thru	Right	Peds
0	1	168	11	-



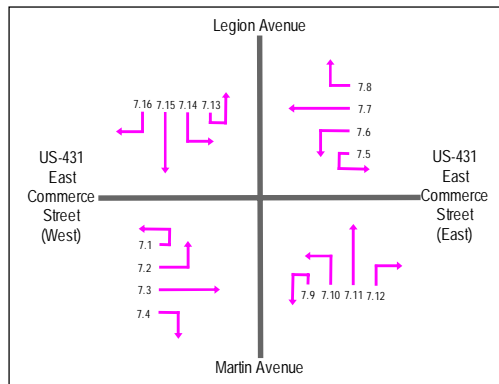
1515 - 1615 (Weekday PM Peak Hour)

TIME	Eastbound US-431 East Commerce Street (West)						Westbound US-431 East Commerce Street (East)						Northbound Martin Avenue						Southbound Legion Avenue						Int Total
	U-Turn 7.1	Left 7.2	Thru 7.3	Right 7.4	Peds	App Total	U-Turn 7.5	Left 7.6	Thru 7.7	Right 7.8	Peds	App Total	U-Turn 7.9	Left 7.10	Thru 7.11	Right 7.12	Peds	App Total	U-Turn 7.13	Left 7.14	Thru 7.15	Right 7.16	Peds	App Total	
1515 - 1530	0	0	47	6	-	53	0	15	45	1	-	61	0	7	3	17	-	27	0	1	3	0	-	4	145
1530 - 1545	0	0	50	3	-	53	0	9	68	3	-	80	0	3	2	14	-	19	0	4	0	1	-	5	157
1545 - 1600	0	0	43	6	-	49	0	9	62	3	-	74	0	5	3	8	-	16	0	0	0	1	-	1	140
1600 - 1615	0	1	51	3	-	55	0	6	54	3	-	63	0	3	1	19	-	23	0	2	1	1	-	4	145
Hourly Total	0	1	191	18	-	210	0	39	229	10	-	278	0	18	9	58	-	85	0	7	4	3	-	14	587
Grand Total	0	1	191	18	-	210	0	39	229	10	-	278	0	18	9	58	-	85	0	7	4	3	-	14	587
App Percentage	0.00	0.48	90.95	8.57	-		0.00	14.03	82.37	3.60	-		0.00	21.18	10.59	68.24	-		0.00	50.00	28.57	21.43	-		
Int Percentage	0.00	0.17	32.54	3.07	-	35.78	0.00	6.64	39.01	1.70	-	47.36	0.00	3.07	1.53	9.88	-	14.48	0.00	1.19	0.68	0.51	-	2.39	
Cars	0	1	188	18	-	207	0	39	228	10	-	277	0	18	9	58	-	85	0	6	4	3	-	13	582
Trucks	0	0	3	0	-	3	0	0	1	0	-	1	0	0	0	0	-	0	0	1	0	0	-	1	5
Cars (%)	0.00	100.00	98.43	100.00	-	98.57	0.00	100.00	99.56	100.00	-	99.64	0.00	100.00	100.00	100.00	-	100.00	0.00	85.71	100.00	100.00	-	92.86	99.15
Trucks (%)	0.00	0.00	1.57	0.00	-	1.43	0.00	0.00	0.44	0.00	-	0.36	0.00	0.00	0.00	0.00	-	0.00	0.00	14.29	0.00	0.00	-	7.14	0.85
PHF	0.000	0.250	0.936	0.750	-	0.955	0.000	0.650	0.842	0.833	-	0.869	0.000	0.643	0.750	0.763	-	0.787	0.000	0.438	0.333	0.750	-	0.700	0.935

(Southbound) Legion Avenue

In	Out	Total
14	20	34

Peds	Right	Thru	Left	U-Turn
-	3	4	7	0



(Westbound) US-431 East Commerce Street (East)

Peds	Right	Thru	Left	U-Turn
-	10	229	39	0

In	Out	Total
278	256	534

(Eastbound) US-431 East Commerce Street (West)

Out	In	Total
250	210	460

U-Turn	Left	Thru	Right	Peds
0	1	191	18	-

(Northbound) Martin Avenue

U-Turn	Left	Thru	Right	Peds
0	18	9	58	-

Out	In	Total
61	85	146

# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Nashville Highway  
E/W Street: N Ellington Parkway

File Name : Lewisburg-12  
Site Code : 00000010  
Start Date : 3/26/2015  
Page No : 1

Counted by: City of Lewisburg

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:00 AM	47	37	34	0	118	3	92	29	0	124	10	23	4	0	37	23	78	7	1	109	388
06:15 AM	54	36	49	0	139	7	91	51	1	150	22	18	7	0	47	38	83	14	1	136	472
06:30 AM	44	46	42	1	133	6	109	36	0	151	28	21	4	0	53	30	104	15	0	149	486
06:45 AM	35	31	36	3	105	4	70	29	3	106	28	26	4	0	58	28	90	19	1	138	407
Total	180	150	161	4	495	20	362	145	4	531	88	88	19	0	195	119	355	55	3	532	1753
07:00 AM	38	28	24	1	91	7	70	37	0	114	21	19	6	0	46	21	73	13	0	107	358
07:15 AM	37	25	40	0	102	4	85	28	0	117	25	15	3	0	43	27	54	16	1	98	360
07:30 AM	45	27	24	1	97	5	76	33	3	117	28	18	6	0	52	31	67	14	2	114	380
07:45 AM	42	30	31	2	105	3	64	24	5	96	24	19	5	1	49	33	63	13	0	109	359
Total	162	110	119	4	395	19	295	122	8	444	98	71	20	1	190	112	257	56	3	428	1457
*** BREAK ***																					
10:00 AM	48	23	22	1	94	6	88	32	1	127	31	19	14	0	64	31	97	26	2	156	441
10:15 AM	41	36	15	0	92	10	89	49	4	152	34	23	7	0	64	39	83	18	0	140	448
10:30 AM	50	34	42	0	126	5	92	41	1	139	27	26	4	1	58	30	87	20	2	139	462
10:45 AM	57	23	39	0	119	13	88	58	0	159	24	28	10	0	62	51	74	23	0	148	488
Total	196	116	118	1	431	34	357	180	6	577	116	96	35	1	248	151	341	87	4	583	1839
11:00 AM	55	22	37	0	114	13	111	57	6	187	46	24	4	0	74	29	103	16	0	148	523
11:15 AM	54	35	35	1	125	7	97	51	4	159	38	23	9	0	70	28	97	19	0	144	498
11:30 AM	53	24	39	0	116	4	95	34	0	133	25	20	8	0	53	31	102	20	0	153	455
11:45 AM	36	36	22	2	96	15	91	38	1	145	31	27	2	0	60	43	98	23	0	164	465
Total	198	117	133	3	451	39	394	180	11	624	140	94	23	0	257	131	400	78	0	609	1941
*** BREAK ***																					
03:00 PM	36	30	31	0	97	3	104	42	2	151	41	36	12	0	89	52	90	23	0	165	502
03:15 PM	54	29	42	1	126	10	120	52	3	185	41	32	7	0	80	75	118	24	3	220	611
03:30 PM	54	47	31	2	134	7	100	59	1	167	17	29	8	1	55	70	131	21	0	222	578
03:45 PM	52	40	49	5	146	7	123	67	0	197	49	27	8	0	84	53	73	18	0	144	571
Total	196	146	153	8	503	27	447	220	6	700	148	124	35	1	308	250	412	86	3	751	2262
04:00 PM	44	64	38	7	153	4	128	29	1	162	28	39	11	4	82	48	118	24	2	192	589
04:15 PM	54	32	54	1	141	7	125	67	1	200	38	28	10	1	77	49	93	12	2	156	574
04:30 PM	51	29	54	0	134	11	99	43	0	153	21	15	10	0	46	48	109	21	0	178	511
04:45 PM	38	35	43	0	116	8	86	31	0	125	21	25	7	0	53	39	102	15	0	156	450
Total	187	160	189	8	544	30	438	170	2	640	108	107	38	5	258	184	422	72	4	682	2124
Grand Total	1119	799	873	28	2819	169	2293	1017	37	3516	698	580	170	8	1456	947	2187	434	17	3585	11376
Apprch %	39.7	28.3	31	1		4.8	65.2	28.9	1.1		47.9	39.8	11.7	0.5		26.4	61	12.1	0.5		
Total %	9.8	7	7.7	0.2	24.8	1.5	20.2	8.9	0.3	30.9	6.1	5.1	1.5	0.1	12.8	8.3	19.2	3.8	0.1	31.5	
Passenger Vehicles																					
% Passenger Vehicles	93.8	99.4	95	96.4	95.8	99.4	94.1	92.6	91.9	93.9	99.4	98.4	99.4	100	99	96.2	94.4	99.3	100	95.5	95.5
Heavy Vehicles	69	5	44	1	119	1	135	75	3	214	4	9	1	0	14	36	123	3	0	162	509
% Heavy Vehicles	6.2	0.6	5	3.6	4.2	0.6	5.9	7.4	8.1	6.1	0.6	1.6	0.6	0	1	3.8	5.6	0.7	0	4.5	4.5

# Signal Timing Optimization Study

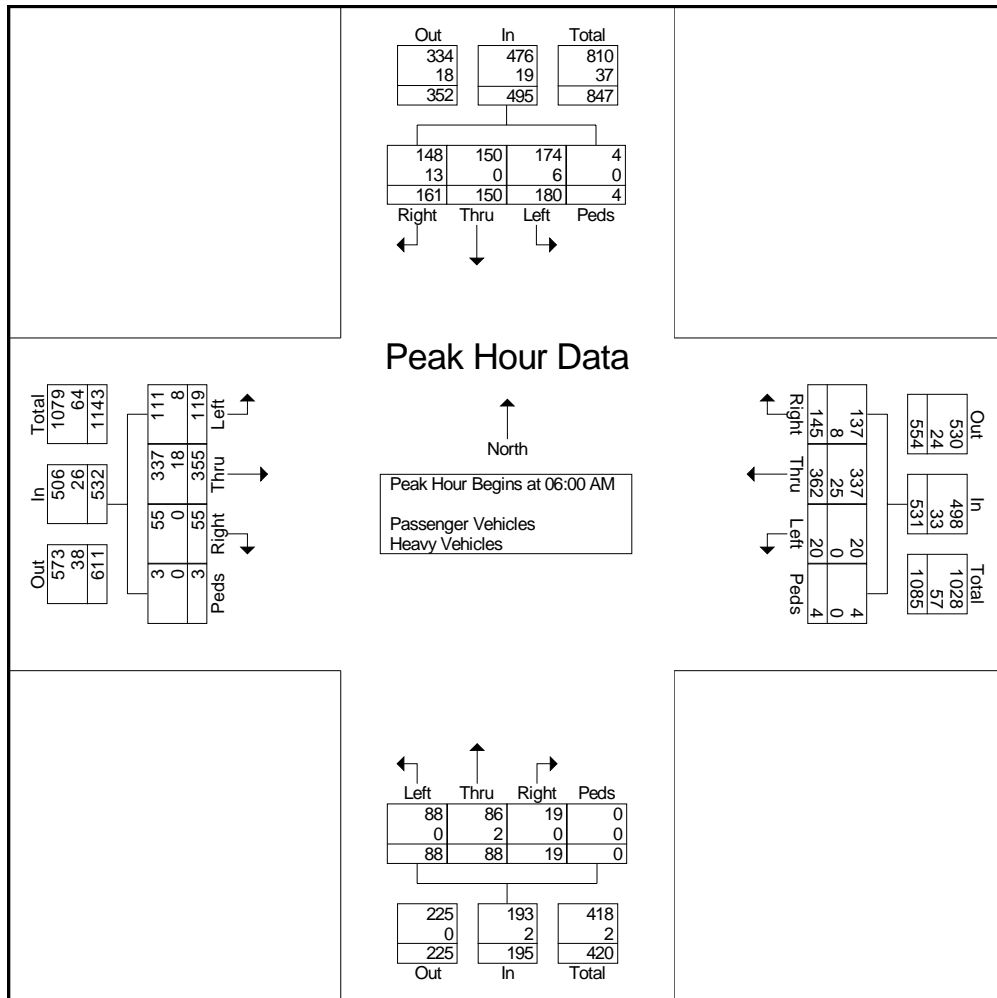
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Nashville Highway  
E/W Street: N Ellington Parkway

File Name : Lewisburg-12  
Site Code : 00000010  
Start Date : 3/26/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 AM																					
06:00 AM	47	37	34	0	118	3	92	29	0	124	10	23	4	0	37	23	78	7	1	109	388
06:15 AM	54	36	49	0	139	7	91	51	1	150	22	18	7	0	47	38	83	14	1	136	472
06:30 AM	44	46	42	1	133	6	109	36	0	151	28	21	4	0	53	30	104	15	0	149	486
06:45 AM	35	31	36	3	105	4	70	29	3	106	28	26	4	0	58	28	90	19	1	138	407
Total Volume	180	150	161	4	495	20	362	145	4	531	88	88	19	0	195	119	355	55	3	532	1753
% App. Total	36.4	30.3	32.5	0.8		3.8	68.2	27.3	0.8		45.1	45.1	9.7	0		22.4	66.7	10.3	0.6		
PHF	.833	.815	.821	.333	.890	.714	.830	.711	.333	.879	.786	.846	.679	.000	.841	.783	.853	.724	.750	.893	.902
Passenger Vehicles	174	150	148	4	476	20	337	137	4	498	88	86	19	0	193	111	337	55	3	506	1673
% Passenger Vehicles	96.7	100	91.9	100	96.2	100	93.1	94.5	100	93.8	100	97.7	100	0	99.0	93.3	94.9	100	100	95.1	95.4
Heavy Vehicles	6	0	13	0	19	0	25	8	0	33	0	2	0	0	2	8	18	0	0	26	80
% Heavy Vehicles	3.3	0	8.1	0	3.8	0	6.9	5.5	0	6.2	0	2.3	0	0	1.0	6.7	5.1	0	0	4.9	4.6





# Signal Timing Optimization Study

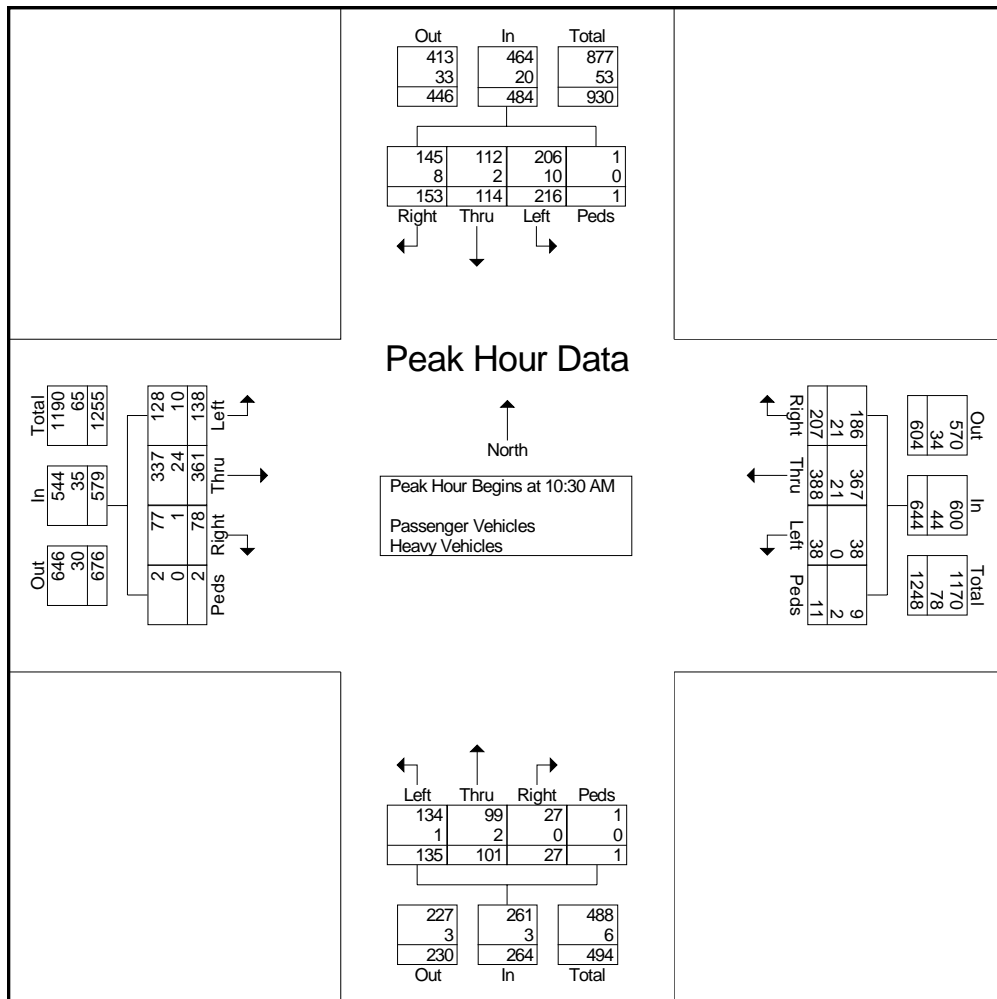
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Nashville Highway  
E/W Street: N Ellington Parkway

File Name : Lewisburg-12  
Site Code : 0000010  
Start Date : 3/26/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 10:00 AM to 11:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 10:30 AM																						
10:30 AM	50	34	42	0	126	5	92	41	1	139	27	26	4	1	58	30	87	20	2	139	462	
10:45 AM	57	23	39	0	119	13	88	58	0	159	24	28	10	0	62	51	74	23	0	148	488	
11:00 AM	55	22	37	0	114	13	111	57	6	187	46	24	4	0	74	29	103	16	0	148	523	
11:15 AM	54	35	35	1	125	7	97	51	4	159	38	23	9	0	70	28	97	19	0	144	498	
Total Volume	216	114	153	1	484	38	388	207	11	644	135	101	27	1	264	138	361	78	2	579	1971	
% App. Total	44.6	23.6	31.6	0.2		5.9	60.2	32.1	1.7		51.1	38.3	10.2	0.4		23.8	62.3	13.5	0.3			
PHF	.947	.814	.911	.250	.960	.731	.874	.892	.458	.861	.734	.902	.675	.250	.892	.676	.876	.848	.250	.978	.942	
Passenger Vehicles	206	112	145	1	464	38	367	186	9	600	134	99	27	1	261	128	337	77	2	544	1869	
% Passenger Vehicles	95.4	98.2	94.8	100	95.9	100	94.6	89.9	81.8	93.2	99.3	98.0	100	100	98.9	92.8	93.4	98.7	100	94.0	94.8	
Heavy Vehicles	10	2	8	0	20	0	21	21	2	44	1	2	0	0	3	10	24	1	0	35	102	
% Heavy Vehicles	4.6	1.8	5.2	0	4.1	0	5.4	10.1	18.2	6.8	0.7	2.0	0	0	1.1	7.2	6.6	1.3	0	6.0	5.2	



# Signal Timing Optimization Study

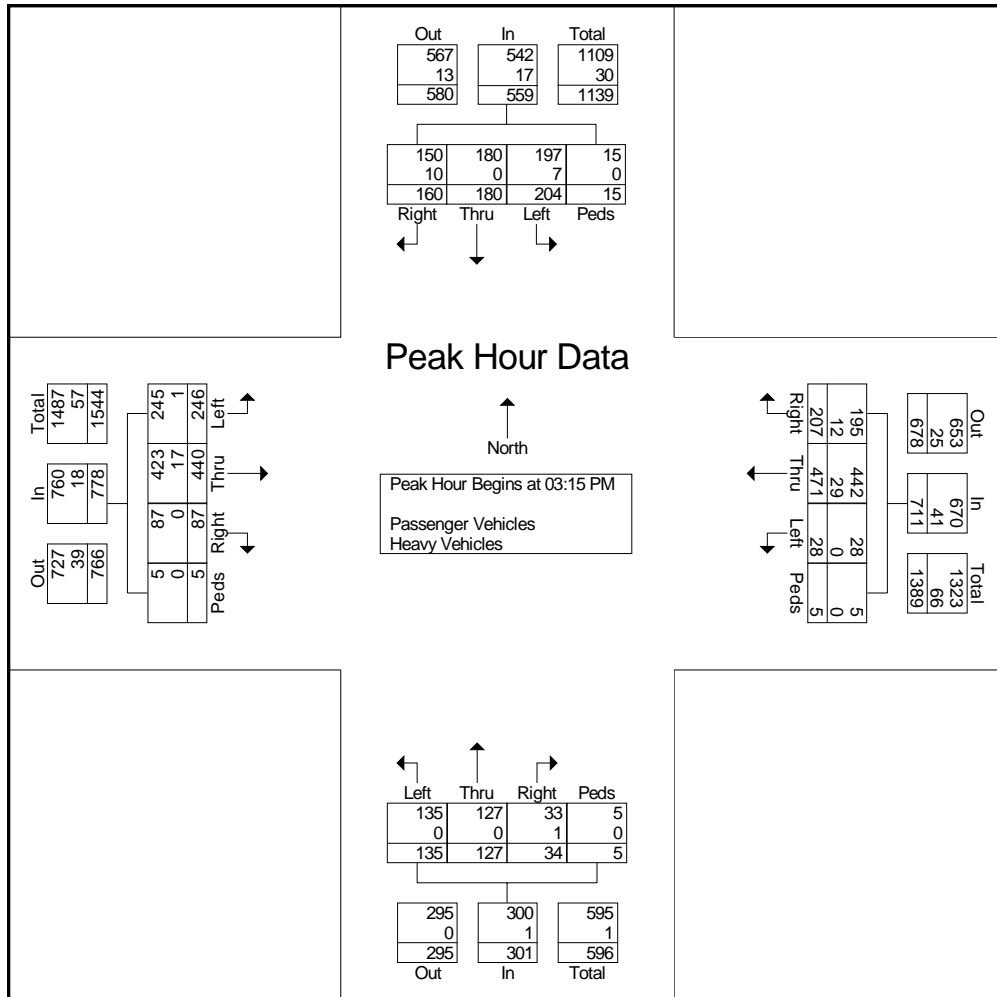
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Nashville Highway  
E/W Street: N Ellington Parkway

File Name : Lewisburg-12  
Site Code : 00000010  
Start Date : 3/26/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:15 PM																					
03:15 PM	54	29	42	1	126	10	120	52	3	185	41	32	7	0	80	75	118	24	3	220	611
03:30 PM	54	47	31	2	134	7	100	59	1	167	17	29	8	1	55	70	131	21	0	222	578
03:45 PM	52	40	49	5	146	7	123	67	0	197	49	27	8	0	84	53	73	18	0	144	571
04:00 PM	44	64	38	7	153	4	128	29	1	162	28	39	11	4	82	48	118	24	2	192	589
Total Volume	204	180	160	15	559	28	471	207	5	711	135	127	34	5	301	246	440	87	5	778	2349
% App. Total	36.5	32.2	28.6	2.7		3.9	66.2	29.1	0.7		44.9	42.2	11.3	1.7		31.6	56.6	11.2	0.6		
PHF	.944	.703	.816	.536	.913	.700	.920	.772	.417	.902	.689	.814	.773	.313	.896	.820	.840	.906	.417	.876	.961
Passenger Vehicles	197	180	150	15	542	28	442	195	5	670	135	127	33	5	300	245	423	87	5	760	2272
% Passenger Vehicles	96.6	100	93.8	100	97.0	100	93.8	94.2	100	94.2	100	100	97.1	100	99.7	99.6	96.1	100	100	97.7	96.7
Heavy Vehicles	7	0	10	0	17	0	29	12	0	41	0	0	1	0	1	1	17	0	0	18	77
% Heavy Vehicles	3.4	0	6.3	0	3.0	0	6.2	5.8	0	5.8	0	0	2.9	0	0.3	0.4	3.9	0	0	2.3	3.3



# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Creekside Dr / Garrett Pkwy  
E/W Street: E Commerce Street

File Name : Lewisburg-13  
Site Code : 0000011  
Start Date : 3/24/2015  
Page No : 1

Counted by: City of Lewisburg

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:15 AM	0	0	3	0	3	12	64	0	0	76	40	0	12	0	52	1	38	41	0	80	211
07:30 AM	1	0	3	0	4	8	60	1	0	69	37	0	8	0	45	0	34	37	0	71	189
07:45 AM	0	0	1	0	1	5	42	0	0	47	40	0	11	0	51	0	37	43	0	80	179
<b>Total</b>	<b>1</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>8</b>	<b>25</b>	<b>166</b>	<b>1</b>	<b>0</b>	<b>192</b>	<b>117</b>	<b>0</b>	<b>31</b>	<b>0</b>	<b>148</b>	<b>1</b>	<b>109</b>	<b>121</b>	<b>0</b>	<b>231</b>	<b>579</b>
08:00 AM	0	0	0	0	0	1	49	0	0	50	27	0	2	0	29	0	32	10	0	42	121
08:15 AM	0	0	2	0	2	2	34	3	0	39	14	0	2	0	16	0	32	17	0	49	106
08:30 AM	0	0	0	0	0	3	40	1	0	44	21	0	3	0	24	0	31	15	0	46	114
08:45 AM	0	0	0	0	0	1	41	0	0	42	14	0	2	0	16	0	38	16	0	54	112
<b>Total</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>2</b>	<b>7</b>	<b>164</b>	<b>4</b>	<b>0</b>	<b>175</b>	<b>76</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>85</b>	<b>0</b>	<b>133</b>	<b>58</b>	<b>0</b>	<b>191</b>	<b>453</b>
09:00 AM	0	0	1	0	1	4	44	0	0	48	11	1	1	0	13	1	29	6	0	36	98
*** BREAK ***																					
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>4</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>48</b>	<b>11</b>	<b>1</b>	<b>1</b>	<b>0</b>	<b>13</b>	<b>1</b>	<b>29</b>	<b>6</b>	<b>0</b>	<b>36</b>	<b>98</b>
*** BREAK ***																					
11:00 AM	0	0	0	0	0	1	46	0	0	47	39	0	6	0	45	2	34	20	0	56	148
11:15 AM	0	0	3	0	3	4	27	0	0	31	21	0	9	0	30	0	43	25	0	68	132
11:30 AM	0	0	2	0	2	5	44	0	0	49	40	0	1	0	41	3	45	30	0	78	170
11:45 AM	1	0	2	0	3	4	46	0	0	50	47	0	5	0	52	1	42	28	0	71	176
<b>Total</b>	<b>1</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>8</b>	<b>14</b>	<b>163</b>	<b>0</b>	<b>0</b>	<b>177</b>	<b>147</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>168</b>	<b>6</b>	<b>164</b>	<b>103</b>	<b>0</b>	<b>273</b>	<b>626</b>
12:00 PM	0	0	0	0	0	3	52	0	0	55	59	0	6	0	65	1	68	37	0	106	226
12:15 PM	0	0	0	0	0	1	39	0	0	40	26	0	2	0	28	0	45	36	0	81	149
12:30 PM	0	0	0	0	0	4	47	0	0	51	25	0	1	0	26	0	36	35	0	71	148
12:45 PM	1	0	0	0	1	0	40	0	0	40	13	0	0	0	13	0	40	39	0	79	133
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>8</b>	<b>178</b>	<b>0</b>	<b>0</b>	<b>186</b>	<b>123</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>132</b>	<b>1</b>	<b>189</b>	<b>147</b>	<b>0</b>	<b>337</b>	<b>656</b>
*** BREAK ***																					
04:00 PM	0	0	0	0	0	3	47	0	0	50	46	0	13	0	59	0	63	4	0	67	176
04:15 PM	1	0	1	0	2	2	59	0	0	61	45	0	7	0	52	0	63	9	0	72	187
04:30 PM	0	1	1	0	2	2	86	0	0	88	70	1	5	0	76	0	55	5	0	60	226
04:45 PM	0	0	0	0	0	1	55	0	0	56	25	0	7	0	32	2	67	5	1	75	163
<b>Total</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>4</b>	<b>8</b>	<b>247</b>	<b>0</b>	<b>0</b>	<b>255</b>	<b>186</b>	<b>1</b>	<b>32</b>	<b>0</b>	<b>219</b>	<b>2</b>	<b>248</b>	<b>23</b>	<b>1</b>	<b>274</b>	<b>752</b>
05:00 PM	0	0	0	0	0	3	39	0	0	42	31	0	15	0	46	0	75	4	0	79	167
05:15 PM	1	0	3	0	4	1	33	1	0	35	26	0	4	0	30	4	60	12	0	76	145
05:30 PM	0	0	1	0	1	1	41	0	0	42	12	0	6	0	18	1	44	12	0	57	118
05:45 PM	0	0	3	0	3	4	39	1	0	44	15	0	0	0	15	1	47	6	0	54	116
<b>Total</b>	<b>1</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>8</b>	<b>9</b>	<b>152</b>	<b>2</b>	<b>0</b>	<b>163</b>	<b>84</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>109</b>	<b>6</b>	<b>226</b>	<b>34</b>	<b>0</b>	<b>266</b>	<b>546</b>
<b>Grand Total</b>	<b>5</b>	<b>1</b>	<b>26</b>	<b>0</b>	<b>32</b>	<b>75</b>	<b>1114</b>	<b>7</b>	<b>0</b>	<b>1196</b>	<b>744</b>	<b>2</b>	<b>128</b>	<b>0</b>	<b>874</b>	<b>17</b>	<b>1098</b>	<b>492</b>	<b>1</b>	<b>1608</b>	<b>3710</b>
Apprch %	15.6	3.1	81.2	0		6.3	93.1	0.6	0		85.1	0.2	14.6	0		1.1	68.3	30.6	0.1		
Total %	0.1	0	0.7	0	0.9	2	30	0.2	0	32.2	20.1	0.1	3.5	0	23.6	0.5	29.6	13.3	0	43.3	
Passenger Vehicles																					
% Passenger Vehicles	100	100	100	0	100	90.7	95.1	100	0	94.8	90.1	100	93.8	0	90.6	100	95.7	86.8	100	93	93.1
Heavy Vehicles	0	0	0	0	0	7	55	0	0	62	74	0	8	0	82	0	47	65	0	112	256
% Heavy Vehicles	0	0	0	0	0	9.3	4.9	0	0	5.2	9.9	0	6.2	0	9.4	0	4.3	13.2	0	7	6.9

# Signal Timing Optimization Study

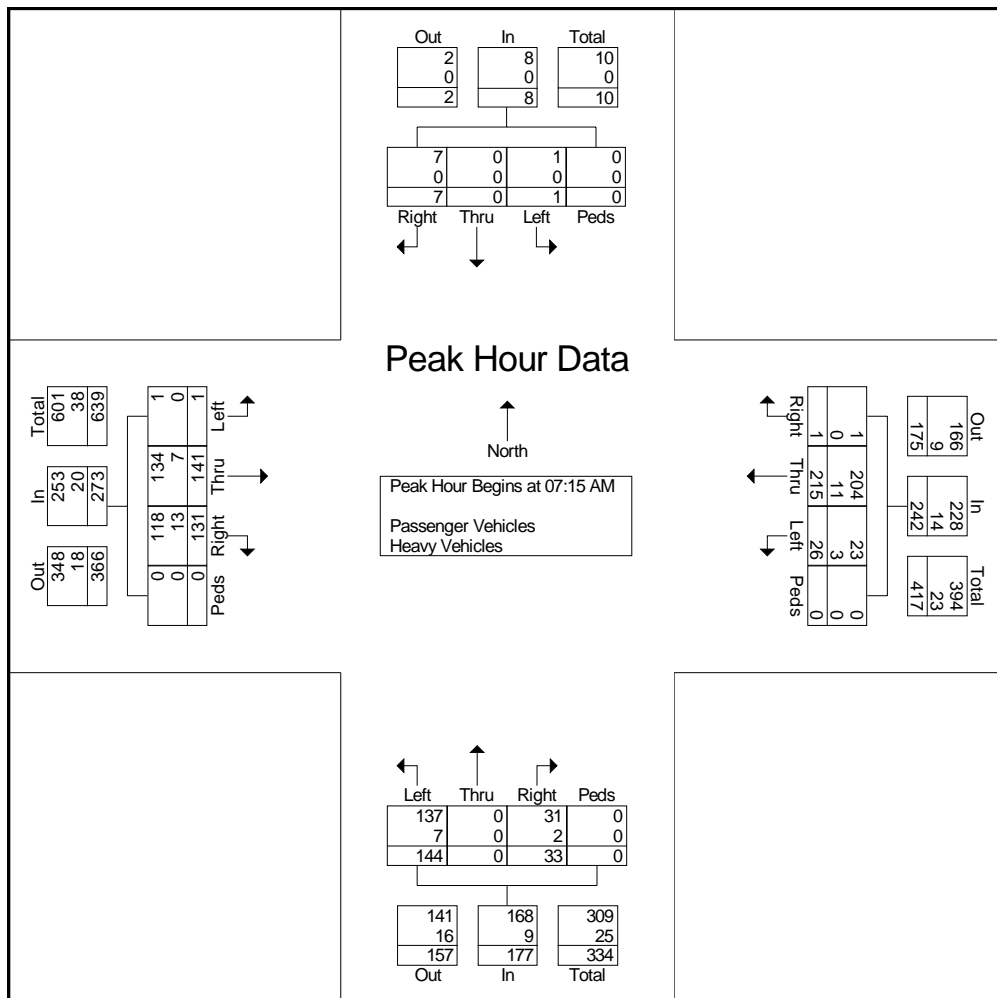
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Creekside Dr / Garrett Pkwy  
E/W Street: E Commerce Street

File Name : Lewisburg-13  
Site Code : 0000011  
Start Date : 3/24/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 09:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	3	0	3	12	64	0	0	76	40	0	12	0	52	1	38	41	0	80	211
07:30 AM	1	0	3	0	4	8	60	1	0	69	37	0	8	0	45	0	34	37	0	71	189
07:45 AM	0	0	1	0	1	5	42	0	0	47	40	0	11	0	51	0	37	43	0	80	179
08:00 AM	0	0	0	0	0	1	49	0	0	50	27	0	2	0	29	0	32	10	0	42	121
Total Volume	1	0	7	0	8	26	215	1	0	242	144	0	33	0	177	1	141	131	0	273	700
% App. Total	12.5	0	87.5	0		10.7	88.8	0.4	0		81.4	0	18.6	0		0.4	51.6	48	0		
PHF	.250	.000	.583	.000	.500	.542	.840	.250	.000	.796	.900	.000	.688	.000	.851	.250	.928	.762	.000	.853	.829
Passenger Vehicles	1	0	7	0	8	23	204	1	0	228	137	0	31	0	168	1	134	118	0	253	657
% Passenger Vehicles	100	0	100	0	100	88.5	94.9	100	0	94.2	95.1	0	93.9	0	94.9	100	95.0	90.1	0	92.7	93.9
Heavy Vehicles	0	0	0	0	0	3	11	0	0	14	7	0	2	0	9	0	7	13	0	20	43
% Heavy Vehicles	0	0	0	0	0	11.5	5.1	0	0	5.8	4.9	0	6.1	0	5.1	0	5.0	9.9	0	7.3	6.1



# Signal Timing Optimization Study

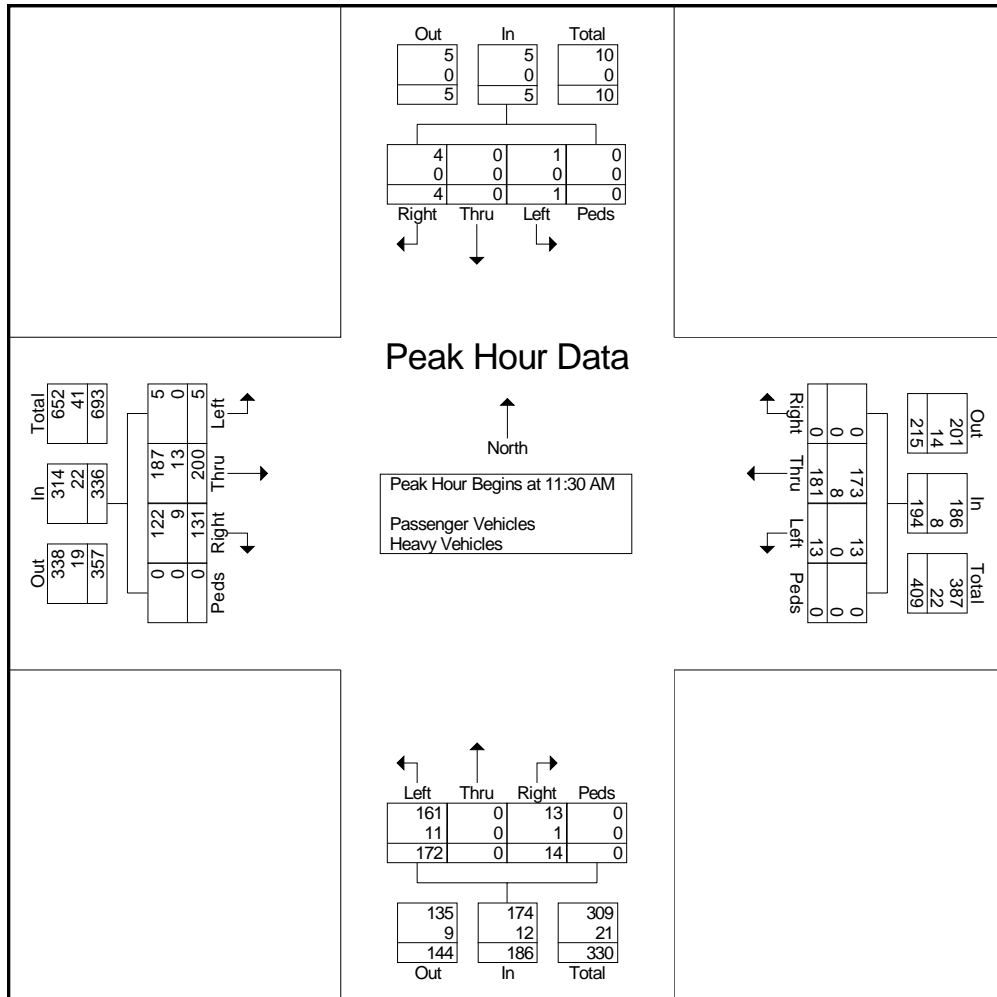
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Creekside Dr / Garrett Pkwy  
E/W Street: E Commerce Street

File Name : Lewisburg-13  
Site Code : 0000011  
Start Date : 3/24/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 11:30 AM																						
11:30 AM	0	0	2	0	2	5	44	0	0	49	40	0	1	0	41	3	45	30	0	78	170	
11:45 AM	1	0	2	0	3	4	46	0	0	50	47	0	5	0	52	1	42	28	0	71	176	
12:00 PM	0	0	0	0	0	3	52	0	0	55	59	0	6	0	65	1	68	37	0	106	226	
12:15 PM	0	0	0	0	0	1	39	0	0	40	26	0	2	0	28	0	45	36	0	81	149	
Total Volume	1	0	4	0	5	13	181	0	0	194	172	0	14	0	186	5	200	131	0	336	721	
% App. Total	20	0	80	0		6.7	93.3	0	0		92.5	0	7.5	0		1.5	59.5	39	0			
PHF	.250	.000	.500	.000	.417	.650	.870	.000	.000	.882	.729	.000	.583	.000	.715	.417	.735	.885	.000	.792	.798	
Passenger Vehicles	1	0	4	0	5	13	173	0	0	186	161	0	13	0	174	5	187	122	0	314	679	
% Passenger Vehicles	100	0	100	0	100	100	95.6	0	0	95.9	93.6	0	92.9	0	93.5	100	93.5	93.1	0	93.5	94.2	
Heavy Vehicles	0	0	0	0	0	0	8	0	0	8	11	0	1	0	12	0	13	9	0	22	42	
% Heavy Vehicles	0	0	0	0	0	0	4.4	0	0	4.1	6.4	0	7.1	0	6.5	0	6.5	6.9	0	6.5	5.8	



# Signal Timing Optimization Study

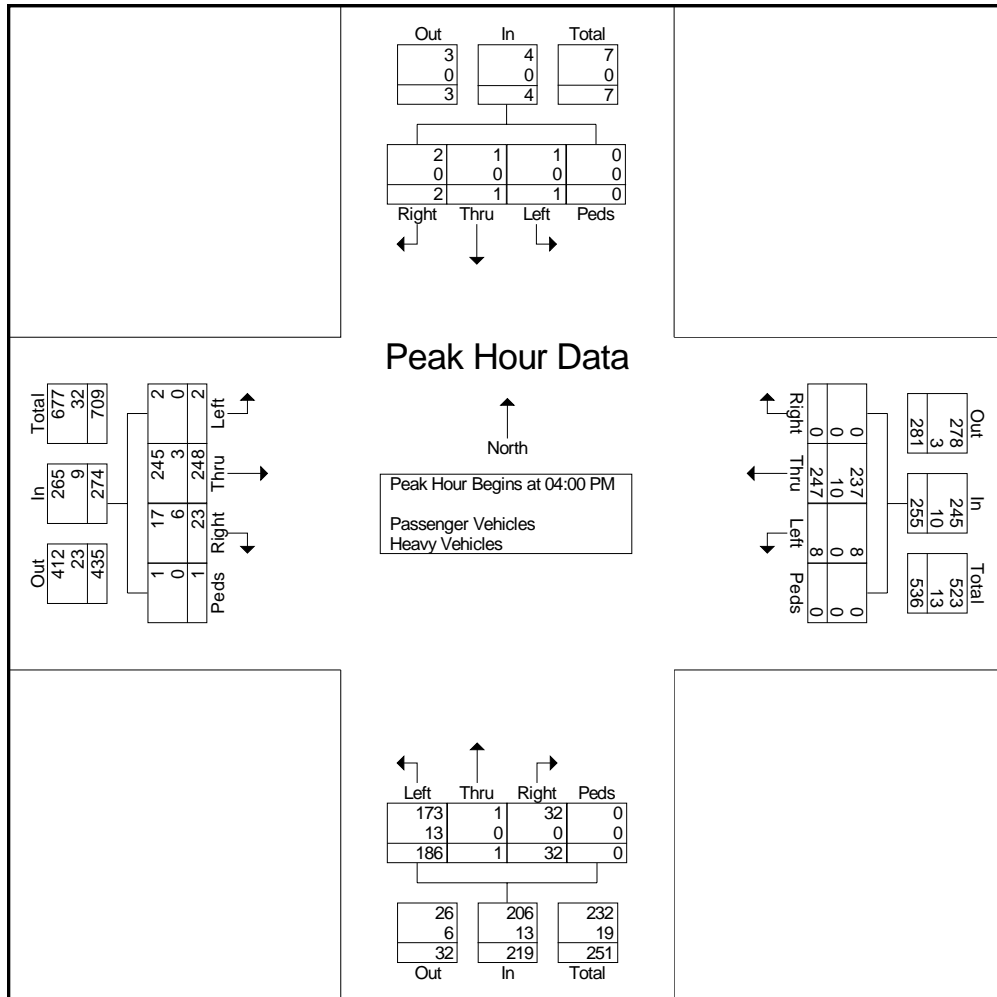
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Creekside Dr / Garrett Pkwy  
E/W Street: E Commerce Street

File Name : Lewisburg-13  
Site Code : 0000011  
Start Date : 3/24/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	0	0	0	0	0	3	47	0	0	50	46	0	13	0	59	0	63	4	0	67	176
04:15 PM	1	0	1	0	2	2	59	0	0	61	45	0	7	0	52	0	63	9	0	72	187
04:30 PM	0	1	1	0	2	2	86	0	0	88	70	1	5	0	76	0	55	5	0	60	226
04:45 PM	0	0	0	0	0	1	55	0	0	56	25	0	7	0	32	2	67	5	1	75	163
Total Volume	1	1	2	0	4	8	247	0	0	255	186	1	32	0	219	2	248	23	1	274	752
% App. Total	25	25	50	0		3.1	96.9	0	0		84.9	0.5	14.6	0		0.7	90.5	8.4	0.4		
PHF	.250	.250	.500	.000	.500	.667	.718	.000	.000	.724	.664	.250	.615	.000	.720	.250	.925	.639	.250	.913	.832
Passenger Vehicles	1	1	2	0	4	8	237	0	0	245	173	1	32	0	206	2	245	17	1	265	720
% Passenger Vehicles	100	100	100	0	100	100	96.0	0	0	96.1	93.0	100	100	0	94.1	100	98.8	73.9	100	96.7	95.7
Heavy Vehicles	0	0	0	0	0	0	10	0	0	10	13	0	0	0	13	0	3	6	0	9	32
% Heavy Vehicles	0	0	0	0	0	0	4.0	0	0	3.9	7.0	0	0	0	5.9	0	1.2	26.1	0	3.3	4.3



# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N Ellington Parkway  
E/W Street: Finley Beech Road

File Name : Lewisburg-14  
Site Code : 0000012  
Start Date : 4/2/2015  
Page No : 1

Counted by: City of Lewisburg

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	8	5	3	0	16	8	108	10	0	126	8	4	8	0	20	1	116	3	0	120	282
07:15 AM	2	5	1	0	8	4	97	7	0	108	4	10	10	0	24	0	117	8	0	125	265
07:30 AM	6	4	3	0	13	2	115	17	0	134	8	5	9	0	22	4	140	8	0	152	321
07:45 AM	9	3	4	0	16	5	102	11	0	118	6	8	15	0	29	6	112	9	0	127	290
<b>Total</b>	<b>25</b>	<b>17</b>	<b>11</b>	<b>0</b>	<b>53</b>	<b>19</b>	<b>422</b>	<b>45</b>	<b>0</b>	<b>486</b>	<b>26</b>	<b>27</b>	<b>42</b>	<b>0</b>	<b>95</b>	<b>11</b>	<b>485</b>	<b>28</b>	<b>0</b>	<b>524</b>	<b>1158</b>
08:00 AM	13	4	9	0	26	4	70	10	0	84	11	5	10	0	26	7	88	11	0	106	242
08:15 AM	5	4	4	0	13	9	82	9	0	100	6	1	19	0	26	4	99	10	0	113	252
08:30 AM	9	4	1	0	14	10	101	8	0	119	11	4	19	0	34	3	98	6	0	107	274
08:45 AM	9	2	4	0	15	10	74	11	0	95	8	5	13	0	26	5	108	10	0	123	259
<b>Total</b>	<b>36</b>	<b>14</b>	<b>18</b>	<b>0</b>	<b>68</b>	<b>33</b>	<b>327</b>	<b>38</b>	<b>0</b>	<b>398</b>	<b>36</b>	<b>15</b>	<b>61</b>	<b>0</b>	<b>112</b>	<b>19</b>	<b>393</b>	<b>37</b>	<b>0</b>	<b>449</b>	<b>1027</b>
*** BREAK ***																					
11:00 AM	25	8	9	0	42	8	114	10	0	132	11	6	9	0	26	9	149	10	0	168	368
11:15 AM	20	9	7	0	36	10	143	13	0	166	16	7	24	0	47	5	155	6	0	166	415
11:30 AM	20	8	10	0	38	14	162	16	0	192	10	13	15	0	38	12	181	8	0	201	469
11:45 AM	29	6	7	0	42	16	126	16	0	158	14	7	21	0	42	8	160	4	0	172	414
<b>Total</b>	<b>94</b>	<b>31</b>	<b>33</b>	<b>0</b>	<b>158</b>	<b>48</b>	<b>545</b>	<b>55</b>	<b>0</b>	<b>648</b>	<b>51</b>	<b>33</b>	<b>69</b>	<b>0</b>	<b>153</b>	<b>34</b>	<b>645</b>	<b>28</b>	<b>0</b>	<b>707</b>	<b>1666</b>
12:00 PM	31	6	10	0	47	22	159	12	0	193	20	7	17	0	44	8	191	14	0	213	497
12:15 PM	13	5	10	0	28	22	135	20	0	177	21	15	15	0	51	9	155	7	0	171	427
12:30 PM	23	5	15	0	43	13	131	17	0	161	18	10	22	0	50	10	132	7	0	149	403
12:45 PM	20	5	9	0	34	10	150	18	0	178	15	10	18	0	43	6	133	6	0	145	400
<b>Total</b>	<b>87</b>	<b>21</b>	<b>44</b>	<b>0</b>	<b>152</b>	<b>67</b>	<b>575</b>	<b>67</b>	<b>0</b>	<b>709</b>	<b>74</b>	<b>42</b>	<b>72</b>	<b>0</b>	<b>188</b>	<b>33</b>	<b>611</b>	<b>34</b>	<b>0</b>	<b>678</b>	<b>1727</b>
*** BREAK ***																					
04:00 PM	30	21	10	0	61	13	145	20	0	178	14	12	20	0	46	6	149	11	0	166	451
04:15 PM	21	8	5	0	34	9	133	17	0	159	12	8	10	0	30	9	162	11	0	182	405
04:30 PM	23	12	5	0	40	14	161	28	0	203	9	7	14	0	30	5	175	8	0	188	461
04:45 PM	25	5	2	0	32	14	147	14	0	175	15	15	15	0	45	1	131	12	0	144	396
<b>Total</b>	<b>99</b>	<b>46</b>	<b>22</b>	<b>0</b>	<b>167</b>	<b>50</b>	<b>586</b>	<b>79</b>	<b>0</b>	<b>715</b>	<b>50</b>	<b>42</b>	<b>59</b>	<b>0</b>	<b>151</b>	<b>21</b>	<b>617</b>	<b>42</b>	<b>0</b>	<b>680</b>	<b>1713</b>
05:00 PM	20	9	7	0	36	18	154	16	0	188	14	8	20	0	42	5	155	17	0	177	443
05:15 PM	12	1	4	0	17	22	140	9	0	171	8	8	9	0	25	9	130	6	0	145	358
05:30 PM	20	3	2	0	25	5	138	16	0	159	12	4	19	0	35	6	116	7	0	129	348
05:45 PM	13	1	4	0	18	8	116	13	0	137	7	4	9	0	20	1	127	3	0	131	306
<b>Total</b>	<b>65</b>	<b>14</b>	<b>17</b>	<b>0</b>	<b>96</b>	<b>53</b>	<b>548</b>	<b>54</b>	<b>0</b>	<b>655</b>	<b>41</b>	<b>24</b>	<b>57</b>	<b>0</b>	<b>122</b>	<b>21</b>	<b>528</b>	<b>33</b>	<b>0</b>	<b>582</b>	<b>1455</b>
<b>Grand Total</b>	<b>406</b>	<b>143</b>	<b>145</b>	<b>0</b>	<b>694</b>	<b>270</b>	<b>3003</b>	<b>338</b>	<b>0</b>	<b>3611</b>	<b>278</b>	<b>183</b>	<b>360</b>	<b>0</b>	<b>821</b>	<b>139</b>	<b>3279</b>	<b>202</b>	<b>0</b>	<b>3620</b>	<b>8746</b>
<b>Apprch %</b>	<b>58.5</b>	<b>20.6</b>	<b>20.9</b>	<b>0</b>		<b>7.5</b>	<b>83.2</b>	<b>9.4</b>	<b>0</b>		<b>33.9</b>	<b>22.3</b>	<b>43.8</b>	<b>0</b>		<b>3.8</b>	<b>90.6</b>	<b>5.6</b>	<b>0</b>		
<b>Total %</b>	<b>4.6</b>	<b>1.6</b>	<b>1.7</b>	<b>0</b>	<b>7.9</b>	<b>3.1</b>	<b>34.3</b>	<b>3.9</b>	<b>0</b>	<b>41.3</b>	<b>3.2</b>	<b>2.1</b>	<b>4.1</b>	<b>0</b>	<b>9.4</b>	<b>1.6</b>	<b>37.5</b>	<b>2.3</b>	<b>0</b>	<b>41.4</b>	
<b>Passenger Vehicles</b>																					
<b>% Passenger Vehicles</b>	<b>99.3</b>	<b>99.3</b>	<b>95.9</b>	<b>0</b>	<b>98.6</b>	<b>89.3</b>	<b>95.1</b>	<b>98.8</b>	<b>0</b>	<b>95</b>	<b>96.4</b>	<b>100</b>	<b>95.3</b>	<b>0</b>	<b>96.7</b>	<b>99.3</b>	<b>95.3</b>	<b>93.1</b>	<b>0</b>	<b>95.4</b>	<b>95.6</b>
<b>Heavy Vehicles</b>	<b>3</b>	<b>1</b>	<b>6</b>	<b>0</b>	<b>10</b>	<b>29</b>	<b>148</b>	<b>4</b>	<b>0</b>	<b>181</b>	<b>10</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>27</b>	<b>1</b>	<b>153</b>	<b>14</b>	<b>0</b>	<b>168</b>	<b>386</b>
<b>% Heavy Vehicles</b>	<b>0.7</b>	<b>0.7</b>	<b>4.1</b>	<b>0</b>	<b>1.4</b>	<b>10.7</b>	<b>4.9</b>	<b>1.2</b>	<b>0</b>	<b>5</b>	<b>3.6</b>	<b>0</b>	<b>4.7</b>	<b>0</b>	<b>3.3</b>	<b>0.7</b>	<b>4.7</b>	<b>6.9</b>	<b>0</b>	<b>4.6</b>	<b>4.4</b>

# Signal Timing Optimization Study

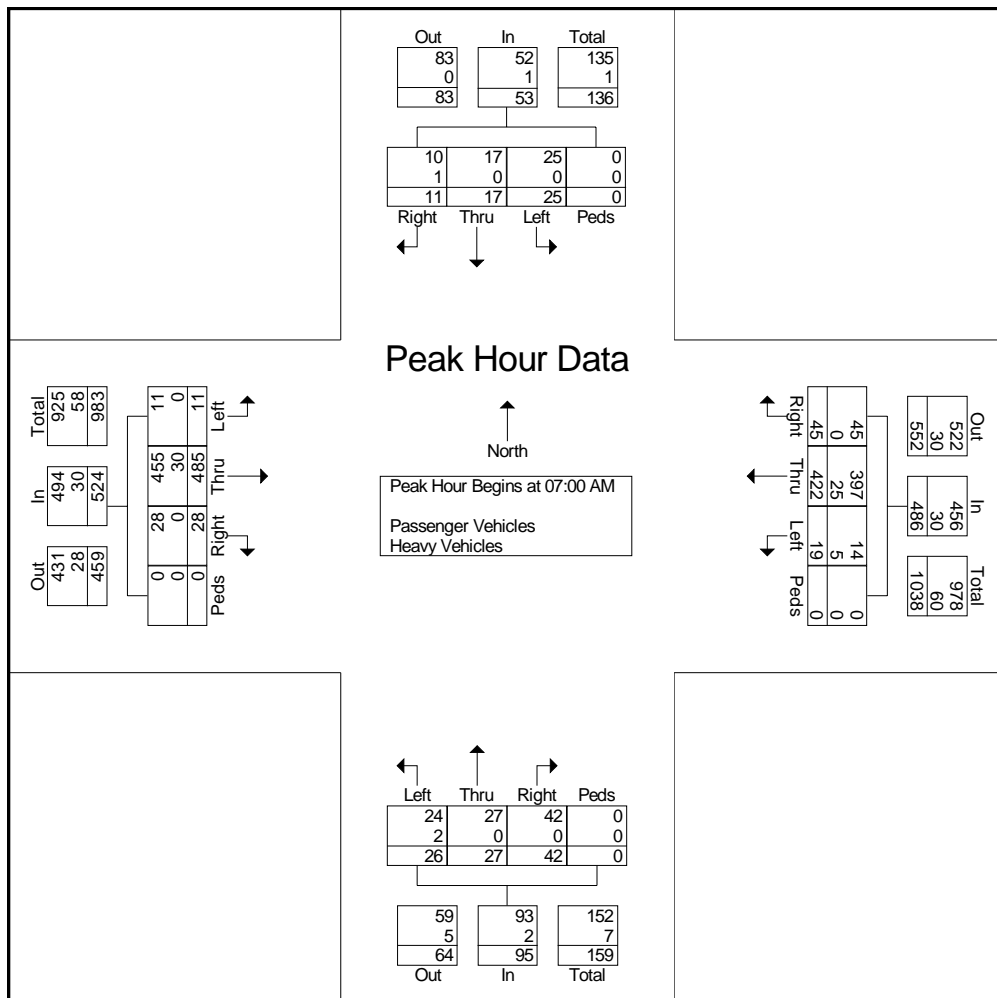
Lewisburg, Tennessee  
Kimley-Horn Project: 11800037

N/S Street: N Ellington Parkway  
E/W Street: Finley Beech Road

File Name : Lewisburg-14  
Site Code : 0000012  
Start Date : 4/2/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	8	5	3	0	16	8	108	10	0	126	8	4	8	0	20	1	116	3	0	120	282
07:15 AM	2	5	1	0	8	4	97	7	0	108	4	10	10	0	24	0	117	8	0	125	265
07:30 AM	6	4	3	0	13	2	115	17	0	134	8	5	9	0	22	4	140	8	0	152	321
07:45 AM	9	3	4	0	16	5	102	11	0	118	6	8	15	0	29	6	112	9	0	127	290
Total Volume	25	17	11	0	53	19	422	45	0	486	26	27	42	0	95	11	485	28	0	524	1158
% App. Total	47.2	32.1	20.8	0		3.9	86.8	9.3	0		27.4	28.4	44.2	0		2.1	92.6	5.3	0		
PHF	.694	.850	.688	.000	.828	.594	.917	.662	.000	.907	.813	.675	.700	.000	.819	.458	.866	.778	.000	.862	.902
Passenger Vehicles	25	17	10	0	52	14	397	45	0	456	24	27	42	0	93	11	455	28	0	494	1095
% Passenger Vehicles	100	100	90.9	0	98.1	73.7	94.1	100	0	93.8	92.3	100	100	0	97.9	100	93.8	100	0	94.3	94.6
Heavy Vehicles	0	0	1	0	1	5	25	0	0	30	2	0	0	0	2	0	30	0	0	30	63
% Heavy Vehicles	0	0	9.1	0	1.9	26.3	5.9	0	0	6.2	7.7	0	0	2.1	0	6.2	0	0	5.7	5.4	





# Signal Timing Optimization Study

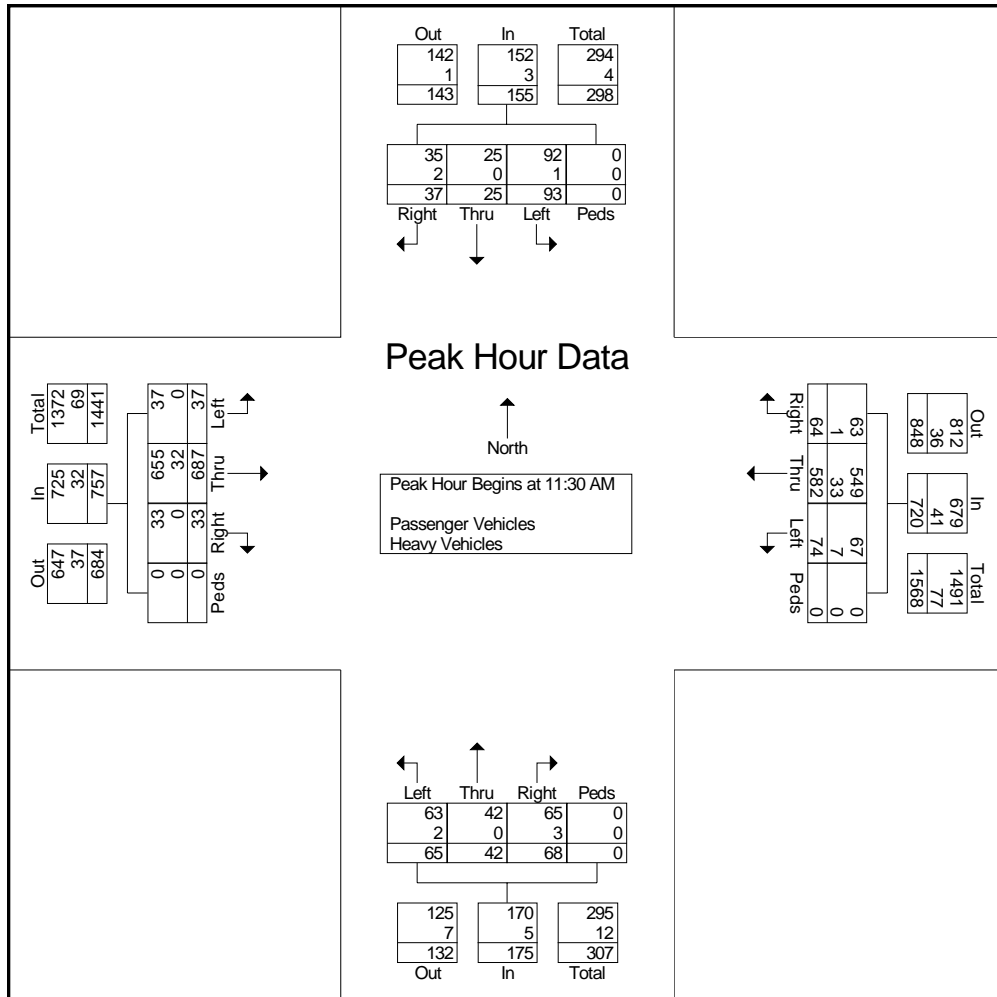
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N Ellington Parkway  
E/W Street: Finley Beech Road

File Name : Lewisburg-14  
Site Code : 0000012  
Start Date : 4/2/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30 AM																					
11:30 AM	20	8	10	0	38	14	162	16	0	192	10	13	15	0	38	12	181	8	0	201	469
11:45 AM	29	6	7	0	42	16	126	16	0	158	14	7	21	0	42	8	160	4	0	172	414
12:00 PM	31	6	10	0	47	22	159	12	0	193	20	7	17	0	44	8	191	14	0	213	497
12:15 PM	13	5	10	0	28	22	135	20	0	177	21	15	15	0	51	9	155	7	0	171	427
Total Volume	93	25	37	0	155	74	582	64	0	720	65	42	68	0	175	37	687	33	0	757	1807
% App. Total	60	16.1	23.9	0		10.3	80.8	8.9	0		37.1	24	38.9	0		4.9	90.8	4.4	0		
PHF	.750	.781	.925	.000	.824	.841	.898	.800	.000	.933	.774	.700	.810	.000	.858	.771	.899	.589	.000	.888	.909
Passenger Vehicles	92	25	35	0	152	67	549	63	0	679	63	42	65	0	170	37	655	33	0	725	1726
% Passenger Vehicles	98.9	100	94.6	0	98.1	90.5	94.3	98.4	0	94.3	96.9	100	95.6	0	97.1	100	95.3	100	0	95.8	95.5
Heavy Vehicles	1	0	2	0	3	7	33	1	0	41	2	0	3	0	5	0	32	0	0	32	81
% Heavy Vehicles	1.1	0	5.4	0	1.9	9.5	5.7	1.6	0	5.7	3.1	0	4.4	0	2.9	0	4.7	0	0	4.2	4.5



# Signal Timing Optimization Study

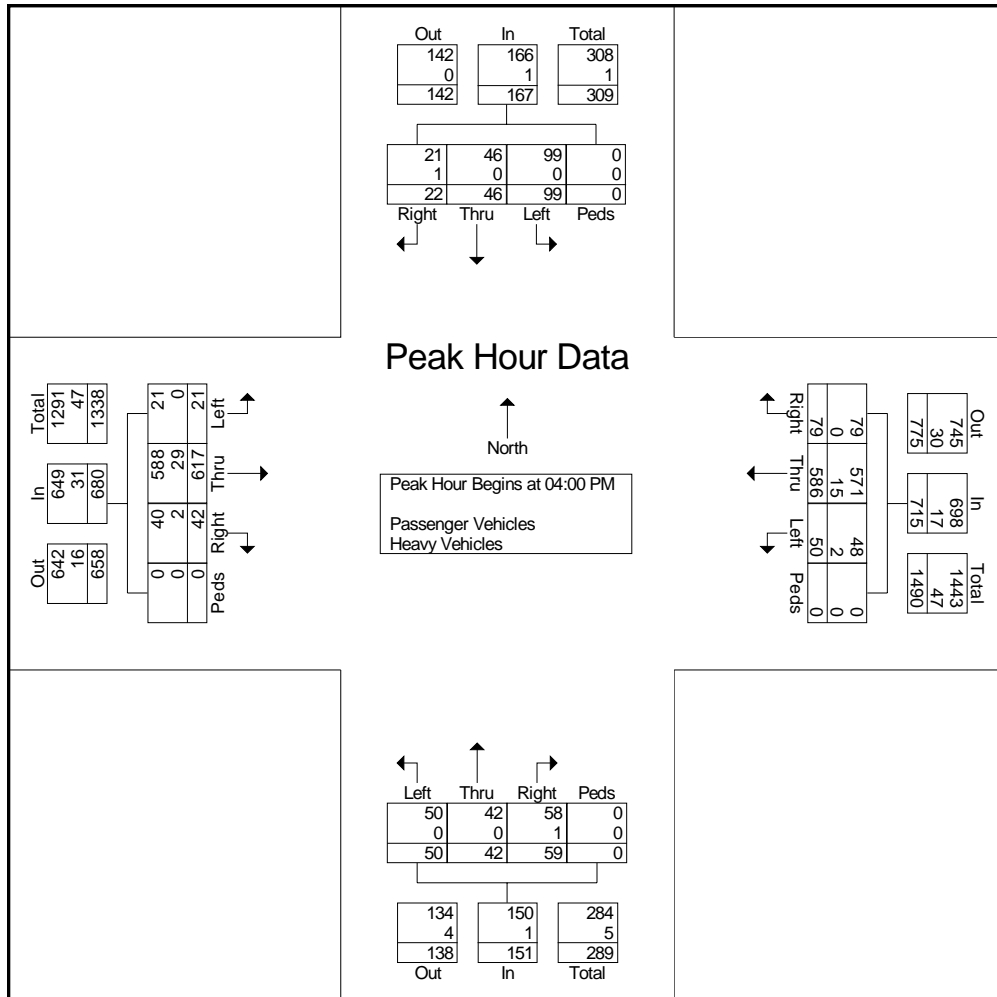
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N Ellington Parkway  
E/W Street: Finley Beech Road

File Name : Lewisburg-14  
Site Code : 0000012  
Start Date : 4/2/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:00 PM																						
04:00 PM	30	21	10	0	61	13	145	20	0	178	14	12	20	0	46	6	149	11	0	166	451	
04:15 PM	21	8	5	0	34	9	133	17	0	159	12	8	10	0	30	9	162	11	0	182	405	
04:30 PM	23	12	5	0	40	14	161	28	0	203	9	7	14	0	30	5	175	8	0	188	461	
04:45 PM	25	5	2	0	32	14	147	14	0	175	15	15	15	0	45	1	131	12	0	144	396	
Total Volume	99	46	22	0	167	50	586	79	0	715	50	42	59	0	151	21	617	42	0	680	1713	
% App. Total	59.3	27.5	13.2	0		7	82	11	0		33.1	27.8	39.1	0		3.1	90.7	6.2	0			
PHF	.825	.548	.550	.000	.684	.893	.910	.705	.000	.881	.833	.700	.738	.000	.821	.583	.881	.875	.000	.904	.929	
Passenger Vehicles	99	46	21	0	166	48	571	79	0	698	50	42	58	0	150	21	588	40	0	649	1663	
% Passenger Vehicles	100	100	95.5	0	99.4	96.0	97.4	100	0	97.6	100	100	98.3	0	99.3	100	95.3	95.2	0	95.4	97.1	
Heavy Vehicles	0	0	1	0	1	2	15	0	0	17	0	0	1	0	1	0	29	2	0	31	50	
% Heavy Vehicles	0	0	4.5	0	0.6	4.0	2.6	0	0	2.4	0	0	1.7	0	0.7	0	4.7	4.8	0	4.6	2.9	



Lewisburg, TN  
Classified Turn Movement Count

Lat/Long  
lat 35.448247° lon -86.789204°



Site 3 of 9  
West Ewing Street (West)  
West Ewing Street (East)  
US-31A North 2nd Avenue (South)  
US-31A North 2nd Avenue (North)

Date  
Wednesday 17 February 2016

Weather  
Cloudy  
Temp: 4°C

41 Peabody Street, Nashville, TN 37210  
1 (615) 431-6750  
1 (800) 615-3765

0600 - 1800 (Weekday 12h Session)

TIME	Eastbound						Westbound						Northbound						Southbound						Int Total
	West Ewing Street (West)						West Ewing Street (East)						US-31A North 2nd Avenue (South)						US-31A North 2nd Avenue (North)						
	U-Turn 3.1	Left 3.2	Thru 3.3	Right 3.4	Peds 3.5	App Total	U-Turn 3.5	Left 3.6	Thru 3.7	Right 3.8	Peds 3.9	App Total	U-Turn 3.9	Left 3.10	Thru 3.11	Right 3.12	Peds 3.13	App Total	U-Turn 3.13	Left 3.14	Thru 3.15	Right 3.16	Peds 3.17	App Total	
0600 - 0615	0	0	2	2	0	4	0	4	5	1	0	10	0	3	12	5	0	20	0	0	6	0	0	6	
0615 - 0630	0	0	6	1	0	7	0	2	7	0	0	9	1	5	8	7	0	21	0	0	7	0	0	7	
0630 - 0645	0	0	7	3	1	11	0	2	8	0	0	10	0	5	20	19	0	44	0	2	5	1	0	8	
0645 - 0700	0	0	6	1	0	7	0	4	6	0	0	10	0	2	22	17	1	42	0	7	10	0	0	17	
Hourly Total	0	0	21	7	1	29	0	12	26	1	0	39	1	15	62	48	1	127	0	9	28	1	0	38	
0700 - 0715	0	0	9	1	0	10	0	8	15	1	1	25	0	19	14	12	1	46	0	2	21	1	0	24	
0715 - 0730	0	0	8	4	0	12	0	9	22	0	1	32	0	10	24	12	0	46	1	4	23	0	0	28	
0730 - 0745	0	0	7	7	0	14	0	7	18	1	0	26	0	20	30	17	0	67	0	3	26	0	0	29	
0745 - 0800	0	0	9	10	0	19	0	7	12	3	2	24	0	21	36	34	0	91	0	6	28	0	0	34	
Hourly Total	0	0	33	22	0	55	0	31	67	5	4	107	0	70	104	75	1	250	1	15	98	1	0	115	
0800 - 0815	0	0	6	4	0	10	0	9	11	0	0	20	0	15	24	18	2	59	0	5	15	0	0	20	
0815 - 0830	0	0	5	4	0	9	0	6	9	1	0	16	0	12	17	11	0	40	0	1	23	1	0	25	
0830 - 0845	0	2	11	2	0	15	0	3	13	0	0	16	0	4	17	16	0	37	0	2	14	0	0	16	
0845 - 0900	0	1	5	5	0	11	0	2	8	2	0	12	0	8	19	21	5	53	0	3	16	0	0	19	
Hourly Total	0	3	27	15	0	45	0	20	41	3	0	64	0	39	77	66	7	189	0	11	68	1	0	80	
0900 - 0915	0	0	10	4	0	14	0	9	4	4	0	17	0	5	24	5	0	34	0	5	15	1	0	21	
0915 - 0930	1	0	7	5	0	13	0	3	8	3	0	14	0	6	8	12	0	26	0	0	17	2	0	19	
0930 - 0945	0	1	6	5	0	12	0	3	9	1	1	14	0	13	20	12	0	45	0	1	16	2	0	19	
0945 - 1000	0	0	4	9	0	13	0	6	6	2	0	14	0	8	17	14	0	39	0	3	15	0	0	18	
Hourly Total	1	1	27	23	0	52	0	21	27	10	1	59	0	32	69	43	0	144	0	9	63	5	0	77	
1000 - 1015	0	2	7	4	0	13	0	4	8	4	1	17	0	9	13	12	1	35	0	4	21	1	0	26	
1015 - 1030	0	1	6	3	0	10	0	5	6	1	1	13	0	5	14	8	0	27	0	4	15	0	0	19	
1030 - 1045	0	1	7	4	0	12	0	2	5	1	0	8	0	3	16	8	0	27	0	3	18	2	0	23	
1045 - 1100	0	0	6	3	1	10	0	9	5	1	1	16	0	11	18	7	0	36	0	2	26	0	1	29	
Hourly Total	0	4	26	14	1	45	0	20	24	7	3	54	0	28	61	35	1	125	0	13	80	3	1	97	
1100 - 1115	0	0	11	8	1	20	0	14	8	2	1	25	0	14	21	12	0	47	0	3	31	0	1	35	
1115 - 1130	0	0	9	11	0	20	0	7	10	1	0	18	0	7	18	14	0	39	0	4	29	1	0	34	
1130 - 1145	0	0	4	5	0	9	0	11	12	2	0	25	0	10	17	18	1	46	0	5	25	1	0	31	
1145 - 1200	0	0	11	10	0	21	0	14	5	0	0	19	0	11	33	21	0	65	0	4	25	1	0	30	
Hourly Total	0	0	35	34	1	70	0	46	35	5	1	87	0	42	89	65	1	197	0	16	110	3	1	130	
1200 - 1215	0	0	9	6	1	16	0	15	13	2	1	31	0	11	14	13	1	39	0	6	35	4	1	46	
1215 - 1230	0	0	6	15	0	21	0	11	9	3	0	23	0	5	15	13	1	34	0	5	25	0	0	30	
1230 - 1245	0	1	6	9	0	16	0	10	11	2	0	23	0	5	28	22	0	55	0	6	23	0	0	29	
1245 - 1300	0	0	2	10	0	12	0	5	5	4	1	15	0	6	23	15	0	44	0	9	34	3	1	47	
Hourly Total	0	1	23	40	1	65	0	41	38	11	2	92	0	27	80	63	2	172	0	26	117	7	2	152	
1300 - 1315	0	0	4	5	0	9	0	8	7	4	1	20	0	8	19	16	0	43	0	6	24	0	0	30	
1315 - 1330	0	1	11	9	0	21	0	6	17	2	1	26	0	7	17	13	0	37	0	12	26	0	0	38	
1330 - 1345	0	0	8	9	0	17	0	5	10	4	1	20	0	7	22	19	0	48	0	6	44	0	0	50	
1345 - 1400	0	1	10	5	1	17	0	6	12	2	0	20	0	10	20	11	0	41	0	3	22	0	0	25	
Hourly Total	0	2	33	28	1	64	0	25	46	12	3	86	0	32	78	59	0	169	0	27	116	0	0	143	
1400 - 1415	0	0	7	12	0	19	0	7	15	4	2	28	0	7	26	15	0	48	0	4	29	1	0	34	
1415 - 1430	0	0	13	1	0	14	0	12	11	1	0	24	0	8	18	15	0	41	0	6	24	2	0	32	
1430 - 1445	0	1	10	5	0	16	0	13	17	1	0	31	0	8	20	18	0	46	0	4	32	2	0	38	
1445 - 1500	0	1	10	9	1	21	0	11	18	2	0	31	0	13	16	11	0	40	0	4	33	1	0	38	
Hourly Total	0	2	40	27	1	70	0	43	61	8	2	114	0	36	80	59	0	175	0	18	118	6	0	142	
1500 - 1515	0	0	15	11	1	27	0	19	22	5	0	46	0	8	29	20	0	57	0	5	34	3	0	42	
1515 - 1530	0	1	23	16	1	41	0	17	25	0	0	42	0	8	17	26	0	51	0	10	36	0	0	46	
1530 - 1545	0	0	16	4	0	20	0	19	25	3	0	47	0	12	16	12	0	40	0	3	42	1	0	46	
1545 - 1600	0	1	9	8	0	18	0	17	21	0	0	38	0	8	15	16	0	39	0	5	30	1	0	36	
Hourly Total	0	2	63	39	2	106	0	72	93	8	0	173	0	36	77	74	0	187	0	23	142	5	0	170	
1600 - 1615	0	0	12	16	0	28	0	12	13	1	2	28	0	6	15	28	0	49	0	7	58	0	0	65	
1615 - 1630	0	2	12	12	0	26	0	13	16	1	2	32	0	10	12	13	0	35	0	7	54	1	0	62	
1630 - 1645	0	1	16	12	0	29	0	14	24	1	2	41	0	4	26	11	0	41	0	4	58	1	0	63	
1645 - 1700	0	0	9	8	1	18	0	13	15	1	0	29	0	12	18	11	0	41	0	4	39	1	0	44	
Hourly Total	0	3	49	48	1	101	0	52	68	4	6	130	0	32	71	63	0	166	0	22	209	3	0	234	
1700 - 1715	0	0	8	13	0	21	0	7	8	1	0	16	0	9	23	18	0	50	0	4	53	1	0	58	
1715 - 1730	0	0	7	8	0	15	0	7	14	0	1	22	0	8	18	16	0	42	0	2	41	0	0	43	
1730 - 1745	0	0	4	11	1	16	0	11	12	1	0	24	0	10	22	19	1	52	0	4	31	1	0	36	
1745 - 1800	0	0	7	5	0	12	0	13	13	1	1	28	0	7	13	17	0	37	0	6	33	2	0	41	
Hourly Total	0	0	26	37	1	64	0	38	47	3	2	90	0	34	76	70	1	181	0	16	158	4	0	178	
Grand Total	1	18	403	334	10	766	0	421	573	77	24	1095	1	423	924	720	14	2082	1	205	1307	39	4	1556	5499
App Percentage	0.13	2.35	52.61	43.60	1.31		0.00	38.45	52.33	7.03	2.19		0.05	20.32	44.38	34.58	0.67		0.06	13.17	84.00	2.51	0.26		
Int Percentage	0.02	0.33	7.33	6.07	0.18	13.93	0.00	7.66	10.42	1.40	0.44	19.91	0.02	7.69	16.80	13.09	0.25	37.86	0.02	3.73	23.77	0.71	0.07	28.30	
Cars	1	18	387	325	-	731	0	416	552	76	-	1044	1	417	903	712	-	2033	1	203	1269	39	-	1512	
Trucks	0	0	16	9	-	25	0	5	21	1	-	27	0	6	21	8	-	35	0	2	38	0	-	40	
Cars (%)	100.00	100.00	96.03	97.31	-																				

1500 - 1600 (Weekday 12h Peak Hour)

TIME	Eastbound West Ewing Street (West)						Westbound West Ewing Street (East)						Northbound US-31A North 2nd Avenue (South)						Southbound US-31A North 2nd Avenue (North)						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
	1500 - 1515	0	0	15	11	-	26	0	19	22	5	-	46	0	8	29	20	-	57	0	5	34	3	-	
1515 - 1530	0	1	23	16	-	40	0	17	25	0	-	42	0	8	17	26	-	51	0	10	36	0	-	46	179
1530 - 1545	0	0	16	4	-	20	0	19	25	3	-	47	0	12	16	12	-	40	0	3	42	1	-	46	153
1545 - 1600	0	1	9	8	-	18	0	17	21	0	-	38	0	8	15	16	-	39	0	5	30	1	-	36	131
Hourly Total	0	2	63	39	-	104	0	72	93	8	-	173	0	36	77	74	-	187	0	23	142	5	-	170	634
Grand Total	0	2	63	39	-	104	0	72	93	8	-	173	0	36	77	74	-	187	0	23	142	5	-	170	634
App Percentage	0.00	1.92	60.58	37.50	-		0.00	41.62	53.76	4.62	-		0.00	19.25	41.18	39.57	-		0.00	13.53	83.53	2.94	-		
Int Percentage	0.00	0.32	9.94	6.15	-	16.40	0.00	11.36	14.67	1.26	-	27.29	0.00	5.68	12.15	11.67	-	29.50	0.00	3.63	22.40	0.79	-	26.81	
Cars	0	2	59	38	-	99	0	72	89	8	-	169	0	36	76	71	-	183	0	23	140	5	-	168	619
Trucks	0	0	4	1	-	5	0	0	4	0	-	4	0	0	1	3	-	4	0	0	2	0	-	2	15
Cars (%)	0.00	100.00	93.65	97.44	-	95.19	0.00	100.00	95.70	100.00	-	97.69	0.00	100.00	98.70	95.95	-	97.86	0.00	100.00	98.59	100.00	-	98.82	97.63
Trucks (%)	0.00	0.00	6.35	2.56	-	4.81	0.00	0.00	4.30	0.00	-	2.31	0.00	0.00	1.30	4.05	-	2.14	0.00	0.00	1.41	0.00	-	1.18	2.37
PHF	0.000	0.500	0.685	0.609	-	0.650	0.000	0.947	0.930	0.400	-	0.920	0.000	0.750	0.664	0.712	-	0.820	0.000	0.575	0.845	0.417	-	0.924	0.885

(Southbound) US-31A North 2nd Avenue (North)

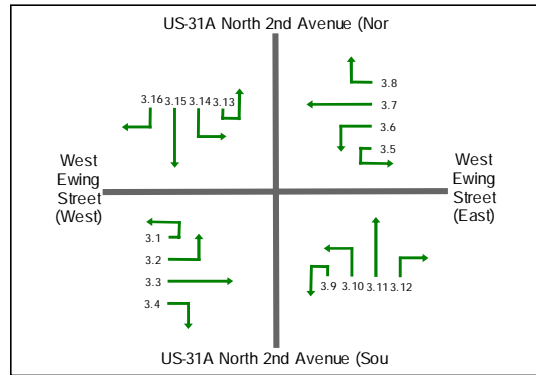
In	Out	Total
170	87	257

Peds	Right	Thru	Left	U-Turn
-	5	142	23	0

(Eastbound) West Ewing Street (West)

Out	134
In	104
Total	238

U-Turn	0
Left	2
Thru	63
Right	39
Peds	-



(Westbound) West Ewing Street (East)

Peds	-
Right	8
Thru	93
Left	72
U-Turn	0

In	173
Out	160
Total	333

(Northbound) US-31A North 2nd Avenue (South)

U-Turn	Left	Thru	Right	Peds
0	36	77	74	-

Out	In	Total
253	187	440

0715 - 0815 (Weekday AM Peak Hour)

TIME	Eastbound West Ewing Street (West)						Westbound West Ewing Street (East)						Northbound US-31A North 2nd Avenue (South)						Southbound US-31A North 2nd Avenue (North)						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
	0715 - 0730	0	0	8	4	-	12	0	9	22	0	-	31	0	10	24	12	-	46	1	4	23	0	-	
0730 - 0745	0	0	7	7	-	14	0	7	18	1	-	26	0	20	30	17	-	67	0	3	26	0	-	29	136
0745 - 0800	0	0	9	10	-	19	0	7	12	3	-	22	0	21	36	34	-	91	0	6	28	0	-	34	166
0800 - 0815	0	0	6	4	-	10	0	9	11	0	-	20	0	15	24	18	-	57	0	5	15	0	-	20	107
Hourly Total	0	0	30	25	-	55	0	32	63	4	-	99	0	66	114	81	-	261	1	18	92	0	-	111	526
Grand Total	0	0	30	25	-	55	0	32	63	4	-	99	0	66	114	81	-	261	1	18	92	0	-	111	526
App Percentage	0.00	0.00	54.55	45.45	-		0.00	32.32	63.64	4.04	-		0.00	25.29	43.68	31.03	-		0.90	16.22	82.88	0.00	-		
Int Percentage	0.00	0.00	5.70	4.75	-	10.46	0.00	6.08	11.98	0.76	-	18.82	0.00	12.55	21.67	15.40	-	49.62	0.19	3.42	17.49	0.00	-	21.10	
Cars	0	0	28	24	-	52	0	32	60	4	-	96	0	66	112	80	-	258	1	18	88	0	-	107	513
Trucks	0	0	2	1	-	3	0	0	3	0	-	3	0	0	2	1	-	3	0	0	4	0	-	4	13
Cars (%)	0.00	0.00	93.33	96.00	-	94.55	0.00	100.00	95.24	100.00	-	96.97	0.00	100.00	98.25	98.77	-	98.85	100.00	100.00	95.65	0.00	-	96.40	97.53
Trucks (%)	0.00	0.00	6.67	4.00	-	5.45	0.00	0.00	4.76	0.00	-	3.03	0.00	0.00	1.75	1.23	-	1.15	0.00	0.00	4.35	0.00	-	3.60	2.47
PHF	0.000	0.000	0.833	0.625	-	0.724	0.000	0.889	0.716	0.333	-	0.798	0.000	0.786	0.792	0.596	-	0.717	0.250	0.750	0.821	0.000	-	0.816	0.792

(Southbound) Franklin Road

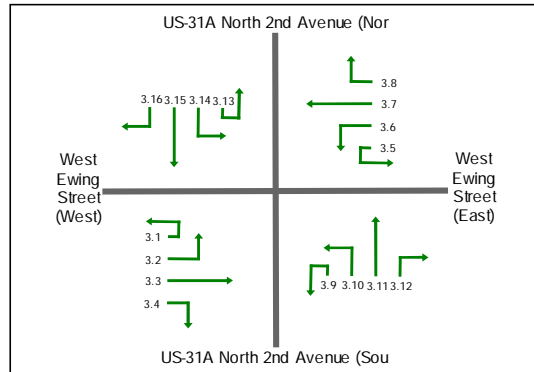
In	Out	Total
111	119	230

Peds	Right	Thru	Left	U-Turn
-	0	92	18	1

(Eastbound) West Ewing Street (West)

Out	129
In	55
Total	184

U-Turn	0
Left	0
Thru	30
Right	25
Peds	-



(Westbound) West Ewing Street (East)

Peds	-
Right	4
Thru	63
Left	32
U-Turn	0

In	99
Out	129
Total	228

(Northbound) US-31A North 2nd Avenue (South)

U-Turn	Left	Thru	Right	Peds
0	66	114	81	-

Out	In	Total
149	261	410

1145 - 1245 (Weekday Inter Peak Hour)

TIME	Eastbound West Ewing Street (West)						Westbound West Ewing Street (East)						Northbound US-31A North 2nd Avenue (South)						Southbound US-31A North 2nd Avenue (North)						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
	1145 - 1200	0	0	11	10	-	21	0	14	5	0	-	19	0	11	33	21	-	65	0	4	25	1	-	
1200 - 1215	0	0	9	6	-	15	0	15	13	2	-	30	0	11	14	13	-	38	0	6	35	4	-	45	128
1215 - 1230	0	0	6	15	-	21	0	11	9	3	-	23	0	5	15	13	-	33	0	5	25	0	-	30	107
1230 - 1245	0	1	6	9	-	16	0	10	11	2	-	23	0	5	28	22	-	55	0	6	23	0	-	29	123
Hourly Total	0	1	32	40	-	73	0	50	38	7	-	95	0	32	90	69	-	191	0	21	108	5	-	134	493
Grand Total	0	1	32	40	-	73	0	50	38	7	-	95	0	32	90	69	-	191	0	21	108	5	-	134	493
App Percentage	0.00	1.37	43.84	54.79	-		0.00	52.63	40.00	7.37	-		0.00	16.75	47.12	36.13	-		0.00	15.67	80.60	3.73	-		
Int Percentage	0.00	0.20	6.49	8.11	-	14.81	0.00	10.14	7.71	1.42	-	19.27	0.00	6.49	18.26	14.00	-	38.74	0.00	4.26	21.91	1.01	-	27.18	
Cars	0	1	30	40	-	71	0	48	36	7	-	91	0	31	89	69	-	189	0	21	104	5	-	130	481
Trucks	0	0	2	0	-	2	0	2	2	0	-	4	0	1	1	0	-	2	0	0	4	0	-	4	12
Cars (%)	0.00	100.00	93.75	100.00	-	97.26	0.00	96.00	94.74	100.00	-	95.79	0.00	96.88	98.89	100.00	-	98.95	0.00	100.00	96.30	100.00	-	97.01	97.57
Trucks (%)	0.00	0.00	6.25	0.00	-	2.74	0.00	4.00	5.26	0.00	-	4.21	0.00	3.13	1.11	0.00	-	1.05	0.00	0.00	3.70	0.00	-	2.99	2.43
PHF	0.000	0.250	0.727	0.667	-	0.869	0.000	0.833	0.731	0.583	-	0.792	0.000	0.727	0.682	0.784	-	0.735	0.000	0.875	0.771	0.313	-	0.744	0.913

(Southbound) Franklin Road

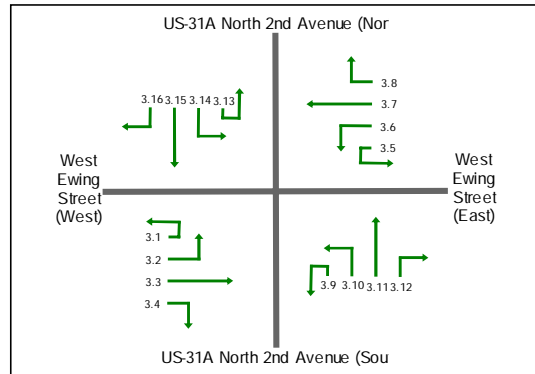
In	Out	Total
134	98	232

Peds	Right	Thru	Left	U-Turn
-	5	108	21	0

(Eastbound) West Ewing Street (West)

Out	75
In	73
Total	148

U-Turn	0
Left	1
Thru	32
Right	40
Peds	-



(Westbound) West Ewing Street (East)

Peds	-
Right	7
Thru	38
Left	50
U-Turn	0

In	95
Out	122
Total	217

(Northbound) US-31A North 2nd Avenue (South)

U-Turn	Left	Thru	Right	Peds
0	32	90	69	-

Out	In	Total
198	191	389

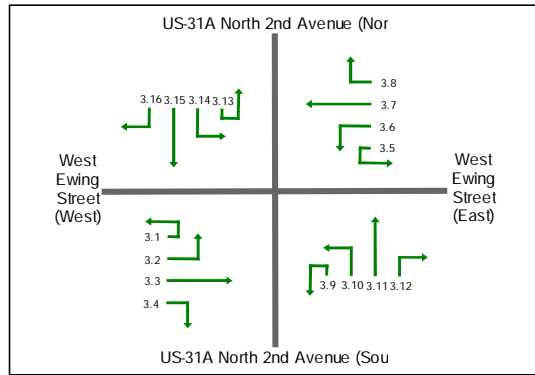
1500 - 1600 (Weekday PM Peak Hour)

TIME	Eastbound West Ewing Street (West)						Westbound West Ewing Street (East)						Northbound US-31A North 2nd Avenue (South)						Southbound US-31A North 2nd Avenue (North)						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
	3.1	3.2	3.3	3.4	-	-	3.5	3.6	3.7	3.8	-	-	3.9	3.10	3.11	3.12	-	-	3.13	3.14	3.15	3.16	-	-	
1500 - 1515	0	0	15	11	-	26	0	19	22	5	-	46	0	8	29	20	-	57	0	5	34	3	-	42	171
1515 - 1530	0	1	23	16	-	40	0	17	25	0	-	42	0	8	17	26	-	51	0	10	36	0	-	46	179
1530 - 1545	0	0	16	4	-	20	0	19	25	3	-	47	0	12	16	12	-	40	0	3	42	1	-	46	153
1545 - 1600	0	1	9	8	-	18	0	17	21	0	-	38	0	8	15	16	-	39	0	5	30	1	-	36	131
Hourly Total	0	2	63	39	-	104	0	72	93	8	-	173	0	36	77	74	-	187	0	23	142	5	-	170	634
Grand Total	0	2	63	39	-	104	0	72	93	8	-	173	0	36	77	74	-	187	0	23	142	5	-	170	634
App Percentage	0.00	1.92	60.58	37.50	-	-	0.00	41.62	53.76	4.62	-	-	0.00	19.25	41.18	39.57	-	-	0.00	13.53	83.53	2.94	-	-	-
Int Percentage	0.00	0.32	9.94	6.15	-	16.40	0.00	11.36	14.67	1.26	-	27.29	0.00	5.68	12.15	11.67	-	29.50	0.00	3.63	22.40	0.79	-	26.81	-
Cars	0	2	59	38	-	99	0	72	89	8	-	169	0	36	76	71	-	183	0	23	140	5	-	168	619
Trucks	0	0	4	1	-	5	0	0	4	0	-	4	0	0	1	3	-	4	0	0	2	0	-	2	15
Cars (%)	0.00	100.00	93.65	97.44	-	95.19	0.00	100.00	95.70	100.00	-	97.69	0.00	100.00	98.70	95.95	-	97.86	0.00	100.00	98.59	100.00	-	98.82	97.63
Trucks (%)	0.00	0.00	6.35	2.56	-	4.81	0.00	0.00	4.30	0.00	-	2.31	0.00	0.00	1.30	4.05	-	2.14	0.00	0.00	1.41	0.00	-	1.18	2.37
PHF	0.000	0.500	0.685	0.609	-	0.650	0.000	0.947	0.930	0.400	-	0.920	0.000	0.750	0.664	0.712	-	0.820	0.000	0.575	0.845	0.417	-	0.924	0.885

(Southbound) US-31A North 2nd Avenue (North)

In	Out	Total
170	87	257

Peds	Right	Thru	Left	U-Turn
-	5	142	23	0



(Eastbound) West Ewing Street (West)

U-Turn	0
Left	2
Thru	63
Right	39
Peds	-

Out	134
In	104
Total	238

(Westbound) West Ewing Street (East)

Peds	-
Right	8
Thru	93
Left	72
U-Turn	0

In	173
Out	160
Total	333

(Northbound) US-31A North 2nd Avenue (South)

U-Turn	Left	Thru	Right	Peds
0	36	77	74	-

Out	In	Total
253	187	440

# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Ellington Parkway  
E/W Street: E Commerce St / Fayetteville

File Name : Lewisburg-16  
Site Code : 00000014  
Start Date : 4/22/2015  
Page No : 1

Counted by: City of Lewisburg

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	3	3	0	6	1	14	0	0	15	7	24	0	0	31	4	26	16	0	46	98
07:15 AM	0	7	4	0	11	1	18	0	0	19	8	14	1	0	23	4	34	12	0	50	103
07:30 AM	0	5	3	0	8	2	15	1	0	18	13	21	1	0	35	12	29	20	0	61	122
07:45 AM	0	7	4	0	11	5	22	0	0	27	10	12	0	0	22	19	36	26	0	81	141
<b>Total</b>	<b>0</b>	<b>22</b>	<b>14</b>	<b>0</b>	<b>36</b>	<b>9</b>	<b>69</b>	<b>1</b>	<b>0</b>	<b>79</b>	<b>38</b>	<b>71</b>	<b>2</b>	<b>0</b>	<b>111</b>	<b>39</b>	<b>125</b>	<b>74</b>	<b>0</b>	<b>238</b>	<b>464</b>
08:00 AM	0	3	8	0	11	1	17	0	0	18	11	4	1	0	16	11	27	16	0	54	99
08:15 AM	0	4	3	0	7	4	22	0	0	26	14	5	0	0	19	11	28	15	0	54	106
08:30 AM	1	4	5	0	10	1	23	1	0	25	12	8	0	0	20	11	25	17	0	53	108
08:45 AM	0	3	2	0	5	1	16	2	0	19	8	4	2	0	14	6	20	9	0	35	73
<b>Total</b>	<b>1</b>	<b>14</b>	<b>18</b>	<b>0</b>	<b>33</b>	<b>7</b>	<b>78</b>	<b>3</b>	<b>0</b>	<b>88</b>	<b>45</b>	<b>21</b>	<b>3</b>	<b>0</b>	<b>69</b>	<b>39</b>	<b>100</b>	<b>57</b>	<b>0</b>	<b>196</b>	<b>386</b>
*** BREAK ***																					
11:00 AM	0	3	4	0	7	2	27	0	0	29	10	11	0	0	21	6	20	12	0	38	95
11:15 AM	0	3	4	0	7	0	21	0	0	21	10	8	0	0	18	9	18	19	0	46	92
11:30 AM	0	6	3	0	9	3	18	0	0	21	8	7	0	0	15	8	21	18	0	47	92
11:45 AM	0	4	9	0	13	4	30	1	0	35	18	13	4	0	35	14	25	17	0	56	139
<b>Total</b>	<b>0</b>	<b>16</b>	<b>20</b>	<b>0</b>	<b>36</b>	<b>9</b>	<b>96</b>	<b>1</b>	<b>0</b>	<b>106</b>	<b>46</b>	<b>39</b>	<b>4</b>	<b>0</b>	<b>89</b>	<b>37</b>	<b>84</b>	<b>66</b>	<b>0</b>	<b>187</b>	<b>418</b>
12:00 PM	0	2	9	0	11	3	23	3	0	29	12	6	1	0	19	9	23	7	0	39	98
12:15 PM	0	4	10	0	14	2	31	3	0	36	13	9	1	0	23	5	18	21	0	44	117
12:30 PM	0	3	11	0	14	7	32	2	0	41	16	5	2	0	23	2	23	16	0	41	119
12:45 PM	0	8	5	0	13	2	20	3	0	25	12	5	1	0	18	11	25	15	0	51	107
<b>Total</b>	<b>0</b>	<b>17</b>	<b>35</b>	<b>0</b>	<b>52</b>	<b>14</b>	<b>106</b>	<b>11</b>	<b>0</b>	<b>131</b>	<b>53</b>	<b>25</b>	<b>5</b>	<b>0</b>	<b>83</b>	<b>27</b>	<b>89</b>	<b>59</b>	<b>0</b>	<b>175</b>	<b>441</b>
*** BREAK ***																					
04:00 PM	1	9	10	0	20	7	41	0	0	48	29	14	0	0	43	7	27	12	0	46	157
04:15 PM	0	8	12	0	20	1	47	0	0	48	18	11	0	0	29	4	19	19	0	42	139
04:30 PM	0	16	12	0	28	1	53	3	0	57	23	12	0	0	35	6	14	7	0	27	147
04:45 PM	0	10	10	0	20	1	40	4	0	45	12	18	1	0	31	7	31	19	0	57	153
<b>Total</b>	<b>1</b>	<b>43</b>	<b>44</b>	<b>0</b>	<b>88</b>	<b>10</b>	<b>181</b>	<b>7</b>	<b>0</b>	<b>198</b>	<b>82</b>	<b>55</b>	<b>1</b>	<b>0</b>	<b>138</b>	<b>24</b>	<b>91</b>	<b>57</b>	<b>0</b>	<b>172</b>	<b>596</b>
05:00 PM	2	7	10	0	19	0	37	1	0	38	22	11	1	0	34	8	29	10	0	47	138
05:15 PM	1	8	8	0	17	2	48	2	0	52	17	8	1	0	26	5	30	13	0	48	143
05:30 PM	0	8	11	0	19	2	34	0	0	36	24	9	0	0	33	11	20	11	0	42	130
05:45 PM	0	9	11	0	20	0	41	0	0	41	6	9	0	0	15	2	30	10	0	42	118
<b>Total</b>	<b>3</b>	<b>32</b>	<b>40</b>	<b>0</b>	<b>75</b>	<b>4</b>	<b>160</b>	<b>3</b>	<b>0</b>	<b>167</b>	<b>69</b>	<b>37</b>	<b>2</b>	<b>0</b>	<b>108</b>	<b>26</b>	<b>109</b>	<b>44</b>	<b>0</b>	<b>179</b>	<b>529</b>
<b>Grand Total</b>	<b>5</b>	<b>144</b>	<b>171</b>	<b>0</b>	<b>320</b>	<b>53</b>	<b>690</b>	<b>26</b>	<b>0</b>	<b>769</b>	<b>333</b>	<b>248</b>	<b>17</b>	<b>0</b>	<b>598</b>	<b>192</b>	<b>598</b>	<b>357</b>	<b>0</b>	<b>1147</b>	<b>2834</b>
Apprch %	1.6	45	53.4	0		6.9	89.7	3.4	0		55.7	41.5	2.8	0		16.7	52.1	31.1	0		
Total %	0.2	5.1	6	0	11.3	1.9	24.3	0.9	0	27.1	11.8	8.8	0.6	0	21.1	6.8	21.1	12.6	0	40.5	
Passenger Vehicles	5	141	168	0	314	53	683	26	0	762	332	247	17	0	596	191	593	357	0	1141	2813
% Passenger Vehicles	100	97.9	98.2	0	98.1	100	99	100	0	99.1	99.7	99.6	100	0	99.7	99.5	99.2	100	0	99.5	99.3
Heavy Vehicles	0	3	3	0	6	0	7	0	0	7	1	1	0	0	2	1	5	0	0	6	21
% Heavy Vehicles	0	2.1	1.8	0	1.9	0	1	0	0	0.9	0.3	0.4	0	0	0.3	0.5	0.8	0	0	0.5	0.7



# Signal Timing Optimization Study

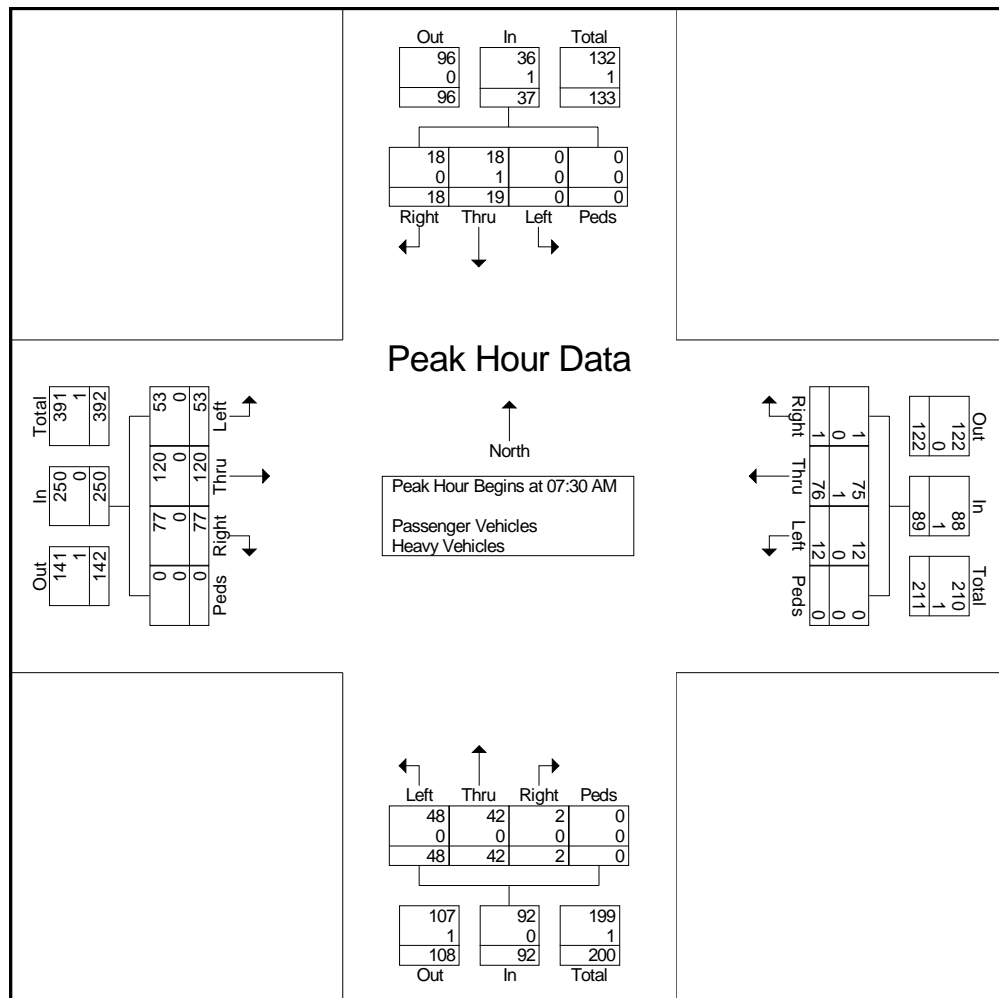
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Ellington Parkway  
E/W Street: E Commerce St / Fayetteville

File Name : Lewisburg-16  
Site Code : 0000014  
Start Date : 4/22/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	0	5	3	0	8	2	15	1	0	18	13	21	1	0	35	12	29	20	0	61	122
07:45 AM	0	7	4	0	11	5	22	0	0	27	10	12	0	0	22	19	36	26	0	81	141
08:00 AM	0	3	8	0	11	1	17	0	0	18	11	4	1	0	16	11	27	16	0	54	99
08:15 AM	0	4	3	0	7	4	22	0	0	26	14	5	0	0	19	11	28	15	0	54	106
Total Volume	0	19	18	0	37	12	76	1	0	89	48	42	2	0	92	53	120	77	0	250	468
% App. Total	0	51.4	48.6	0		13.5	85.4	1.1	0		52.2	45.7	2.2	0		21.2	48	30.8	0		
PHF	.000	.679	.563	.000	.841	.600	.864	.250	.000	.824	.857	.500	.500	.000	.657	.697	.833	.740	.000	.772	.830
Passenger Vehicles	0	18	18	0	36	12	75	1	0	88	48	42	2	0	92	53	120	77	0	250	466
% Passenger Vehicles	0	94.7	100	0	97.3	100	98.7	100	0	98.9	100	100	100	0	100	100	100	100	0	100	99.6
Heavy Vehicles	0	1	0	0	1	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	2
% Heavy Vehicles	0	5.3	0	0	2.7	0	1.3	0	0	1.1	0	0	0	0	0	0	0	0	0	0	0.4



# Signal Timing Optimization Study

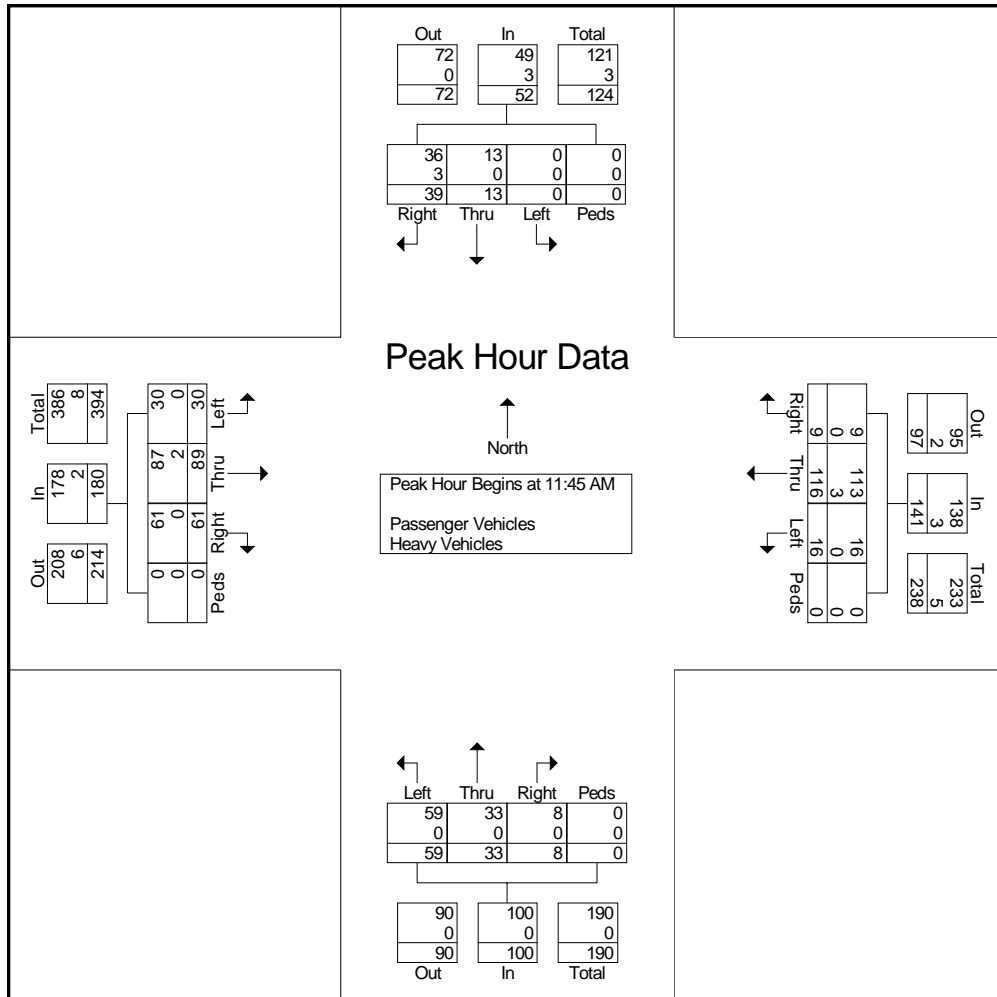
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Ellington Parkway  
E/W Street: E Commerce St / Fayetteville

File Name : Lewisburg-16  
Site Code : 0000014  
Start Date : 4/22/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	0	4	9	0	13	4	30	1	0	35	18	13	4	0	35	14	25	17	0	56	139
12:00 PM	0	2	9	0	11	3	23	3	0	29	12	6	1	0	19	9	23	7	0	39	98
12:15 PM	0	4	10	0	14	2	31	3	0	36	13	9	1	0	23	5	18	21	0	44	117
12:30 PM	0	3	11	0	14	7	32	2	0	41	16	5	2	0	23	2	23	16	0	41	119
Total Volume	0	13	39	0	52	16	116	9	0	141	59	33	8	0	100	30	89	61	0	180	473
% App. Total	0	25	75	0		11.3	82.3	6.4	0		59	33	8	0		16.7	49.4	33.9	0		
PHF	.000	.813	.886	.000	.929	.571	.906	.750	.000	.860	.819	.635	.500	.000	.714	.536	.890	.726	.000	.804	.851
Passenger Vehicles	0	13	36	0	49	16	113	9	0	138	59	33	8	0	100	30	87	61	0	178	465
% Passenger Vehicles	0	100	92.3	0	94.2	100	97.4	100	0	97.9	100	100	100	0	100	100	97.8	100	0	98.9	98.3
Heavy Vehicles	0	0	3	0	3	0	3	0	0	3	0	0	0	0	0	0	2	0	0	2	8
% Heavy Vehicles	0	0	7.7	0	5.8	0	2.6	0	0	2.1	0	0	0	0	0	0	2.2	0	0	1.1	1.7



# Signal Timing Optimization Study

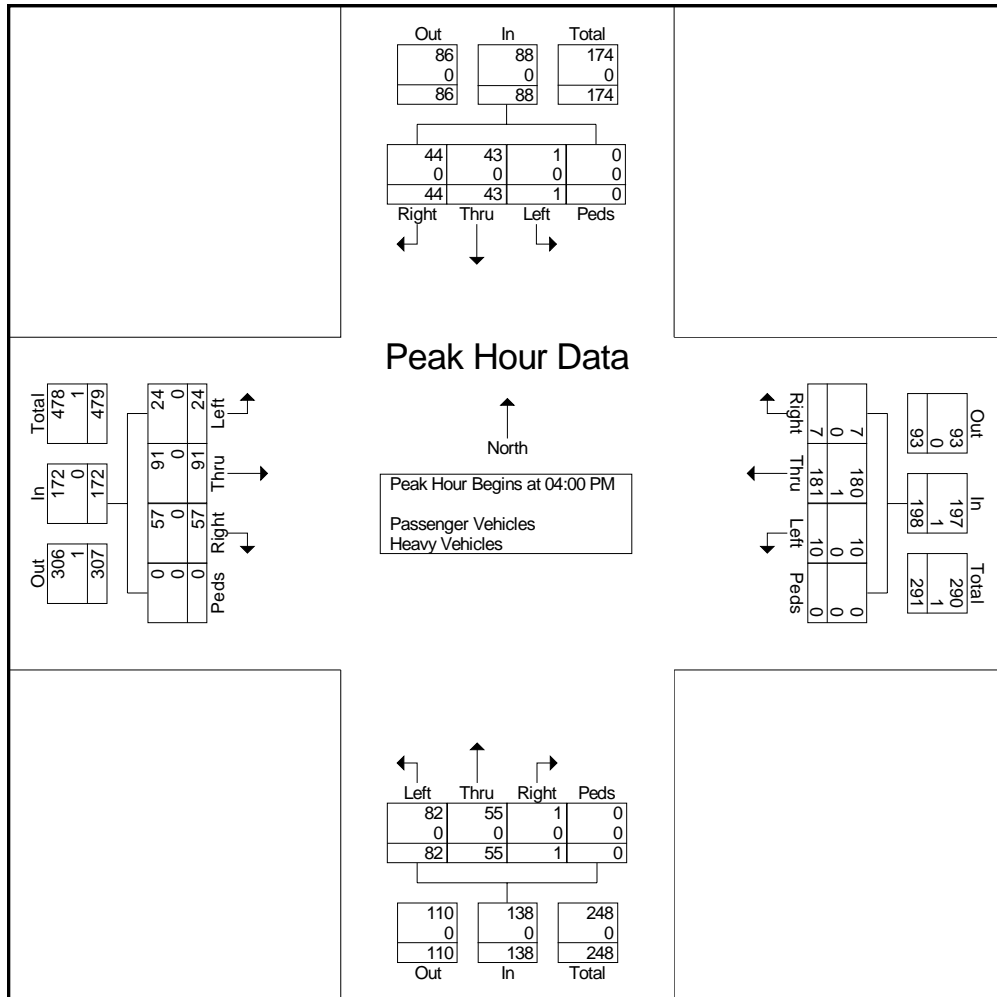
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Ellington Parkway  
E/W Street: E Commerce St / Fayetteville

File Name : Lewisburg-16  
Site Code : 0000014  
Start Date : 4/22/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:00 PM																						
04:00 PM	1	9	10	0	20	7	41	0	0	48	29	14	0	0	43	7	27	12	0	46	157	
04:15 PM	0	8	12	0	20	1	47	0	0	48	18	11	0	0	29	4	19	19	0	42	139	
04:30 PM	0	16	12	0	28	1	53	3	0	57	23	12	0	0	35	6	14	7	0	27	147	
04:45 PM	0	10	10	0	20	1	40	4	0	45	12	18	1	0	31	7	31	19	0	57	153	
Total Volume	1	43	44	0	88	10	181	7	0	198	82	55	1	0	138	24	91	57	0	172	596	
% App. Total	1.1	48.9	50	0		5.1	91.4	3.5	0		59.4	39.9	0.7	0		14	52.9	33.1	0			
PHF	.250	.672	.917	.000	.786	.357	.854	.438	.000	.868	.707	.764	.250	.000	.802	.857	.734	.750	.000	.754	.949	
Passenger Vehicles	1	43	44	0	88	10	180	7	0	197	82	55	1	0	138	24	91	57	0	172	595	
% Passenger Vehicles	100	100	100	0	100	100	99.4	100	0	99.5	100	100	100	0	100	100	100	100	0	100	99.8	
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	0	0	1	
% Heavy Vehicles	0	0	0	0	0	0	0.6	0	0	0.5	0	0	0	0	0	0	0	0	0	0	0.2	



Lewisburg, TN  
Classified Turn Movement Count

Lat/Long  
lat 35.448329° lon -86.790353°



Site 2 of 9  
Local Road  
West Ewing Street  
Local Access  
Franklin Road

Date  
Wednesday 17 February 2016

Weather  
Cloudy  
Temp: 4°C

41 Peabody Street, Nashville, TN 37210  
1 (615) 431-6750  
1 (800) 615-3765

0600 - 1800 (Weekday 12h Session)

TIME	Eastbound Local Road						Westbound West Ewing Street						Northbound Local Access						Southbound Franklin Road						Int Total	
	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds	App Total		
0600 - 0615	0	0	0	0	0	0	0	0	0	0	8	0	8	0	0	0	0	0	0	0	10	0	0	0	10	18
0615 - 0630	0	0	0	0	0	0	0	0	0	0	12	0	12	0	0	0	0	0	0	0	7	0	0	0	7	19
0630 - 0645	0	0	0	0	0	0	0	0	1	13	0	14	0	0	0	0	0	0	0	0	9	0	0	0	9	23
0645 - 0700	0	0	1	0	0	1	0	0	1	6	0	7	0	0	0	0	0	0	0	0	8	0	0	0	8	16
Hourly Total	0	0	1	0	0	1	0	0	2	39	0	41	0	0	0	0	0	0	0	34	0	0	0	34	76	
0700 - 0715	0	0	0	0	0	0	0	0	2	33	0	35	0	0	0	0	0	0	0	0	11	0	0	0	11	46
0715 - 0730	0	1	0	0	0	1	0	0	0	32	1	33	0	0	0	0	0	1	1	0	11	1	0	0	12	47
0730 - 0745	0	0	1	0	0	1	0	0	0	38	0	38	0	0	0	0	0	0	0	0	14	0	1	0	15	54
0745 - 0800	0	0	3	0	0	3	0	1	1	32	0	34	0	0	0	0	0	0	0	0	17	0	0	0	17	54
Hourly Total	0	1	4	0	0	5	0	1	3	135	1	140	0	0	0	0	0	1	1	0	53	1	1	0	55	201
0800 - 0815	0	0	0	0	0	0	0	0	1	25	0	26	0	0	0	0	0	0	0	0	10	0	0	0	10	36
0815 - 0830	0	0	1	0	0	1	0	1	0	23	0	24	0	0	0	0	0	1	1	0	9	1	0	0	10	36
0830 - 0845	0	0	1	0	0	1	0	0	0	16	3	19	0	0	0	0	0	0	0	0	15	0	0	0	15	35
0845 - 0900	0	0	0	0	0	0	0	0	1	15	0	16	0	0	0	0	0	1	1	0	11	2	1	0	14	31
Hourly Total	0	0	2	0	0	2	0	1	2	79	3	85	0	0	0	0	0	2	2	0	45	3	1	0	49	138
0900 - 0915	0	0	1	1	0	2	0	1	1	8	2	12	0	0	0	1	0	1	0	1	1	1	1	0	13	28
0915 - 0930	0	0	0	0	0	0	0	1	1	14	0	16	0	0	0	0	0	0	0	0	12	1	1	0	14	30
0930 - 0945	0	0	1	0	0	1	0	1	0	22	0	23	0	0	0	0	0	0	0	0	13	1	0	0	14	38
0945 - 1000	0	0	0	0	0	0	0	0	0	15	0	15	0	0	1	0	2	3	0	14	1	0	0	15	33	
Hourly Total	0	0	2	1	0	3	0	3	2	59	2	66	0	0	1	1	2	4	0	50	4	2	0	56	129	
1000 - 1015	0	0	0	0	0	0	0	1	0	17	0	18	0	0	1	2	0	3	0	10	0	0	0	10	31	
1015 - 1030	0	0	0	0	0	0	0	0	0	11	0	11	0	0	0	0	0	0	0	0	13	0	1	0	14	25
1030 - 1045	0	1	2	0	0	3	0	0	0	12	0	12	0	0	3	0	0	3	0	10	0	2	0	12	30	
1045 - 1100	0	0	0	0	0	0	1	0	1	15	0	17	0	0	1	0	1	2	0	7	1	0	0	8	27	
Hourly Total	0	1	2	0	0	3	1	1	1	55	0	58	0	0	5	2	1	8	0	40	1	3	0	44	113	
1100 - 1115	0	0	1	0	0	1	0	0	1	20	0	21	0	0	2	0	1	3	0	18	0	1	0	19	44	
1115 - 1130	0	0	0	0	0	0	0	0	0	17	3	20	0	0	1	1	0	2	0	17	2	0	0	19	41	
1130 - 1145	0	0	0	0	0	0	0	0	0	22	11	33	0	0	0	0	0	0	0	8	1	0	0	9	42	
1145 - 1200	0	0	0	0	0	0	0	0	1	16	14	31	0	0	1	0	2	3	0	20	0	0	0	20	54	
Hourly Total	0	0	1	0	0	1	0	0	2	75	28	105	0	0	4	1	3	8	0	63	3	1	0	67	181	
1200 - 1215	0	0	0	0	0	0	0	1	0	27	6	34	0	0	0	0	0	0	0	18	0	0	0	18	52	
1215 - 1230	0	0	0	0	0	0	0	0	1	13	2	16	0	0	0	0	0	0	0	20	0	1	0	21	37	
1230 - 1245	0	0	1	0	0	1	0	1	0	17	2	20	0	0	1	1	0	2	0	13	1	1	0	15	38	
1245 - 1300	0	0	0	0	0	0	1	2	1	10	0	14	0	0	1	2	0	3	0	9	0	0	0	9	26	
Hourly Total	0	0	1	0	0	1	1	4	2	67	10	84	0	0	2	3	0	5	0	60	1	2	0	63	153	
1300 - 1315	0	0	0	0	0	0	0	0	0	15	8	23	0	0	0	0	0	0	0	9	1	0	0	10	33	
1315 - 1330	0	0	2	0	0	2	0	0	1	23	6	30	0	0	2	2	2	6	0	17	1	2	0	20	58	
1330 - 1345	0	0	0	0	0	0	0	0	0	15	0	15	0	0	0	0	0	0	0	17	0	0	0	17	32	
1345 - 1400	0	0	1	0	0	1	0	0	0	24	1	25	0	0	0	0	0	0	0	15	1	0	0	16	42	
Hourly Total	0	0	3	0	0	3	0	0	1	77	15	93	0	0	2	2	2	6	0	58	3	2	0	63	165	
1400 - 1415	0	0	0	0	0	0	0	0	1	23	4	28	0	0	0	1	0	1	0	19	0	1	0	20	49	
1415 - 1430	0	0	0	0	0	0	0	1	1	17	10	29	0	0	1	0	0	1	0	15	0	0	0	15	45	
1430 - 1445	0	0	0	0	0	0	0	0	2	25	1	28	0	0	1	0	0	1	0	16	0	0	0	16	45	
1445 - 1500	0	0	1	0	0	1	0	0	0	32	2	34	0	0	0	0	0	0	0	16	1	2	1	20	55	
Hourly Total	0	0	1	0	0	1	0	1	4	97	17	119	0	0	2	1	0	3	0	66	1	3	1	71	194	
1500 - 1515	0	0	1	0	0	1	0	0	2	32	2	36	0	0	0	0	0	2	0	28	2	1	0	31	70	
1515 - 1530	0	0	2	0	0	2	0	1	1	33	3	38	0	0	0	1	2	3	0	36	0	0	0	36	79	
1530 - 1545	0	1	0	0	0	1	0	0	1	37	0	38	0	0	1	1	0	2	0	18	0	0	0	18	59	
1545 - 1600	0	0	1	0	0	1	1	3	0	26	0	30	0	0	1	2	2	5	0	14	2	0	0	16	52	
Hourly Total	0	1	4	0	0	5	1	4	4	128	5	142	0	0	2	4	6	12	0	96	4	1	0	101	260	
1600 - 1615	0	0	2	0	0	2	0	1	1	20	0	22	0	0	0	0	0	0	0	28	0	0	0	28	52	
1615 - 1630	0	0	1	0	0	1	0	0	0	27	0	27	0	0	0	0	0	0	0	25	0	1	0	26	54	
1630 - 1645	0	1	2	0	0	3	0	1	4	23	0	28	0	0	0	1	2	3	0	25	1	1	0	27	61	
1645 - 1700	0	0	0	0	0	0	0	1	2	27	2	32	0	1	1	1	1	4	0	18	0	0	0	18	54	
Hourly Total	0	1	5	0	0	6	0	3	7	97	2	109	0	1	1	2	3	7	0	96	1	2	0	99	221	
1700 - 1715	0	1	2	0	0	3	0	0	2	15	2	19	0	0	2	2	2	6	1	13	1	0	0	15	43	
1715 - 1730	0	0	0	0	0	0	0	0	0	23	1	24	0	0	0	2	1	3	0	14	1	0	0	15	42	
1730 - 1745	0	0	0	0	0	0	0	0	0	22	1	23	0	0	0	0	0	0	0	15	0	0	0	15	38	
1745 - 1800	0	0	0	0	0	0	0	2	0	21	0	23	0	0	1	0	0	1	0	13	1	0	0	14	38	
Hourly Total	0	1	2	0	0	3	0	2	2	81	4	89	0	0	3	4	3	10	1	55	3	0	0	59	161	
Grand Total	0	5	28	1	0	34	3	20	32	989	87	1131	0	1	22	20	23	66	1	716	25	18	1	761	1992	
App Percentage	0.00	14.71	82.35	2.94	0.00		0.27	1.77	2.83	87.44	7.69		0.00	1.52	33.33	30.30	34.85		0.13	94.09	3.29	2.37	0.13			
Int Percentage	0.00	0.25	1.41	0.05	0.00	1.71	0.15	1.00	1.61	49.65	4.37	56.78	0.00	0.05	1.10	1.00	1.15	3.31	0.05	35.94	1.26	0.90	0.05	38.20		
Cars	0	3	23	1	-	27	3	20	29	965	-	1017	0	1	22	20	-	43	1	696	25	15	-	737		
Trucks	0	2	5	0	-	7	0	0	3	24	-	27	0	0	0	0	-	0	0	20	0	3	-	23		
Cars																										

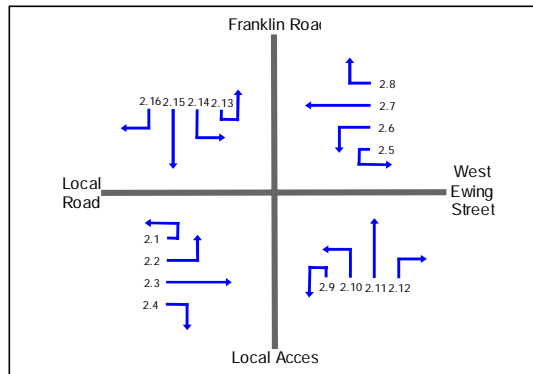
1445 - 1545 (Weekday 12h Peak Hour)

TIME	Eastbound Local Road						Westbound West Ewing Street						Northbound Local Access						Southbound Franklin Road						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
1445 - 1500	0	0	1	0	-	1	0	0	0	32	-	32	0	0	0	0	-	0	0	16	1	2	-	19	52
1500 - 1515	0	0	1	0	-	1	0	0	2	32	-	34	0	0	0	0	-	0	0	28	2	1	-	31	66
1515 - 1530	0	0	2	0	-	2	0	1	1	33	-	35	0	0	0	1	-	1	0	36	0	0	-	36	74
1530 - 1545	0	1	0	0	-	1	0	0	1	37	-	38	0	0	1	1	-	2	0	18	0	0	-	18	59
Hourly Total	0	1	4	0	-	5	0	1	4	134	-	139	0	0	1	2	-	3	0	98	3	3	-	104	251
Grand Total	0	1	4	0	-	5	0	1	4	134	-	139	0	0	1	2	-	3	0	98	3	3	-	104	251
App Percentage	0.00	20.00	80.00	0.00	-		0.00	0.72	2.88	96.40	-		0.00	0.00	33.33	66.67	-		0.00	94.23	2.88	2.88	-		
Int Percentage	0.00	0.40	1.59	0.00	-	1.99	0.00	0.40	1.59	53.39	-	55.38	0.00	0.00	0.40	0.80	-	1.20	0.00	39.04	1.20	1.20	-	41.43	
Cars	0	1	4	0	-	5	0	1	4	132	-	137	0	0	1	2	-	3	0	94	3	3	-	100	245
Trucks	0	0	0	0	-	0	0	0	0	2	-	2	0	0	0	0	-	0	0	4	0	0	-	4	6
Cars (%)	0.00	100.00	100.00	0.00	-	100.00	0.00	100.00	100.00	98.51	-	98.56	0.00	0.00	100.00	100.00	-	100.00	0.00	95.92	100.00	100.00	-	96.15	97.61
Trucks (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	1.49	-	1.44	0.00	0.00	0.00	0.00	-	0.00	0.00	4.08	0.00	0.00	-	3.85	2.39
PHF	0.000	0.250	0.500	0.000	-	0.625	0.000	0.250	0.500	0.905	-	0.914	0.000	0.000	0.250	0.500	-	0.375	0.000	0.681	0.375	0.375	-	0.722	0.848

(Southbound) Franklin Road

In	Out	Total
104	136	240

Peds	Right	Thru	Left	U-Turn
-	3	3	98	0



(Eastbound) Local Road

Out	7
In	5
Total	12

U-Turn	0
Left	1
Thru	4
Right	0
Peds	-

(Westbound) West Ewing Street

Peds	-
Right	134
Thru	4
Left	1
U-Turn	0

In	139
Out	104
Total	243

(Northbound) Local Access

U-Turn	0
Left	0
Thru	1
Right	2
Peds	-

Out	4
In	3
Total	7

0700 - 0800 (Weekday AM Peak Hour)

TIME	Eastbound Local Road						Westbound West Ewing Street						Northbound Local Access						Southbound Franklin Road						Int Total
	U-Turn 2.1	Left 2.2	Thru 2.3	Right 2.4	Peds	App Total	U-Turn 2.5	Left 2.6	Thru 2.7	Right 2.8	Peds	App Total	U-Turn 2.9	Left 2.10	Thru 2.11	Right 2.12	Peds	App Total	U-Turn 2.13	Left 2.14	Thru 2.15	Right 2.16	Peds	App Total	
0700 - 0715	0	0	0	0	-	0	0	0	2	33	-	35	0	0	0	0	-	0	0	11	0	0	-	11	46
0715 - 0730	0	1	0	0	-	1	0	0	0	32	-	32	0	0	0	0	-	0	0	11	1	0	-	12	45
0730 - 0745	0	0	1	0	-	1	0	0	0	38	-	38	0	0	0	0	-	0	0	14	0	1	-	15	54
0745 - 0800	0	0	3	0	-	3	0	1	1	32	-	34	0	0	0	0	-	0	0	17	0	0	-	17	54
Hourly Total	0	1	4	0	-	5	0	1	3	135	-	139	0	0	0	0	-	0	0	53	1	1	-	55	199
Grand Total	0	1	4	0	-	5	0	1	3	135	-	139	0	0	0	0	-	0	0	53	1	1	-	55	199
App Percentage	0.00	20.00	80.00	0.00	-		0.00	0.72	2.16	97.12	-		0.00	0.00	0.00	0.00	-		0.00	96.36	1.82	1.82	-		
Int Percentage	0.00	0.50	2.01	0.00	-	2.51	0.00	0.50	1.51	67.84	-	69.85	0.00	0.00	0.00	0.00	-	0.00	0.00	26.63	0.50	0.50	-	27.64	
Cars	0	0	3	0	-	3	0	1	3	132	-	136	0	0	0	0	-	0	0	52	1	0	-	53	192
Trucks	0	1	1	0	-	2	0	0	0	3	-	3	0	0	0	0	-	0	0	1	0	1	-	2	7
Cars (%)	0.00	0.00	75.00	0.00	-	60.00	0.00	100.00	100.00	97.78	-	97.84	0.00	0.00	0.00	0.00	-	0.00	0.00	98.11	100.00	0.00	-	96.36	96.48
Trucks (%)	0.00	100.00	25.00	0.00	-	40.00	0.00	0.00	0.00	2.22	-	2.16	0.00	0.00	0.00	0.00	-	#DIV/0!	0.00	1.89	0.00	100.00	-	3.64	3.52
PHF	0.000	0.250	0.333	0.000	-	0.417	0.000	0.250	0.375	0.888	-	0.914	0.000	0.000	0.000	0.000	-	#DIV/0!	0.000	0.779	0.250	0.250	-	0.809	0.921

(Southbound) Franklin Road

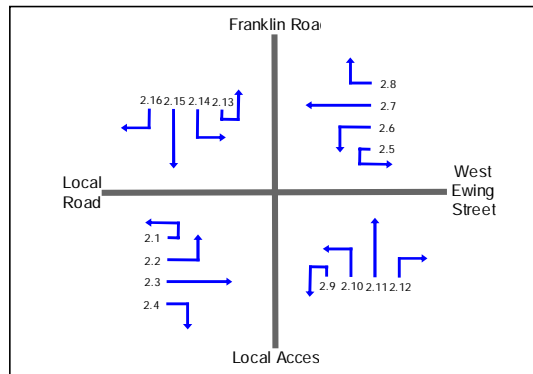
In	Out	Total
55	136	191

Peds	Right	Thru	Left	U-Turn
-	1	1	53	0

(Eastbound) Local Road

Out	In	Total
4	5	9

U-Turn	Left	Thru	Right	Peds
0	1	4	0	-



(Westbound) West Ewing Street

Peds	Right	Thru	Left	U-Turn
-	135	3	1	0

In	Out	Total
139	57	196

(Northbound) Local Access

U-Turn	Left	Thru	Right	Peds
0	0	0	0	-

Out	In	Total
2	0	2

1145 - 1245 (Weekday Inter Peak Hour)

TIME	Eastbound Local Road						Westbound West Ewing Street						Northbound Local Access						Southbound Franklin Road						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
1145 - 1200	0	0	0	0	-	0	0	0	1	16	-	17	0	0	1	0	-	1	0	20	0	0	-	20	38
1200 - 1215	0	0	0	0	-	0	0	1	0	27	-	28	0	0	0	0	-	0	0	18	0	0	-	18	46
1215 - 1230	0	0	0	0	-	0	0	0	1	13	-	14	0	0	0	0	-	0	0	20	0	1	-	21	35
1230 - 1245	0	0	1	0	-	1	0	1	0	17	-	18	0	0	1	1	-	2	0	13	1	1	-	15	36
Hourly Total	0	0	1	0	-	1	0	2	2	73	-	77	0	0	2	1	-	3	0	71	1	2	-	74	155
Grand Total	0	0	1	0	-	1	0	2	2	73	-	77	0	0	2	1	-	3	0	71	1	2	-	74	155
App Percentage	0.00	0.00	100.00	0.00	-		0.00	2.60	2.60	94.81	-		0.00	0.00	66.67	33.33	-		0.00	95.95	1.35	2.70	-		
Int Percentage	0.00	0.00	0.65	0.00	-	0.65	0.00	1.29	1.29	47.10	-	49.68	0.00	0.00	1.29	0.65	-	1.94	0.00	45.81	0.65	1.29	-	47.74	
Cars	0	0	1	0	-	1	0	2	2	70	-	74	0	0	2	1	-	3	0	69	1	2	-	72	150
Trucks	0	0	0	0	-	0	0	0	0	3	-	3	0	0	0	0	-	0	0	2	0	0	-	2	5
Cars (%)	0.00	0.00	100.00	0.00	-	100.00	0.00	100.00	100.00	95.89	-	96.10	0.00	0.00	100.00	100.00	-	100.00	0.00	97.18	100.00	100.00	-	97.30	96.77
Trucks (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	4.11	-	3.90	0.00	0.00	0.00	0.00	-	0.00	0.00	2.82	0.00	0.00	-	2.70	3.23
PHF	0.000	0.000	0.250	0.000	-	0.250	0.000	0.500	0.500	0.676	-	0.688	0.000	0.000	0.500	0.250	-	0.375	0.000	0.888	0.250	0.500	-	0.881	0.842

(Southbound) Franklin Road

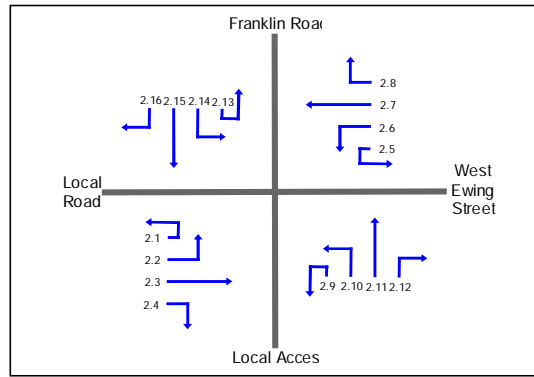
In	Out	Total
74	75	149

Peds	Right	Thru	Left	U-Turn
-	2	1	71	0

(Eastbound) Local Road

Out	In	Total
4	1	5

U-Turn	Left	Thru	Right	Peds
0	0	1	0	-



(Westbound) West Ewing Street

Peds	Right	Thru	Left	U-Turn
-	73	2	2	0

In	Out	Total
77	73	150

(Northbound) Local Access

U-Turn	Left	Thru	Right	Peds
0	0	2	1	-

Out	In	Total
3	3	6

1445 - 1545 (Weekday PM Peak Hour)

TIME	Eastbound Local Road						Westbound West Ewing Street						Northbound Local Access						Southbound Franklin Road						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
1445 - 1500	0	0	1	0	-	1	0	0	0	32	-	32	0	0	0	0	-	0	0	16	1	2	-	19	52
1500 - 1515	0	0	1	0	-	1	0	0	2	32	-	34	0	0	0	0	-	0	0	28	2	1	-	31	66
1515 - 1530	0	0	2	0	-	2	0	1	1	33	-	35	0	0	0	1	-	1	0	36	0	0	-	36	74
1530 - 1545	0	1	0	0	-	1	0	0	1	37	-	38	0	0	1	1	-	2	0	18	0	0	-	18	59
Hourly Total	0	1	4	0	-	5	0	1	4	134	-	139	0	0	1	2	-	3	0	98	3	3	-	104	251
Grand Total	0	1	4	0	-	5	0	1	4	134	-	139	0	0	1	2	-	3	0	98	3	3	-	104	251
App Percentage	0.00	20.00	80.00	0.00	-		0.00	0.72	2.88	96.40	-		0.00	0.00	33.33	66.67	-		0.00	94.23	2.88	2.88	-		
Int Percentage	0.00	0.40	1.59	0.00	-	1.99	0.00	0.40	1.59	53.39	-	55.38	0.00	0.00	0.40	0.80	-	1.20	0.00	39.04	1.20	1.20	-	41.43	
Cars	0	1	4	0	-	5	0	1	4	132	-	137	0	0	1	2	-	3	0	94	3	3	-	100	245
Trucks	0	0	0	0	-	0	0	0	0	2	-	2	0	0	0	0	-	0	0	4	0	0	-	4	6
Cars (%)	0.00	100.00	100.00	0.00	-	100.00	0.00	100.00	100.00	98.51	-	98.56	0.00	0.00	100.00	100.00	-	100.00	0.00	95.92	100.00	100.00	-	96.15	97.61
Trucks (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	1.49	-	1.44	0.00	0.00	0.00	0.00	-	0.00	0.00	4.08	0.00	0.00	-	3.85	2.39
PHF	0.000	0.250	0.500	0.000	-	0.625	0.000	0.250	0.500	0.905	-	0.914	0.000	0.000	0.250	0.500	-	0.375	0.000	0.681	0.375	0.375	-	0.722	0.848

(Southbound) Franklin Road

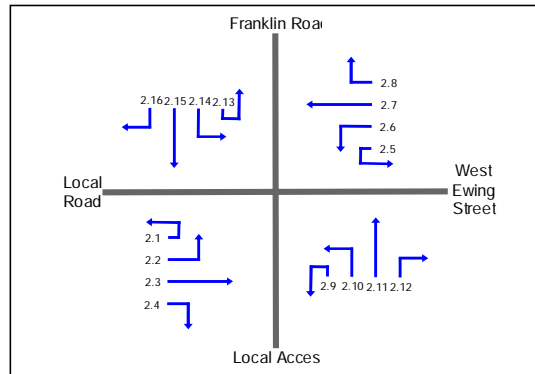
In	Out	Total
104	136	240

Peds	Right	Thru	Left	U-Turn
-	3	3	98	0

(Eastbound) Local Road

Out	7
In	5
Total	12

U-Turn	0
Left	1
Thru	4
Right	0
Peds	-



(Westbound) West Ewing Street

Peds	-
Right	134
Thru	4
Left	1
U-Turn	0

In	139
Out	104
Total	243

(Northbound) Local Access

U-Turn	Left	Thru	Right	Peds
0	0	1	2	-

Out	In	Total
4	3	7



# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Higgs Road  
E/W Street: S Ellington Parkway  
Counted by: City of Lewisburg

File Name : Lewisburg-18  
Site Code : 00000016  
Start Date : 4/2/2015  
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:15 AM	1	0	0	0	1	20	39	0	0	59	3	0	13	0	16	0	109	17	0	126	202
06:30 AM	0	0	0	0	0	20	43	0	0	63	1	0	9	0	10	0	57	10	0	67	140
06:45 AM	0	0	0	0	0	13	61	0	0	74	4	0	6	0	10	0	52	5	0	57	141
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>53</b>	<b>143</b>	<b>0</b>	<b>0</b>	<b>196</b>	<b>8</b>	<b>0</b>	<b>28</b>	<b>0</b>	<b>36</b>	<b>0</b>	<b>218</b>	<b>32</b>	<b>0</b>	<b>250</b>	<b>483</b>
07:00 AM	0	0	0	0	0	15	45	0	0	60	3	0	5	0	8	0	67	7	0	74	142
07:15 AM	0	0	0	0	0	6	39	0	0	45	3	0	4	0	7	0	55	9	0	64	116
07:30 AM	0	0	0	0	0	5	45	0	0	50	2	0	11	0	13	0	53	4	0	57	120
07:45 AM	0	0	0	0	0	3	52	0	0	55	5	0	6	0	11	0	52	1	0	53	119
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>29</b>	<b>181</b>	<b>0</b>	<b>0</b>	<b>210</b>	<b>13</b>	<b>0</b>	<b>26</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>227</b>	<b>21</b>	<b>0</b>	<b>248</b>	<b>497</b>
08:00 AM	0	0	0	0	0	5	31	0	0	36	1	0	6	0	7	0	53	8	0	61	104
*** BREAK ***																					
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>31</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>53</b>	<b>8</b>	<b>0</b>	<b>61</b>	<b>104</b>
*** BREAK ***																					
10:15 AM	0	0	0	0	0	4	69	0	0	73	3	0	20	0	23	0	79	1	0	80	176
10:30 AM	0	0	0	0	0	8	63	0	0	71	4	0	18	0	22	0	54	2	0	56	149
10:45 AM	1	0	0	0	1	15	88	0	0	103	8	0	22	0	30	0	77	3	0	80	214
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>27</b>	<b>220</b>	<b>0</b>	<b>0</b>	<b>247</b>	<b>15</b>	<b>0</b>	<b>60</b>	<b>0</b>	<b>75</b>	<b>0</b>	<b>210</b>	<b>6</b>	<b>0</b>	<b>216</b>	<b>539</b>
11:00 AM	1	0	0	0	1	18	68	0	0	86	5	0	25	0	30	1	74	6	0	81	198
11:15 AM	0	0	0	0	0	22	48	0	0	70	11	0	25	0	36	0	54	11	0	65	171
11:30 AM	0	0	0	0	0	11	76	0	0	87	6	0	15	0	21	0	67	5	0	72	180
11:45 AM	0	0	0	0	0	12	69	0	0	81	9	0	8	0	17	0	60	7	0	67	165
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>63</b>	<b>261</b>	<b>0</b>	<b>0</b>	<b>324</b>	<b>31</b>	<b>0</b>	<b>73</b>	<b>0</b>	<b>104</b>	<b>1</b>	<b>255</b>	<b>29</b>	<b>0</b>	<b>285</b>	<b>714</b>
12:00 PM	0	0	0	0	0	14	67	0	0	81	9	0	6	0	15	0	70	3	0	73	169
*** BREAK ***																					
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>14</b>	<b>67</b>	<b>0</b>	<b>0</b>	<b>81</b>	<b>9</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>70</b>	<b>3</b>	<b>0</b>	<b>73</b>	<b>169</b>
*** BREAK ***																					
03:15 PM	0	1	1	0	2	2	106	0	0	108	17	0	25	0	42	0	54	1	0	55	207
03:30 PM	0	0	0	0	0	4	94	0	0	98	4	0	14	0	18	0	64	3	0	67	183
03:45 PM	0	0	1	0	1	4	114	1	0	119	12	0	19	0	31	1	62	0	0	63	214
<b>Total</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>0</b>	<b>3</b>	<b>10</b>	<b>314</b>	<b>1</b>	<b>0</b>	<b>325</b>	<b>33</b>	<b>0</b>	<b>58</b>	<b>0</b>	<b>91</b>	<b>1</b>	<b>180</b>	<b>4</b>	<b>0</b>	<b>185</b>	<b>604</b>
04:00 PM	0	0	0	0	0	2	96	0	0	98	8	0	9	0	17	0	48	2	0	50	165
04:15 PM	0	0	0	0	0	3	101	0	0	104	15	0	16	0	31	0	68	3	0	71	206
04:30 PM	0	0	0	0	0	8	92	0	0	100	8	0	8	0	16	0	73	0	0	73	189
04:45 PM	0	0	0	0	0	3	77	0	0	80	3	0	7	0	10	0	55	0	0	55	145
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>16</b>	<b>366</b>	<b>0</b>	<b>0</b>	<b>382</b>	<b>34</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>74</b>	<b>0</b>	<b>244</b>	<b>5</b>	<b>0</b>	<b>249</b>	<b>705</b>
05:00 PM	0	0	0	0	0	5	94	0	0	99	3	0	2	0	5	0	56	2	0	58	162
Grand Total	3	1	2	0	6	222	1677	1	0	1900	147	0	299	0	446	2	1513	110	0	1625	3977
Apprch %	50	16.7	33.3	0		11.7	88.3	0.1	0		33	0	67	0		0.1	93.1	6.8	0		
Total %	0.1	0	0.1	0	0.2	5.6	42.2	0	0	47.8	3.7	0	7.5	0	11.2	0.1	38	2.8	0	40.9	
Passenger Vehicles																					
% Passenger Vehicles	100	100	100	0	100	90.1	95.5	100	0	94.8	94.6	0	92	0	92.8	50	96.8	95.5	0	96.6	95.3
Heavy Vehicles	0	0	0	0	0	22	76	0	0	98	8	0	24	0	32	1	49	5	0	55	185
% Heavy Vehicles	0	0	0	0	0	9.9	4.5	0	0	5.2	5.4	0	8	0	7.2	50	3.2	4.5	0	3.4	4.7

# Signal Timing Optimization Study

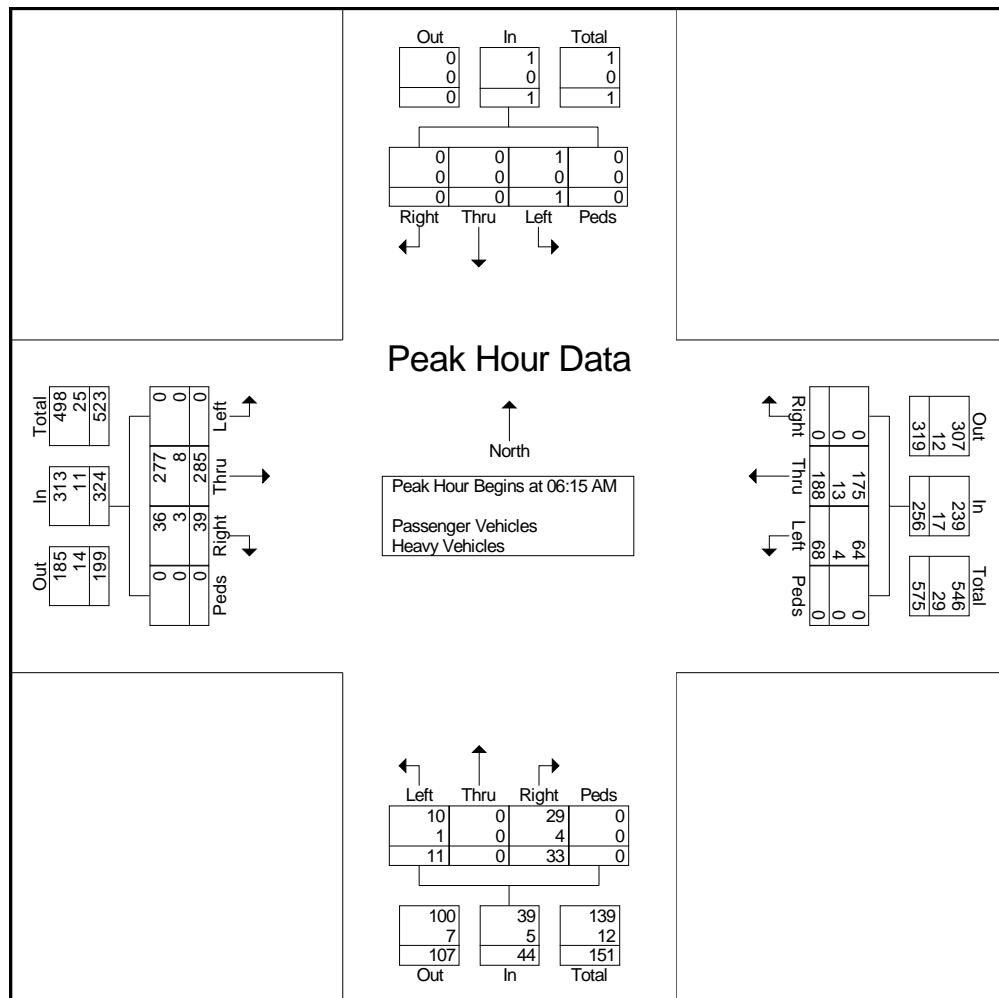
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Higgs Road  
E/W Street: S Ellington Parkway

File Name : Lewisburg-18  
Site Code : 00000016  
Start Date : 4/2/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:15 AM																					
06:15 AM	1	0	0	0	1	20	39	0	0	59	3	0	13	0	16	0	109	17	0	126	202
06:30 AM	0	0	0	0	0	20	43	0	0	63	1	0	9	0	10	0	57	10	0	67	140
06:45 AM	0	0	0	0	0	13	61	0	0	74	4	0	6	0	10	0	52	5	0	57	141
07:00 AM	0	0	0	0	0	15	45	0	0	60	3	0	5	0	8	0	67	7	0	74	142
Total Volume	1	0	0	0	1	68	188	0	0	256	11	0	33	0	44	0	285	39	0	324	625
% App. Total	100	0	0	0		26.6	73.4	0	0		25	0	75	0		0	88	12	0		
PHF	.250	.000	.000	.000	.250	.850	.770	.000	.000	.865	.688	.000	.635	.000	.688	.000	.654	.574	.000	.643	.774
Passenger Vehicles	1	0	0	0	1	64	175	0	0	239	10	0	29	0	39	0	277	36	0	313	592
% Passenger Vehicles	100	0	0	0	100	94.1	93.1	0	0	93.4	90.9	0	87.9	0	88.6	0	97.2	92.3	0	96.6	94.7
Heavy Vehicles	0	0	0	0	0	4	13	0	0	17	1	0	4	0	5	0	8	3	0	11	33
% Heavy Vehicles	0	0	0	0	0	5.9	6.9	0	0	6.6	9.1	0	12.1	0	11.4	0	2.8	7.7	0	3.4	5.3



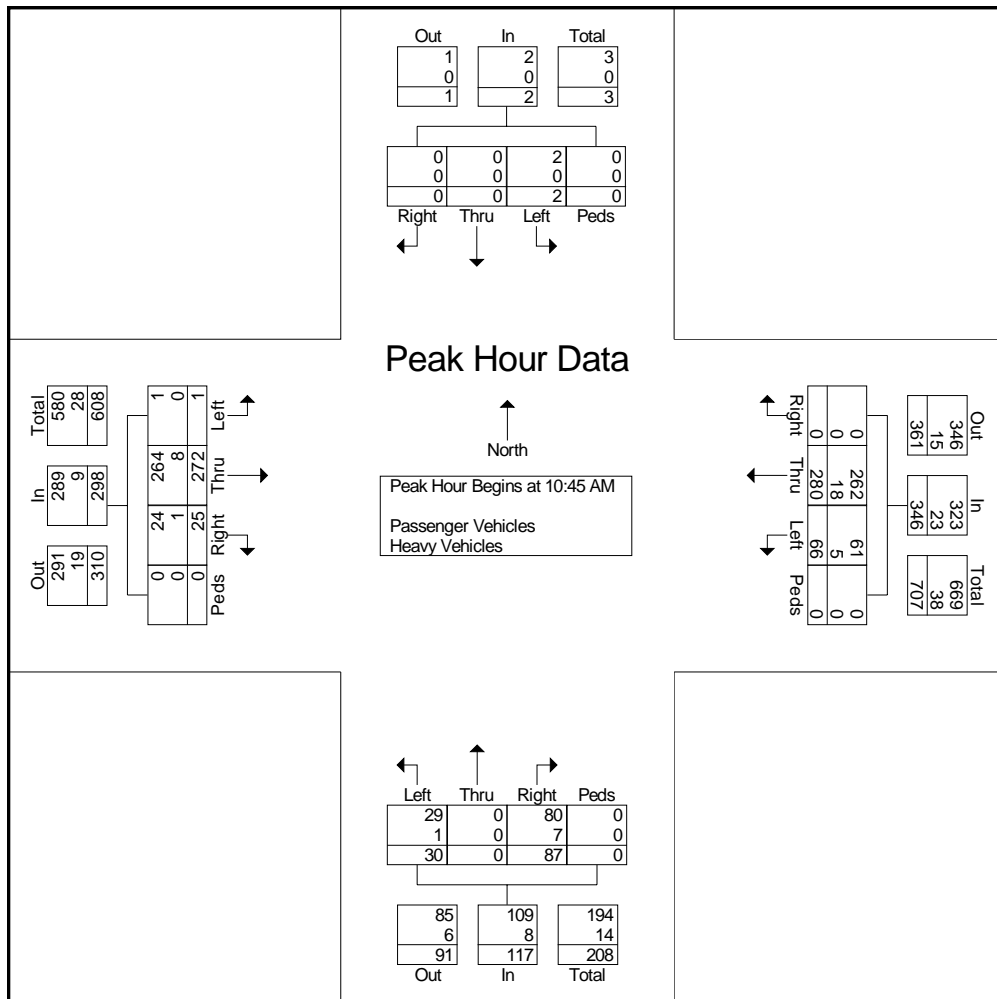
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Higgs Road  
E/W Street: S Ellington Parkway  
Counted by: City of Lewisburg

File Name : Lewisburg-18  
Site Code : 0000016  
Start Date : 4/2/2015  
Page No : 3

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 10:15 AM to 12:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:45 AM																					
10:45 AM	1	0	0	0	1	15	88	0	0	103	8	0	22	0	30	0	77	3	0	80	214
11:00 AM	1	0	0	0	1	18	68	0	0	86	5	0	25	0	30	1	74	6	0	81	198
11:15 AM	0	0	0	0	0	22	48	0	0	70	11	0	25	0	36	0	54	11	0	65	171
11:30 AM	0	0	0	0	0	11	76	0	0	87	6	0	15	0	21	0	67	5	0	72	180
Total Volume	2	0	0	0	2	66	280	0	0	346	30	0	87	0	117	1	272	25	0	298	763
% App. Total	100	0	0	0		19.1	80.9	0	0		25.6	0	74.4	0		0.3	91.3	8.4	0		
PHF	.500	.000	.000	.000	.500	.750	.795	.000	.000	.840	.682	.000	.870	.000	.813	.250	.883	.568	.000	.920	.891
Passenger Vehicles	2	0	0	0	2	61	262	0	0	323	29	0	80	0	109	1	264	24	0	289	723
% Passenger Vehicles	100	0	0	0	100	92.4	93.6	0	0	93.4	96.7	0	92.0	0	93.2	100	97.1	96.0	0	97.0	94.8
Heavy Vehicles	0	0	0	0	0	5	18	0	0	23	1	0	7	0	8	0	8	1	0	9	40
% Heavy Vehicles	0	0	0	0	0	7.6	6.4	0	0	6.6	3.3	0	8.0	0	6.8	0	2.9	4.0	0	3.0	5.2



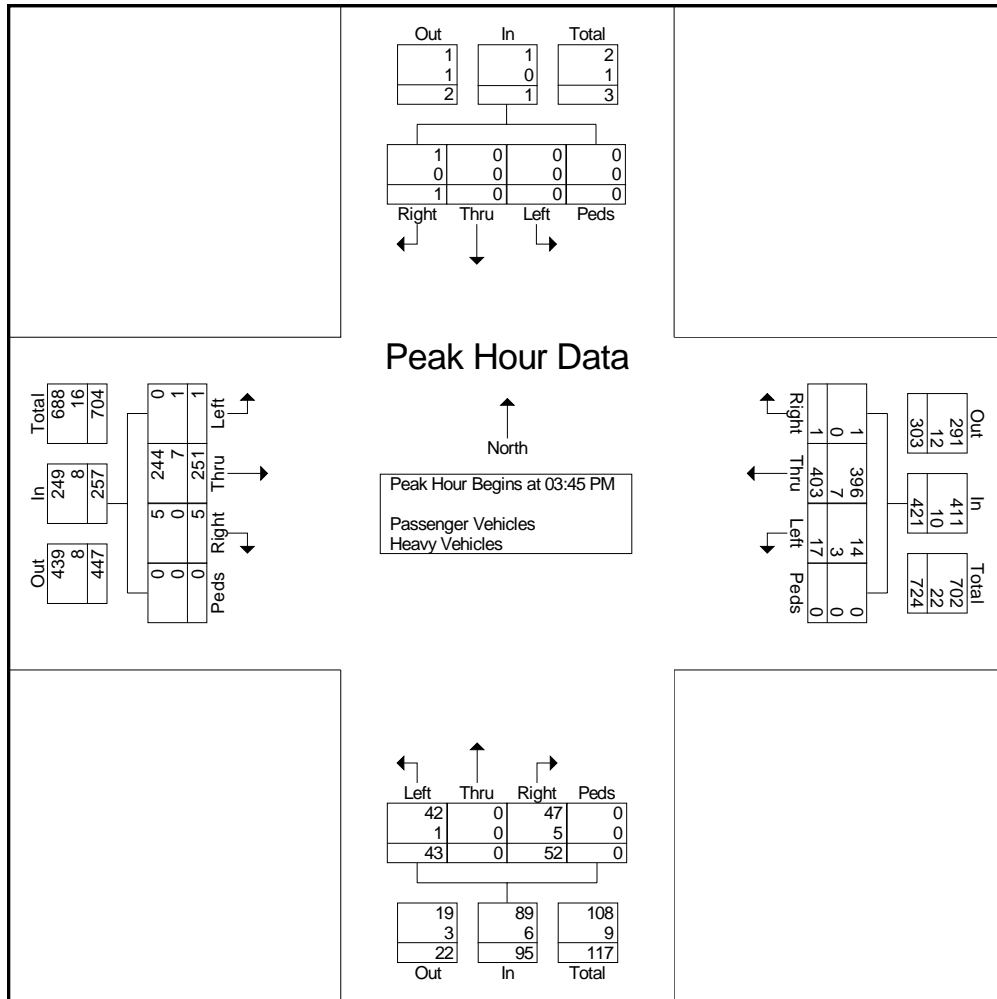
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Higgs Road  
E/W Street: S Ellington Parkway  
Counted by: City of Lewisburg

File Name : Lewisburg-18  
Site Code : 0000016  
Start Date : 4/2/2015  
Page No : 4

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 01:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	1	0	1	4	114	1	0	119	12	0	19	0	31	1	62	0	0	63	214
04:00 PM	0	0	0	0	0	2	96	0	0	98	8	0	9	0	17	0	48	2	0	50	165
04:15 PM	0	0	0	0	0	3	101	0	0	104	15	0	16	0	31	0	68	3	0	71	206
04:30 PM	0	0	0	0	0	8	92	0	0	100	8	0	8	0	16	0	73	0	0	73	189
Total Volume	0	0	1	0	1	17	403	1	0	421	43	0	52	0	95	1	251	5	0	257	774
% App. Total	0	0	100	0		4	95.7	0.2	0		45.3	0	54.7	0		0.4	97.7	1.9	0		
PHF	.000	.000	.250	.000	.250	.531	.884	.250	.000	.884	.717	.000	.684	.000	.766	.250	.860	.417	.000	.880	.904
Passenger Vehicles	0	0	1	0	1	14	396	1	0	411	42	0	47	0	89	0	244	5	0	249	750
% Passenger Vehicles	0	0	100	0	100	82.4	98.3	100	0	97.6	97.7	0	90.4	0	93.7	0	97.2	100	0	96.9	96.9
Heavy Vehicles	0	0	0	0	0	3	7	0	0	10	1	0	5	0	6	1	7	0	0	8	24
% Heavy Vehicles	0	0	0	0	0	17.6	1.7	0	0	2.4	2.3	0	9.6	0	6.3	100	2.8	0	0	3.1	3.1



Lewisburg, TN  
Classified Turn Movement Count

Lat/Long  
lat 35.450993° lon -86.788909°



Site 8 of 9  
Water Street (West)  
Water Street (East)  
US-431 Sam Davis Highway  
US-31A North 2nd Avenue

Date  
Wednesday 17 February 2016

Weather  
Cloudy  
Temp: 4°C

41 Peabody Street, Nashville, TN 37210  
1 (615) 431-6750  
1 (800) 615-3765

0600 - 1800 (Weekday 12h Session)

TIME	Eastbound Water Street (West)						Westbound US-431 East Commerce Street (East)						Northbound US-431 Sam Davis Highway						Southbound US-31A North 2nd Avenue						Int Total	
	U-Turn 8.1	Left 8.2	Thru 8.3	Right 8.4	Peds	App Total	U-Turn 8.5	Left 8.6	Thru 8.7	Right 8.8	Peds	App Total	U-Turn 8.9	Left 8.10	Thru 8.11	Right 8.12	Peds	App Total	U-Turn 8.13	Left 8.14	Thru 8.15	Right 8.16	Peds	App Total		
	0600 - 0615	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	0	1	9	0		0
0615 - 0630	0	0	0	0	0	0	0	1	0	1	0	2	0	0	3	0	0	0	3	0	0	8	0	0	8	13
0630 - 0645	0	0	0	1	1	2	0	0	0	0	0	0	0	0	4	0	0	0	4	0	1	9	1	0	11	17
0645 - 0700	0	4	1	0	0	5	0	1	1	1	0	3	0	0	6	0	1	7	0	0	16	0	0	16	31	
Hourly Total	0	4	1	1	1	7	0	2	1	2	0	5	0	0	13	1	1	15	0	2	42	1	0	45	72	
0700 - 0715	0	0	0	0	0	0	0	0	1	1	0	2	0	0	11	0	0	11	0	0	29	1	0	30	43	
0715 - 0730	0	1	1	0	0	2	0	2	0	0	0	2	0	0	13	0	0	13	0	2	24	1	2	29	46	
0730 - 0745	0	2	3	0	0	5	0	1	1	1	0	3	0	1	11	0	0	12	0	1	42	3	0	46	66	
0745 - 0800	0	1	1	0	0	2	0	0	0	2	0	2	0	0	11	1	0	12	0	2	39	6	0	47	63	
Hourly Total	0	4	5	0	0	9	0	3	2	4	0	9	0	1	46	1	0	48	0	5	134	11	2	152	218	
0800 - 0815	0	4	0	1	0	5	0	0	2	1	0	3	0	0	8	2	0	10	0	1	31	2	0	34	52	
0815 - 0830	0	1	0	1	0	2	0	0	0	0	0	0	0	1	3	3	0	7	0	1	39	1	0	41	50	
0830 - 0845	0	0	2	2	0	4	0	2	0	1	0	3	0	0	14	0	0	14	0	3	33	2	0	38	59	
0845 - 0900	0	0	1	1	0	2	0	1	0	2	0	3	0	4	10	1	0	15	0	2	39	2	0	43	63	
Hourly Total	0	5	3	5	0	13	0	3	2	4	0	9	0	5	35	6	0	46	0	7	142	7	0	156	224	
0900 - 0915	0	3	1	0	1	5	0	1	0	2	0	3	0	1	13	1	1	16	0	1	39	1	0	41	65	
0915 - 0930	0	2	1	0	0	3	0	1	0	3	0	4	0	0	14	0	0	14	0	3	22	2	0	27	48	
0930 - 0945	0	1	2	1	0	4	0	1	0	0	0	1	0	0	14	1	0	15	0	0	25	0	0	25	45	
0945 - 1000	0	1	1	1	0	3	0	2	1	2	0	5	0	0	10	4	0	14	0	4	31	4	0	39	61	
Hourly Total	0	7	5	2	1	15	0	5	1	7	0	13	0	1	51	6	1	59	0	8	117	7	0	132	219	
1000 - 1015	0	3	1	0	0	4	0	1	1	1	0	3	0	1	17	2	0	20	0	3	30	1	0	34	61	
1015 - 1030	0	3	4	2	0	9	0	0	1	6	0	7	0	3	13	2	0	18	0	1	25	4	0	30	64	
1030 - 1045	0	1	4	3	0	8	0	2	2	3	0	7	0	0	17	4	0	21	0	1	22	2	0	25	61	
1045 - 1100	0	3	2	3	0	8	0	3	0	1	0	4	0	3	12	1	0	16	0	2	38	2	0	42	70	
Hourly Total	0	10	11	8	0	29	0	6	4	11	0	21	0	7	59	9	0	75	0	7	115	9	0	131	256	
1100 - 1115	0	1	5	2	0	8	0	1	1	0	0	2	0	0	21	4	0	25	0	3	33	3	0	39	74	
1115 - 1130	0	1	3	2	1	7	0	1	0	3	0	4	0	0	13	0	0	13	0	1	35	6	0	42	66	
1130 - 1145	0	0	6	4	4	14	0	2	2	2	0	6	0	1	15	3	0	19	0	4	37	3	0	44	83	
1145 - 1200	0	3	1	1	0	5	0	2	7	0	0	9	0	3	12	3	0	18	0	0	45	6	0	51	83	
Hourly Total	0	5	15	9	5	34	0	6	10	5	0	21	0	4	61	10	0	75	0	8	150	18	0	176	306	
1200 - 1215	0	6	3	0	0	9	0	0	4	1	0	5	0	1	11	3	0	15	0	2	49	3	0	54	83	
1215 - 1230	0	2	2	0	0	4	0	1	0	1	0	2	0	2	13	1	1	17	0	5	35	3	0	43	66	
1230 - 1245	0	2	2	1	0	5	0	2	2	3	0	7	0	1	17	1	1	20	0	3	40	2	0	45	77	
1245 - 1300	0	1	1	0	0	2	0	1	1	2	0	4	0	2	17	2	0	21	0	5	44	6	0	55	82	
Hourly Total	0	11	8	1	0	20	0	4	7	7	0	18	0	6	58	7	2	73	0	15	168	14	0	197	308	
1300 - 1315	0	2	5	9	1	17	0	2	4	1	0	7	0	1	15	2	0	18	0	4	29	2	0	35	77	
1315 - 1330	0	1	4	1	0	6	0	1	2	0	0	3	0	3	10	2	1	16	0	3	49	2	0	54	79	
1330 - 1345	0	3	2	1	0	6	0	1	2	1	0	4	0	1	18	2	0	21	0	2	36	1	0	39	70	
1345 - 1400	0	1	1	3	0	5	0	3	1	2	0	6	0	2	19	0	2	23	0	2	44	4	0	50	84	
Hourly Total	0	7	12	14	1	34	0	7	9	4	0	20	0	7	62	6	3	78	0	11	158	9	0	178	310	
1400 - 1415	0	4	1	5	1	11	0	1	1	1	0	3	0	0	29	0	0	29	0	5	40	1	0	46	89	
1415 - 1430	0	1	3	1	0	5	0	2	1	0	0	3	0	0	13	1	0	14	0	2	38	1	0	41	63	
1430 - 1445	0	3	5	2	0	10	0	1	1	2	0	4	0	2	15	0	0	17	0	2	36	1	0	39	70	
1445 - 1500	0	3	6	2	0	11	0	1	0	0	1	2	0	1	11	1	0	13	0	6	45	3	0	54	80	
Hourly Total	0	11	15	10	1	37	0	5	3	3	1	12	0	3	68	2	0	73	0	15	159	6	0	180	302	
1500 - 1515	0	1	1	4	1	7	0	1	4	5	0	10	0	1	18	0	0	19	0	1	38	2	0	41	77	
1515 - 1530	0	1	1	4	0	6	0	2	1	0	0	3	0	0	15	1	0	16	0	3	50	1	1	55	80	
1530 - 1545	0	2	2	4	1	9	0	0	2	2	0	4	0	0	31	0	0	31	0	5	40	1	0	46	90	
1545 - 1600	0	0	3	2	2	7	0	2	1	2	0	5	0	1	21	2	0	24	0	4	38	1	1	44	80	
Hourly Total	0	4	7	14	4	29	0	5	8	9	0	22	0	2	85	3	0	90	0	13	166	5	2	186	327	
1600 - 1615	0	5	5	3	1	14	0	2	0	0	0	2	0	0	24	0	1	25	0	5	59	6	0	70	111	
1615 - 1630	0	2	3	4	2	11	0	1	1	1	0	3	0	1	13	1	0	15	0	3	43	4	0	50	79	
1630 - 1645	0	1	0	0	1	2	0	3	4	3	0	10	0	3	14	1	0	18	0	1	50	3	0	54	84	
1645 - 1700	0	6	1	2	0	9	0	1	1	1	0	3	0	3	17	0	0	20	0	2	52	3	0	57	89	
Hourly Total	0	14	9	9	4	36	0	7	6	5	0	18	0	7	68	2	1	78	0	11	204	16	0	231	363	
1700 - 1715	0	1	3	2	0	6	0	1	1	0	0	2	0	1	14	1	0	16	0	0	61	1	0	62	86	
1715 - 1730	0	2	1	1	0	4	0	3	1	0	0	4	0	1	24	0	0	25	0	1	39	0	0	40	73	
1730 - 1745	0	4	2	2	0	8	0	1	0	1	0	2	0	1	16	0	4	21	0	1	46	0	0	47	78	
1745 - 1800	0	0	0	0	0	0	0	1	1	1	0	3	0	0	7	0	0	7	0	2	47	0	0	49	59	
Hourly Total	0	7	6	5	0	18	0	6	3	2	0	11	0	3	61	1	4	69	0	4	193	1	0	198	296	
Grand Total	0	89	97	78	17	281	0	59	56	63	1	179	0	46	667	54	12	779	0	106	1748	104	4	1962	3201	
App Percentage	0.00	31.67	34.52	27.76	6.05		0.00	32.96	31.28	35.20	0.56		0.00	5.91	85.62	6.93	1.54		0.00	5.40	89.09	5.30	0.20			
Inf Percentage	0.00	2.78	3.03	2.44	0.53	8.78	0.00	1.84	1.75	1.97	0.03	5.59	0.00	1.44	20.84	1.69	0.37	24.34	0.00	3.31	54.61	3.25	0.12	61.29		
Cars	0	86	96	75	-	257	0	56	55	63	-</															

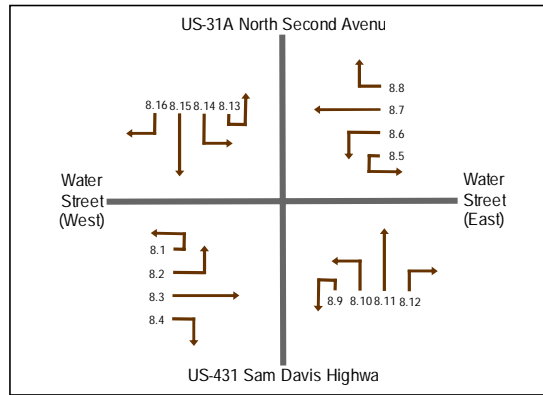
1600 - 1700 (Weekday 12h Peak Hour)

TIME	Eastbound Water Street (West)						Westbound Water Street (East)						Northbound US-431 Sam Davis Highway						Southbound US-31A North 2nd Avenue						Int Total
	U-Turn 8.1	Left 8.2	Thru 8.3	Right 8.4	Peds	App Total	U-Turn 8.5	Left 8.6	Thru 8.7	Right 8.8	Peds	App Total	U-Turn 8.9	Left 8.10	Thru 8.11	Right 8.12	Peds	App Total	U-Turn 8.13	Left 8.14	Thru 8.15	Right 8.16	Peds	App Total	
1600 - 1615	0	5	5	3	-	13	0	2	0	0	-	2	0	0	24	0	-	24	0	5	59	6	-	70	109
1615 - 1630	0	2	3	4	-	9	0	1	1	1	-	3	0	1	13	1	-	15	0	3	43	4	-	50	77
1630 - 1645	0	1	0	0	-	1	0	3	4	3	-	10	0	3	14	1	-	18	0	1	50	3	-	54	83
1645 - 1700	0	6	1	2	-	9	0	1	1	1	-	3	0	3	17	0	-	20	0	2	52	3	-	57	89
Hourly Total	0	14	9	9	-	32	0	7	6	5	-	18	0	7	68	2	-	77	0	11	204	16	-	231	358
Grand Total	0	14	9	9	-	32	0	7	6	5	-	18	0	7	68	2	-	77	0	11	204	16	-	231	358
App Percentage	0.00	43.75	28.13	28.13	-		0.00	38.89	33.33	27.78	-		0.00	9.09	88.31	2.60	-		0.00	4.76	88.31	6.93	-		
Int Percentage	0.00	3.91	2.51	2.51	-	8.94	0.00	1.96	1.68	1.40	-	5.03	0.00	1.96	18.99	0.56	-	21.51	0.00	3.07	56.98	4.47	-	64.53	
Cars	0	14	9	9	-	32	0	7	6	5	-	18	0	7	67	2	-	76	0	11	199	16	-	226	352
Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	5	0	-	5	6
Cars (%)	0.00	100.00	100.00	100.00	-	100.00	0.00	100.00	100.00	100.00	-	100.00	0.00	100.00	98.53	100.00	-	98.70	0.00	100.00	97.55	100.00	-	97.84	98.32
Trucks (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	1.47	0.00	-	1.30	0.00	0.00	2.45	0.00	-	2.16	1.68
PHF	0.000	0.583	0.450	0.563	-	0.615	0.000	0.583	0.375	0.417	-	0.450	0.000	0.583	0.708	0.500	-	0.802	0.000	0.550	0.864	0.667	-	0.825	0.821

(Southbound) US-31A North 2nd Avenue

In	Out	Total
231	87	318

Peds	Right	Thru	Left	U-Turn
-	16	204	11	0



(Eastbound) Water Street (West)

Out	29
In	32
Total	61

U-Turn	0
Left	14
Thru	9
Right	9
Peds	-

(Westbound) Water Street (East)

Peds	-
Right	5
Thru	6
Left	7
U-Turn	0

In	18
Out	22
Total	40

(Northbound) US-431 Sam Davis Highway

U-Turn	Left	Thru	Right	Peds
0	7	68	2	-

Out	In	Total
220	77	297

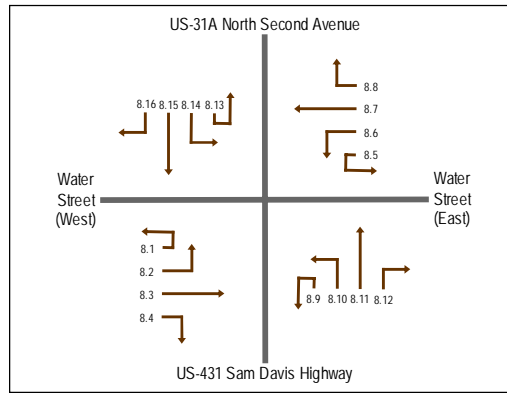
0815- 0915 (Weekday AM Peak Hour)

TIME	Eastbound Water Street (West)						Westbound Water Street (East)						Northbound US-431 Sam Davis Highway						Southbound US-31A North 2nd Avenue						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
	8.1	8.2	8.3	8.4	-	-	8.5	8.6	8.7	8.8	-	-	8.9	8.10	8.11	8.12	-	-	8.13	8.14	8.15	8.16	-	-	
0815 - 0830	0	1	0	1	-	2	0	0	0	0	-	0	0	1	3	3	-	7	0	1	39	1	-	41	235
0830 - 0845	0	0	2	2	-	4	0	2	0	1	-	3	0	0	14	0	-	14	0	3	33	2	-	38	59
0845 - 0900	0	0	1	1	-	2	0	1	0	2	-	3	0	4	10	1	-	15	0	2	39	2	-	43	63
0900 - 0915	0	3	1	0	-	4	0	1	0	2	-	3	0	1	13	1	-	15	0	1	39	1	-	41	63
Hourly Total	0	4	4	4	-	12	0	4	0	5	-	9	0	6	40	5	-	51	0	7	150	6	-	163	235
Grand Total	0	4	4	4	-	12	0	4	0	5	-	9	0	6	40	5	-	51	0	7	150	6	-	163	235
App Percentage	0.00	33.33	33.33	33.33	-	-	0.00	44.44	0.00	55.56	-	-	0.00	11.76	78.43	9.80	-	-	0.00	4.29	92.02	3.68	-	-	-
Int Percentage	0.00	1.70	1.70	1.70	-	5.11	0.00	1.70	0.00	2.13	-	3.83	0.00	2.55	17.02	2.13	-	21.70	0.00	2.98	63.83	2.55	-	69.36	-
Cars	0	3	4	4	-	11	0	4	0	5	-	9	0	6	39	5	-	50	0	7	145	6	-	158	228
Trucks	0	1	0	0	-	1	0	0	0	0	-	0	0	0	1	0	-	1	0	0	5	0	-	5	7
Cars (%)	0.00	75.00	100.00	100.00	-	91.67	0.00	100.00	0.00	100.00	-	100.00	0.00	100.00	97.50	100.00	-	98.04	0.00	100.00	96.67	100.00	-	96.93	97.02
Trucks (%)	0.00	25.00	0.00	0.00	-	8.33	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	2.50	0.00	-	1.96	0.00	0.00	3.33	0.00	-	3.07	2.98
PHF	0.000	0.333	0.500	0.500	-	0.750	0.000	0.500	0.000	0.625	-	0.750	0.000	0.375	0.714	0.417	-	0.850	0.000	0.583	0.962	0.750	-	0.948	0.933

(Southbound) US-31A North 2nd Avenue

In	Out	Total
163	49	212

Peds	Right	Thru	Left	U-Turn
-	6	150	7	0



(Northbound) US-431 Sam Davis Highway

U-Turn	Left	Thru	Right	Peds
0	6	40	5	-

Out	In	Total
158	51	209

(Eastbound) Water Street (West)

Out	In	Total
12	12	24

U-Turn	Left	Thru	Right	Peds
0	4	4	4	-

(Westbound) Water Street (East)

Peds	Right	Thru	Left	U-Turn
-	5	0	4	0

In	Out	Total
9	16	25

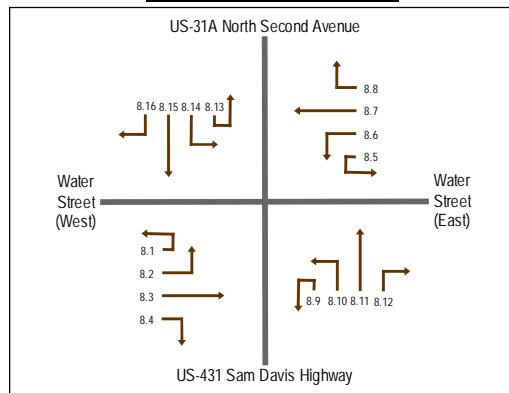
1230 - 1330 (Weekday Inter Peak Hour)

TIME	Eastbound Water Street (West)						Westbound Water Street (East)						Northbound US-431 Sam Davis Highway						Southbound US-31A North 2nd Avenue						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
	8.1	8.2	8.3	8.4	-	-	8.5	8.6	8.7	8.8	-	-	8.9	8.10	8.11	8.12	-	-	8.13	8.14	8.15	8.16	-	-	
1230 - 1245	0	2	2	1	-	5	0	2	2	3	-	7	0	1	17	1	-	19	0	3	40	2	-	45	76
1245 - 1300	0	1	1	0	-	2	0	1	1	2	-	4	0	2	17	2	-	21	0	5	44	6	-	55	82
1300 - 1315	0	2	5	9	-	16	0	2	4	1	-	7	0	1	15	2	-	18	0	4	29	2	-	35	76
1315 - 1330	0	1	4	1	-	6	0	1	2	0	-	3	0	3	10	2	-	15	0	3	49	2	-	54	78
Hourly Total	0	6	12	11	-	29	0	6	9	6	-	21	0	7	59	7	-	73	0	15	162	12	-	189	312
Grand Total	0	6	12	11	-	29	0	6	9	6	-	21	0	7	59	7	-	73	0	15	162	12	-	189	312
App Percentage	0.00	20.69	41.38	37.93	-	-	0.00	28.57	42.86	28.57	-	-	0.00	9.59	80.82	9.59	-	-	0.00	7.94	85.71	6.35	-	-	
Int Percentage	0.00	1.92	3.85	3.53	-	9.29	0.00	1.92	2.88	1.92	-	6.73	0.00	2.24	18.91	2.24	-	23.40	0.00	4.81	51.92	3.85	-	60.58	
Cars	0	6	12	11	-	29	0	6	9	6	-	21	0	7	57	7	-	71	0	15	158	12	-	185	306
Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	2	0	-	2	0	0	4	0	-	4	6
Cars (%)	0.00	100.00	100.00	100.00	-	100.00	0.00	100.00	100.00	100.00	-	100.00	0.00	100.00	96.61	100.00	-	97.26	0.00	100.00	97.53	100.00	-	97.88	98.08
Trucks (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	3.39	0.00	-	2.74	0.00	0.00	2.47	0.00	-	2.12	1.92
PHF	0.000	0.750	0.600	0.306	-	0.453	0.000	0.750	0.563	0.500	-	0.750	0.000	0.583	0.868	0.875	-	0.869	0.000	0.750	0.827	0.500	-	0.859	0.951

(Southbound) US-31A North 2nd Avenue

In	Out	Total
189	71	260

Peds	Right	Thru	Left	U-Turn
-	12	162	15	0



(Eastbound) Water Street (West)

Out	28
In	29
Total	57

U-Turn	0
Left	6
Thru	12
Right	11
Peds	-

(Westbound) Water Street (East)

Peds	-
Right	6
Thru	9
Left	6
U-Turn	0

In	21
Out	34
Total	55

(Northbound) US-431 Sam Davis Highway

U-Turn	Left	Thru	Right	Peds
0	7	59	7	-

Out	In	Total
179	73	252



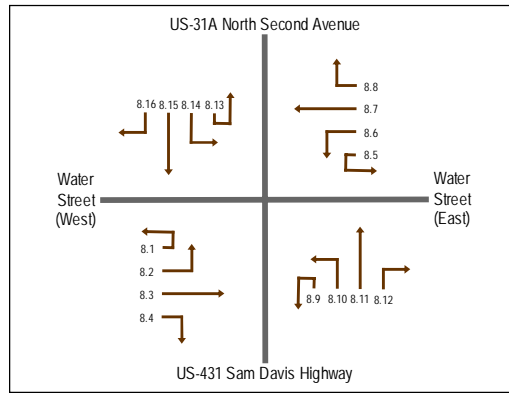
1600 - 1700 (Weekday PM Peak Hour)

TIME	Eastbound Water Street (West)						Westbound Water Street (East)						Northbound US-431 Sam Davis Highway						Southbound US-31A North 2nd Avenue						Int Total
	U-Turn 8.1	Left 8.2	Thru 8.3	Right 8.4	Peds	App Total	U-Turn 8.5	Left 8.6	Thru 8.7	Right 8.8	Peds	App Total	U-Turn 8.9	Left 8.10	Thru 8.11	Right 8.12	Peds	App Total	U-Turn 8.13	Left 8.14	Thru 8.15	Right 8.16	Peds	App Total	
1600 - 1615	0	5	5	3	-	13	0	2	0	0	-	2	0	0	24	0	-	24	0	5	59	6	-	70	109
1615 - 1630	0	2	3	4	-	9	0	1	1	1	-	3	0	1	13	1	-	15	0	3	43	4	-	50	77
1630 - 1645	0	1	0	0	-	1	0	3	4	3	-	10	0	3	14	1	-	18	0	1	50	3	-	54	83
1645 - 1700	0	6	1	2	-	9	0	1	1	1	-	3	0	3	17	0	-	20	0	2	52	3	-	57	89
Hourly Total	0	14	9	9	-	32	0	7	6	5	-	18	0	7	68	2	-	77	0	11	204	16	-	231	358
Grand Total	0	14	9	9	-	32	0	7	6	5	-	18	0	7	68	2	-	77	0	11	204	16	-	231	358
App Percentage	0.00	43.75	28.13	28.13	-		0.00	38.89	33.33	27.78	-		0.00	9.09	88.31	2.60	-		0.00	4.76	88.31	6.93	-		
Int Percentage	0.00	3.91	2.51	2.51	-	8.94	0.00	1.96	1.68	1.40	-	5.03	0.00	1.96	18.99	0.56	-	21.51	0.00	3.07	56.98	4.47	-	64.53	
Cars	0	14	9	9	-	32	0	7	6	5	-	18	0	7	67	2	-	76	0	11	199	16	-	226	352
Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	1	0	-	1	0	0	5	0	-	5	6
Cars (%)	0.00	100.00	100.00	100.00	-	100.00	0.00	100.00	100.00	100.00	-	100.00	0.00	100.00	98.53	100.00	-	98.70	0.00	100.00	97.55	100.00	-	97.84	98.32
Trucks (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	1.47	0.00	-	1.30	0.00	0.00	2.45	0.00	-	2.16	1.68
PHF	0.000	0.583	0.450	0.563	-	0.615	0.000	0.583	0.375	0.417	-	0.450	0.000	0.583	0.708	0.500	-	0.802	0.000	0.550	0.864	0.667	-	0.825	0.821

(Southbound) US-31A North 2nd Avenue

In	Out	Total
231	87	318

Peds	Right	Thru	Left	U-Turn
-	16	204	11	0



(Eastbound) Water Street (West)

Out	29
In	32
Total	61

U-Turn	0
Left	14
Thru	9
Right	9
Peds	-

(Westbound) Water Street (East)

Peds	-
Right	5
Thru	6
Left	7
U-Turn	0

In	18
Out	22
Total	40

(Northbound) US-431 Sam Davis Highway

U-Turn	Left	Thru	Right	Peds
0	7	68	2	-

Out	In	Total
220	77	297

# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N 2nd Ave / US-431 Business  
E/W Street: College Street

File Name : Lewisburg-21  
Site Code : 0000018  
Start Date : 3/24/2015  
Page No : 1

Counted by: City of Lewisburg

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:15 AM	1	0	0	0	1	5	8	0	0	13	5	0	5	0	10	0	25	4	0	29	53
06:30 AM	2	0	0	0	2	2	11	0	0	13	2	0	4	0	6	0	29	3	0	32	53
06:45 AM	0	0	0	0	0	0	10	0	0	10	5	0	4	0	9	0	44	3	0	47	66
<b>Total</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>7</b>	<b>29</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>12</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>98</b>	<b>10</b>	<b>0</b>	<b>108</b>	<b>172</b>
07:00 AM	0	0	0	0	0	3	11	0	0	14	3	0	1	0	4	0	38	3	0	41	59
07:15 AM	1	0	0	0	1	3	15	0	0	18	7	0	1	0	8	0	24	3	0	27	54
07:30 AM	0	0	0	0	0	1	17	0	0	18	1	0	2	0	3	0	36	3	0	39	60
07:45 AM	0	0	0	0	0	0	17	0	0	17	7	0	0	0	7	0	38	3	0	41	65
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>7</b>	<b>60</b>	<b>0</b>	<b>0</b>	<b>67</b>	<b>18</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>22</b>	<b>0</b>	<b>136</b>	<b>12</b>	<b>0</b>	<b>148</b>	<b>238</b>
08:00 AM	1	0	0	0	1	2	16	0	0	18	6	0	3	0	9	0	45	6	0	51	79
*** BREAK ***																					
<b>Total</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>2</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>6</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>45</b>	<b>6</b>	<b>0</b>	<b>51</b>	<b>79</b>
*** BREAK ***																					
10:00 AM	1	0	1	0	2	1	25	0	0	26	5	0	1	0	6	0	27	4	0	31	65
10:15 AM	1	0	1	0	2	4	23	0	0	27	7	0	2	0	9	0	50	1	0	51	89
10:30 AM	2	0	0	0	2	2	23	0	0	25	5	0	1	0	6	0	56	6	0	62	95
10:45 AM	0	0	0	0	0	2	20	0	0	22	6	0	8	0	14	0	41	4	0	45	81
<b>Total</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>6</b>	<b>9</b>	<b>91</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>23</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>35</b>	<b>0</b>	<b>174</b>	<b>15</b>	<b>0</b>	<b>189</b>	<b>330</b>
11:00 AM	0	0	0	0	0	1	18	0	0	19	4	0	3	0	7	0	32	2	0	34	60
11:15 AM	3	0	0	0	3	4	21	0	0	25	10	0	3	0	13	2	30	6	1	39	80
11:30 AM	0	0	0	0	0	0	19	0	0	19	5	0	5	0	10	0	33	3	1	37	66
11:45 AM	1	0	0	0	1	3	11	0	0	14	13	0	3	0	16	0	27	3	0	30	61
<b>Total</b>	<b>4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>8</b>	<b>69</b>	<b>0</b>	<b>0</b>	<b>77</b>	<b>32</b>	<b>0</b>	<b>14</b>	<b>0</b>	<b>46</b>	<b>2</b>	<b>122</b>	<b>14</b>	<b>2</b>	<b>140</b>	<b>267</b>
*** BREAK ***																					
03:00 PM	2	0	0	0	2	1	24	0	0	25	10	0	3	0	13	0	48	6	0	54	94
03:15 PM	3	0	1	0	4	1	17	0	0	18	13	0	0	0	13	1	53	1	0	55	90
03:30 PM	1	0	2	0	3	2	19	0	0	21	7	0	4	0	11	0	46	6	0	52	87
03:45 PM	4	0	0	0	4	1	22	0	0	23	11	0	8	0	19	0	63	8	0	71	117
<b>Total</b>	<b>10</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>13</b>	<b>5</b>	<b>82</b>	<b>0</b>	<b>0</b>	<b>87</b>	<b>41</b>	<b>0</b>	<b>15</b>	<b>0</b>	<b>56</b>	<b>1</b>	<b>210</b>	<b>21</b>	<b>0</b>	<b>232</b>	<b>388</b>
04:00 PM	1	0	0	0	1	2	22	0	0	24	11	0	2	0	13	2	51	6	0	59	97
04:15 PM	2	0	1	0	3	3	13	0	0	16	4	0	4	0	8	1	48	4	0	53	80
04:30 PM	3	0	1	0	4	1	17	0	0	18	8	0	5	0	13	0	51	6	0	57	92
04:45 PM	1	0	0	0	1	3	10	0	0	13	3	0	1	0	4	1	48	4	0	53	71
<b>Total</b>	<b>7</b>	<b>0</b>	<b>2</b>	<b>0</b>	<b>9</b>	<b>9</b>	<b>62</b>	<b>0</b>	<b>0</b>	<b>71</b>	<b>26</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>38</b>	<b>4</b>	<b>198</b>	<b>20</b>	<b>0</b>	<b>222</b>	<b>340</b>
<b>Grand Total</b>	<b>30</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>37</b>	<b>47</b>	<b>409</b>	<b>0</b>	<b>0</b>	<b>456</b>	<b>158</b>	<b>0</b>	<b>73</b>	<b>0</b>	<b>231</b>	<b>7</b>	<b>983</b>	<b>98</b>	<b>2</b>	<b>1090</b>	<b>1814</b>
Apprch %	81.1	0	18.9	0		10.3	89.7	0	0		68.4	0	31.6	0		0.6	90.2	9	0.2		
Total %	1.7	0	0.4	0	2	2.6	22.5	0	0	25.1	8.7	0	4	0	12.7	0.4	54.2	5.4	0.1	60.1	
Passenger Vehicles	29	0	7	0	36	47	404	0	0	451	158	0	71	0	229	7	977	97	2	1083	1799
% Passenger Vehicles	96.7	0	100	0	97.3	100	98.8	0	0	98.9	100	0	97.3	0	99.1	100	99.4	99	100	99.4	99.2
Heavy Vehicles	1	0	0	0	1	0	5	0	0	5	0	0	2	0	2	0	6	1	0	7	15
% Heavy Vehicles	3.3	0	0	0	2.7	0	1.2	0	0	1.1	0	0	2.7	0	0.9	0	0.6	1	0	0.6	0.8

# Signal Timing Optimization Study

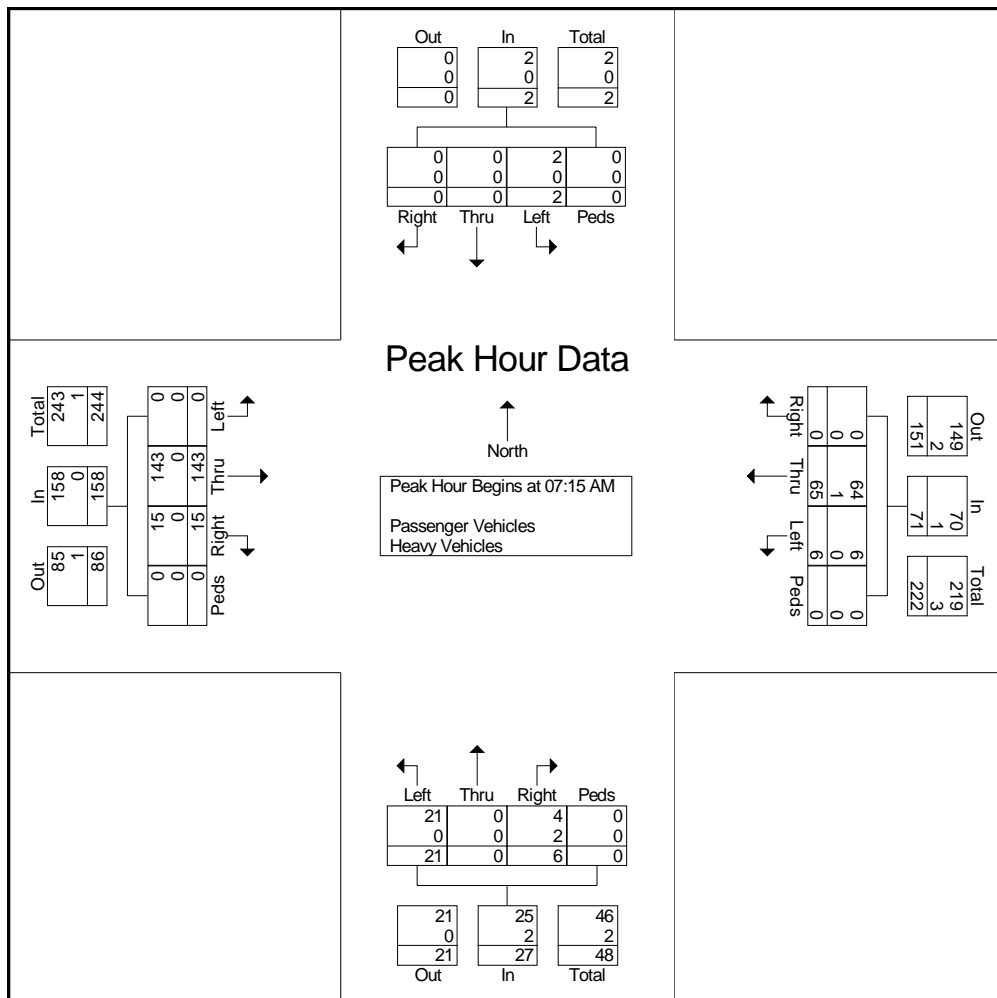
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N 2nd Ave / US-431 Business  
E/W Street: College Street

File Name : Lewisburg-21  
Site Code : 00000018  
Start Date : 3/24/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	1	0	0	0	1	3	15	0	0	18	7	0	1	0	8	0	24	3	0	27	54
07:30 AM	0	0	0	0	0	1	17	0	0	18	1	0	2	0	3	0	36	3	0	39	60
07:45 AM	0	0	0	0	0	0	17	0	0	17	7	0	0	0	7	0	38	3	0	41	65
08:00 AM	1	0	0	0	1	2	16	0	0	18	6	0	3	0	9	0	45	6	0	51	79
Total Volume	2	0	0	0	2	6	65	0	0	71	21	0	6	0	27	0	143	15	0	158	258
% App. Total	100	0	0	0	0	8.5	91.5	0	0	0	77.8	0	22.2	0	0	0	90.5	9.5	0	0	0
PHF	.500	.000	.000	.000	.500	.500	.956	.000	.000	.986	.750	.000	.500	.000	.750	.000	.794	.625	.000	.775	.816
Passenger Vehicles	2	0	0	0	2	6	64	0	0	70	21	0	4	0	25	0	143	15	0	158	255
% Passenger Vehicles	100	0	0	0	100	100	98.5	0	0	98.6	100	0	66.7	0	92.6	0	100	100	0	100	98.8
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	2	0	2	0	0	0	0	0	3
% Heavy Vehicles	0	0	0	0	0	0	1.5	0	0	1.4	0	0	33.3	0	7.4	0	0	0	0	0	1.2



# Signal Timing Optimization Study

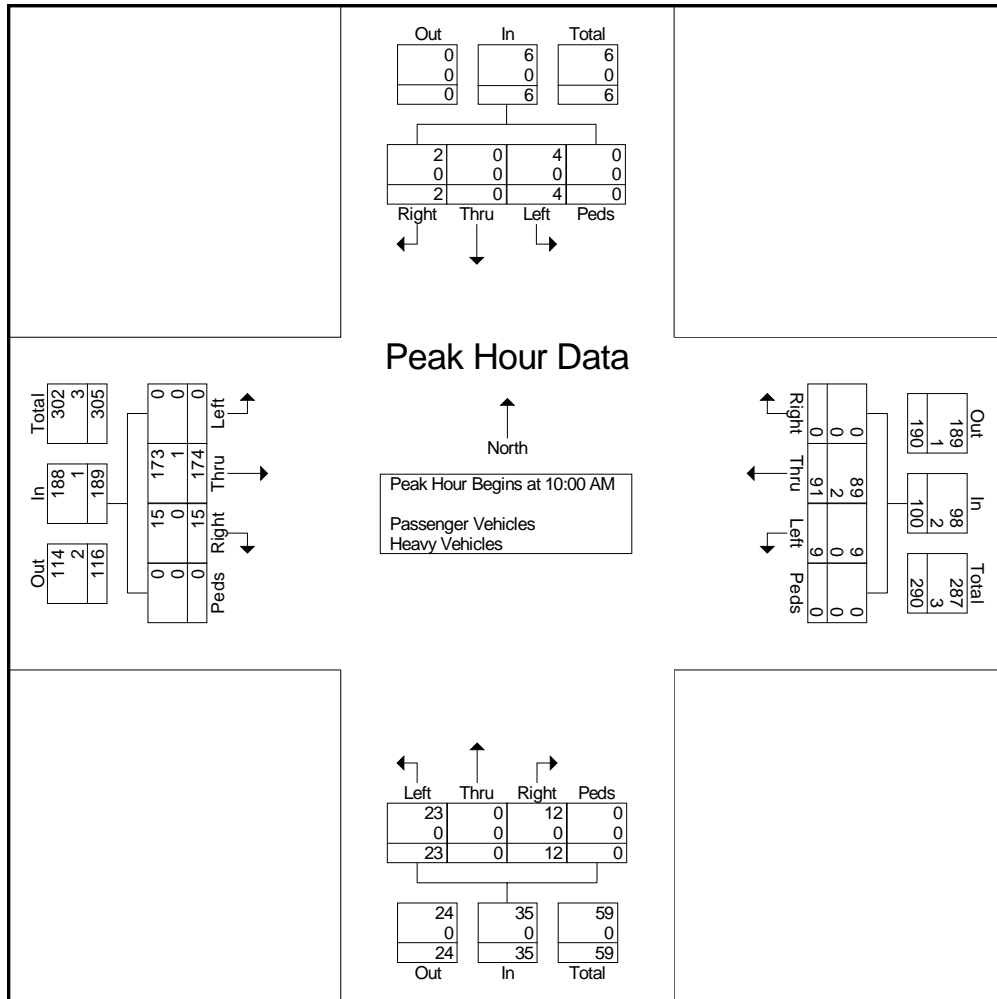
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N 2nd Ave / US-431 Business  
E/W Street: College Street

File Name : Lewisburg-21  
Site Code : 0000018  
Start Date : 3/24/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 10:00 AM to 11:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 10:00 AM																						
10:00 AM	1	0	1	0	2	1	25	0	0	26	5	0	1	0	6	0	27	4	0	31	65	
10:15 AM	1	0	1	0	2	4	23	0	0	27	7	0	2	0	9	0	50	1	0	51	89	
10:30 AM	2	0	0	0	2	2	23	0	0	25	5	0	1	0	6	0	56	6	0	62	95	
10:45 AM	0	0	0	0	0	2	20	0	0	22	6	0	8	0	14	0	41	4	0	45	81	
Total Volume	4	0	2	0	6	9	91	0	0	100	23	0	12	0	35	0	174	15	0	189	330	
% App. Total	66.7	0	33.3	0		9	91	0	0		65.7	0	34.3	0		0	92.1	7.9	0			
PHF	.500	.000	.500	.000	.750	.563	.910	.000	.000	.926	.821	.000	.375	.000	.625	.000	.777	.625	.000	.762	.868	
Passenger Vehicles	4	0	2	0	6	9	89	0	0	98	23	0	12	0	35	0	173	15	0	188	327	
% Passenger Vehicles	100	0	100	0	100	100	97.8	0	0	98.0	100	0	100	0	100	0	99.4	100	0	99.5	99.1	
Heavy Vehicles	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	3	
% Heavy Vehicles	0	0	0	0	0	0	2.2	0	0	2.0	0	0	0	0	0	0	0.6	0	0	0.5	0.9	



# Signal Timing Optimization Study

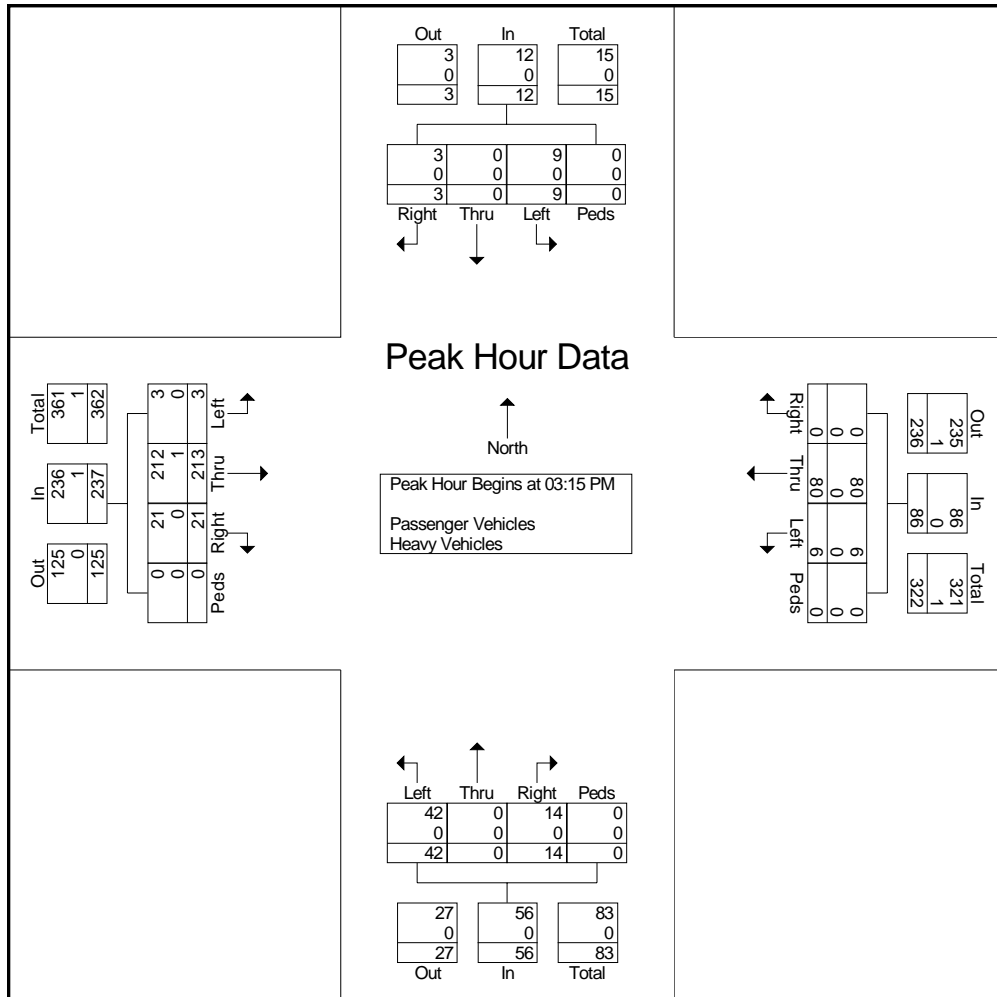
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N 2nd Ave / US-431 Business  
E/W Street: College Street

File Name : Lewisburg-21  
Site Code : 0000018  
Start Date : 3/24/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Westbound					Northbound					Eastbound					Southbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 03:15 PM																						
03:15 PM	3	0	1	0	4	1	17	0	0	18	13	0	0	0	13	1	53	1	0	55	90	
03:30 PM	1	0	2	0	3	2	19	0	0	21	7	0	4	0	11	0	46	6	0	52	87	
03:45 PM	4	0	0	0	4	1	22	0	0	23	11	0	8	0	19	0	63	8	0	71	117	
04:00 PM	1	0	0	0	1	2	22	0	0	24	11	0	2	0	13	2	51	6	0	59	97	
Total Volume	9	0	3	0	12	6	80	0	0	86	42	0	14	0	56	3	213	21	0	237	391	
% App. Total	75	0	25	0		7	93	0	0		75	0	25	0		1.3	89.9	8.9	0			
PHF	.563	.000	.375	.000	.750	.750	.909	.000	.000	.896	.808	.000	.438	.000	.737	.375	.845	.656	.000	.835	.835	
Passenger Vehicles	9	0	3	0	12	6	80	0	0	86	42	0	14	0	56	3	212	21	0	236	390	
% Passenger Vehicles	100	0	100	0	100	100	100	0	0	100	100	0	100	0	100	100	99.5	100	0	99.6	99.7	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.5	0	0	0.4	0.3	



Lewisburg, TN  
Classified Turn Movement Count

Site 9 of 9  
Dodson Drive  
SR-50 Franklin Road (East)  
Heil Quaker Avenue  
SR-50 Franklin Road (East)

Lat/Long  
lat 35.467277° lon -86.798333°

Date  
Wednesday 17 February 2016

Weather  
Cloudy  
Temp: 4°C



41 Peabody Street, Nashville, TN 37210  
1 (615) 431-6750  
1 (800) 615-3765

0600 - 1800 (Weekday 12h Session)

TIME	Eastbound Dodson Drive						Westbound SR-50 Franklin Road (East)						Northbound Heil Quaker Avenue						Southbound SR-50 Franklin Road (East)						Int Total
	U-Turn 9.1	Left 9.2	Thru 9.3	Right 9.4	Peds	App Total	U-Turn 9.5	Left 9.6	Thru 9.7	Right 9.8	Peds	App Total	U-Turn 9.9	Left 9.10	Thru 9.11	Right 9.12	Peds	App Total	U-Turn 9.13	Left 9.14	Thru 9.15	Right 9.16	Peds	App Total	
0600 - 0615	0	2	0	0	0	2	0	3	0	6	0	9	0	0	13	1	0	14	0	2	5	0	0	7	32
0615 - 0630	0	0	0	0	0	0	0	3	0	8	0	11	0	0	7	6	0	13	0	4	7	0	0	11	35
0630 - 0645	0	0	0	0	0	0	0	3	0	11	0	14	0	1	14	7	0	22	0	4	8	0	0	12	48
0645 - 0700	0	0	1	1	0	2	0	8	1	9	0	18	0	0	23	5	0	28	0	6	13	0	0	19	67
Hourly Total	0	2	1	1	0	4	0	17	1	34	0	52	0	1	57	19	0	77	0	16	33	0	0	49	182
0700 - 0715	0	2	0	0	0	2	0	9	0	20	0	29	0	0	33	7	0	40	0	14	21	0	0	35	106
0715 - 0730	0	3	1	0	0	4	0	15	0	14	0	29	0	1	48	10	0	59	0	20	37	0	0	57	149
0730 - 0745	0	1	1	3	0	5	0	14	1	21	0	36	0	1	40	12	0	53	0	26	51	2	0	79	173
0745 - 0800	0	1	0	0	0	1	0	13	0	5	0	18	0	0	27	19	0	46	0	9	25	0	0	34	99
Hourly Total	0	7	2	3	0	12	0	51	1	60	0	112	0	2	148	48	0	198	0	69	134	2	0	205	527
0800 - 0815	0	0	0	1	0	1	0	7	2	6	0	15	0	0	17	4	0	21	0	6	20	0	0	26	63
0815 - 0830	0	1	1	0	0	2	0	3	0	1	0	4	0	0	18	3	0	21	0	4	16	0	0	20	47
0830 - 0845	0	0	0	0	0	0	0	1	0	7	0	8	0	0	13	3	0	16	0	3	14	0	0	17	41
0845 - 0900	0	0	0	0	0	0	0	3	0	5	0	8	0	0	8	6	0	14	0	3	13	1	0	17	39
Hourly Total	0	1	1	1	0	3	0	14	2	19	0	35	0	0	56	16	0	72	0	16	63	1	0	80	190
0900 - 0915	0	0	1	0	0	1	0	2	0	3	0	5	0	0	10	9	0	19	0	5	8	2	0	15	40
0915 - 0930	0	1	0	2	0	3	0	3	0	1	0	4	0	0	16	7	0	23	0	5	10	0	0	15	45
0930 - 0945	0	0	0	2	0	2	0	3	0	5	0	8	0	1	13	10	0	24	0	4	11	0	0	15	49
0945 - 1000	0	1	1	0	0	2	0	3	0	1	0	4	0	0	8	9	0	17	0	2	17	0	0	19	42
Hourly Total	0	2	2	4	0	8	0	11	0	10	0	21	0	1	47	35	0	83	0	16	46	2	0	64	176
1000 - 1015	0	0	0	0	0	0	0	3	0	5	0	8	0	0	15	10	0	25	0	1	13	1	0	15	48
1015 - 1030	0	1	0	0	0	1	0	8	0	4	0	12	0	0	13	5	0	18	0	3	10	1	0	14	45
1030 - 1045	0	1	0	0	0	1	0	4	1	2	0	7	0	0	13	6	0	19	0	3	16	1	0	20	47
1045 - 1100	0	0	0	0	0	0	0	7	0	3	0	10	0	0	13	6	0	19	0	4	12	0	0	16	45
Hourly Total	0	2	0	0	0	2	0	22	1	14	0	37	0	0	54	27	0	81	0	11	51	3	0	65	185
1100 - 1115	0	0	0	0	0	0	0	9	0	4	0	13	0	1	16	12	0	29	0	4	13	0	0	17	59
1115 - 1130	0	1	0	1	0	2	0	8	1	8	0	17	0	0	15	7	0	22	0	3	14	2	0	19	60
1130 - 1145	0	0	0	0	0	0	0	5	0	5	0	10	0	0	10	11	0	21	0	4	11	0	0	15	46
1145 - 1200	0	0	0	2	0	2	0	11	1	2	0	14	0	0	22	7	0	29	0	8	15	3	0	26	71
Hourly Total	0	1	0	3	0	4	0	33	2	19	0	54	0	1	63	37	0	101	0	19	53	5	0	77	236
1200 - 1215	0	2	0	0	0	2	0	4	1	8	0	13	0	0	20	9	0	29	0	2	18	0	0	20	64
1215 - 1230	0	0	0	1	0	1	0	11	0	6	0	17	0	1	14	8	0	23	0	7	18	1	0	26	67
1230 - 1245	0	1	2	1	0	4	0	9	1	3	0	13	0	0	9	7	0	16	0	3	24	0	0	27	60
1245 - 1300	0	0	1	0	0	1	0	11	1	6	0	18	0	0	15	7	0	22	0	5	15	0	0	20	61
Hourly Total	0	3	3	2	0	8	0	35	3	23	0	61	0	1	58	31	0	90	0	17	75	1	0	93	252
1300 - 1315	0	1	0	0	0	1	0	5	0	6	0	11	0	0	14	5	0	19	0	7	19	1	0	27	58
1315 - 1330	0	1	2	0	0	3	0	5	0	10	0	15	0	0	16	10	0	26	0	7	31	1	0	39	83
1330 - 1345	0	0	1	1	0	2	0	9	2	8	0	19	0	0	17	6	0	23	0	9	24	0	0	33	77
1345 - 1400	0	1	0	2	0	3	0	8	2	7	0	17	0	1	16	8	0	25	0	7	16	0	0	23	68
Hourly Total	0	3	3	3	0	9	0	27	4	31	0	62	0	1	63	29	0	93	0	30	90	2	0	122	286
1400 - 1415	0	0	1	1	0	2	0	11	0	6	0	17	0	0	46	18	0	64	0	4	16	1	0	21	104
1415 - 1430	0	0	1	1	0	2	0	9	0	7	0	16	0	1	27	13	0	41	0	9	13	0	0	22	81
1430 - 1445	0	0	0	1	0	1	0	9	0	13	0	22	0	0	26	4	0	30	0	5	27	0	0	32	85
1445 - 1500	0	1	0	0	0	1	0	11	0	8	0	19	0	0	28	12	0	40	0	20	55	1	0	76	136
Hourly Total	0	1	2	3	0	6	0	40	0	34	0	74	0	1	127	47	0	175	0	38	111	2	0	151	406
1500 - 1515	0	1	2	0	0	3	0	15	0	8	0	23	0	1	23	23	0	47	0	15	39	1	0	55	128
1515 - 1530	1	0	1	1	0	3	0	8	0	9	0	17	0	2	13	23	0	38	0	12	28	4	0	44	102
1530 - 1545	0	2	1	0	0	3	0	12	0	4	0	16	0	0	27	15	0	42	0	8	27	1	0	36	97
1545 - 1600	0	0	0	0	0	0	0	5	0	7	0	12	0	0	18	12	0	30	0	13	19	3	0	35	77
Hourly Total	1	3	4	1	0	9	0	40	0	28	0	68	0	3	81	73	0	157	0	48	113	9	0	170	404
1600 - 1615	0	0	1	0	0	1	0	8	2	8	0	18	0	1	28	14	0	43	0	11	37	1	0	49	111
1615 - 1630	0	1	0	1	0	2	0	5	0	6	0	11	0	0	26	7	0	33	0	11	20	0	0	31	77
1630 - 1645	0	1	0	0	0	1	0	16	2	17	0	35	0	1	31	23	0	55	0	4	27	1	0	32	123
1645 - 1700	0	0	1	0	0	1	0	11	2	8	0	21	0	0	20	11	0	31	0	5	23	1	0	29	82
Hourly Total	0	2	2	1	0	5	0	40	6	39	0	85	0	2	105	55	0	162	0	31	107	3	0	141	393
1700 - 1715	0	3	0	0	0	3	0	5	1	9	0	15	0	1	26	9	0	36	0	12	23	1	0	36	90
1715 - 1730	0	1	1	0	0	2	0	20	1	11	0	32	0	0	21	10	0	43	0	15	26	0	0	41	106
1730 - 1745	0	0	2	0	0	2	0	13	2	9	0	24	0	0	17	12	0	29	0	13	31	6	0	50	105
1745 - 1800	0	0	2	0	0	2	0	5	0	9	0	14	0	1	19	10	0	30	0	10	26	2	0	38	84
Hourly Total	0	4	5	0	0	9	0	43	4	38	0	85	0	2	83	41	0	126	0	50	106	9	0	165	385
Grand Total	1	31	25	22	0	79	0	373	24	349	0	746	0	15	942	458	0	1415	0	361	982	39	0	1382	3622
App Percentage	1.27	39.24	31.65	27.85	0.00		0.00	50.00	3.22	46.78	0.00		0.00	1.06	66.57	32.37	0.00		0.00	26.12	71.06	2.82	0.00		
Int Percentage	0.03	0.86	0.69	0.61	0.00	2.18	0.00	10.30	0.66	9.64	0.00	20.60	0.00	0.41	26.01	12.64	0.00	39.07	0.00	9.97	27.11	1.08	0.00	38.16	
Cars	1	31	25	20	-	77	0	369	24	334	-	727	0	15	843	452	-	1310	0	359	873	37	-	1269	
Trucks	0	0	0	2	-	2																			

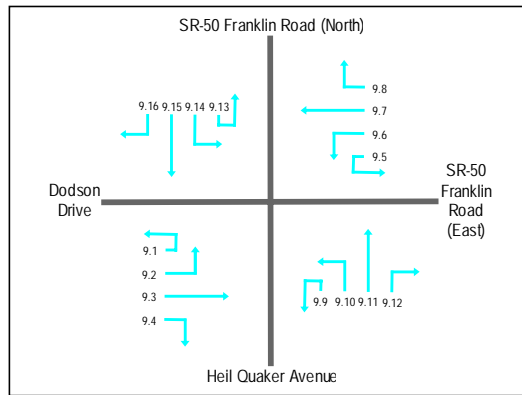
0700 - 0800 (Weekday 12h Peak Hour)

TIME	Eastbound Dodson Drive						Westbound SR-50 Franklin Road (East)						Northbound Heil Quaker Avenue						Southbound SR-50 Franklin Road (East)						Int Total
	U-Turn 9.1	Left 9.2	Thru 9.3	Right 9.4	Peds	App Total	U-Turn 9.5	Left 9.6	Thru 9.7	Right 9.8	Peds	App Total	U-Turn 9.9	Left 9.10	Thru 9.11	Right 9.12	Peds	App Total	U-Turn 9.13	Left 9.14	Thru 9.15	Right 9.16	Peds	App Total	
0700 - 0715	0	2	0	0	-	2	0	9	0	20	-	29	0	0	33	7	-	40	0	14	21	0	-	35	106
0715 - 0730	0	3	1	0	-	4	0	15	0	14	-	29	0	1	48	10	-	59	0	20	37	0	-	57	149
0730 - 0745	0	1	1	3	-	5	0	14	1	21	-	36	0	1	40	12	-	53	0	26	51	2	-	79	173
0745 - 0800	0	1	0	0	-	1	0	13	0	5	-	18	0	0	27	19	-	46	0	9	25	0	-	34	99
Hourly Total	0	7	2	3	-	12	0	51	1	60	-	112	0	2	148	48	-	198	0	69	134	2	-	205	527
Grand Total	0	7	2	3	-	12	0	51	1	60	-	112	0	2	148	48	-	198	0	69	134	2	-	205	527
App Percentage	0.00	58.33	16.67	25.00	-		0.00	45.54	0.89	53.57	-		0.00	1.01	74.75	24.24	-		0.00	33.66	65.37	0.98	-		
Int Percentage	0.00	1.33	0.38	0.57	-	2.28	0.00	9.68	0.19	11.39	-	21.25	0.00	0.38	28.08	9.11	-	37.57	0.00	13.09	25.43	0.38	-	38.90	
Cars	0	7	2	2	-	11	0	50	1	59	-	110	0	2	138	46	-	186	0	68	129	1	-	198	505
Trucks	0	0	0	1	-	1	0	1	0	1	-	2	0	0	10	2	-	12	0	1	5	1	-	7	22
Cars (%)	0.00	100.00	100.00	66.67	-	91.67	0.00	98.04	100.00	98.33	-	98.21	0.00	100.00	93.24	95.83	-	93.94	0.00	98.55	96.27	50.00	-	96.59	95.83
Trucks (%)	0.00	0.00	0.00	33.33	-	8.33	0.00	1.96	0.00	1.67	-	1.79	0.00	0.00	6.76	4.17	-	6.06	0.00	1.45	3.73	50.00	-	3.41	4.17
PHF	0.000	0.583	0.500	0.250	-	0.600	0.000	0.850	0.250	0.714	-	0.778	0.000	0.500	0.771	0.632	-	0.839	0.000	0.663	0.657	0.250	-	0.649	0.762

(Southbound) US-31A North 2nd Avenue

In	Out	Total
205	215	420

Peds	Right	Thru	Left	U-Turn
-	2	134	69	0



(Eastbound) Dodson Drive

Out	5
In	12
Total	17

U-Turn	0
Left	7
Thru	2
Right	3
Peds	-

(Westbound) SR-50 Franklin Road (East)

Peds	-
Right	60
Thru	1
Left	51
U-Turn	0

In	112
Out	119
Total	231

(Northbound) Heil Quaker Avenue

U-Turn	Left	Thru	Right	Peds
0	2	148	48	-

Out	In	Total
188	198	386

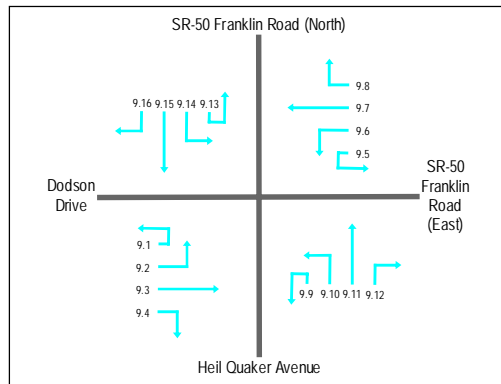
0700 - 0800 (Weekday AM Peak Hour)

TIME	Eastbound Dodson Drive						Westbound SR-50 Franklin Road (East)						Northbound Heil Quaker Avenue						Southbound SR-50 Franklin Road (East)						Int Total
	U-Turn 9.1	Left 9.2	Thru 9.3	Right 9.4	Peds	App Total	U-Turn 9.5	Left 9.6	Thru 9.7	Right 9.8	Peds	App Total	U-Turn 9.9	Left 9.10	Thru 9.11	Right 9.12	Peds	App Total	U-Turn 9.13	Left 9.14	Thru 9.15	Right 9.16	Peds	App Total	
0700 - 0715	0	2	0	0	-	2	0	9	0	20	-	29	0	0	33	7	-	40	0	14	21	0	-	35	106
0715 - 0730	0	3	1	0	-	4	0	15	0	14	-	29	0	1	48	10	-	59	0	20	37	0	-	57	149
0730 - 0745	0	1	1	3	-	5	0	14	1	21	-	36	0	1	40	12	-	53	0	26	51	2	-	79	173
0745 - 0800	0	1	0	0	-	1	0	13	0	5	-	18	0	0	27	19	-	46	0	9	25	0	-	34	99
Hourly Total	0	7	2	3	-	12	0	51	1	60	-	112	0	2	148	48	-	198	0	69	134	2	-	205	527
Grand Total	0	7	2	3	-	12	0	51	1	60	-	112	0	2	148	48	-	198	0	69	134	2	-	205	527
App Percentage	0.00	58.33	16.67	25.00	-		0.00	45.54	0.89	53.57	-		0.00	1.01	74.75	24.24	-		0.00	33.66	65.37	0.98	-		
Int Percentage	0.00	1.33	0.38	0.57	-	2.28	0.00	9.68	0.19	11.39	-	21.25	0.00	0.38	28.08	9.11	-	37.57	0.00	13.09	25.43	0.38	-	38.90	
Cars	0	7	2	2	-	11	0	50	1	59	-	110	0	2	138	46	-	186	0	68	129	1	-	198	505
Trucks	0	0	0	1	-	1	0	1	0	1	-	2	0	0	10	2	-	12	0	1	5	1	-	7	22
Cars (%)	0.00	100.00	100.00	66.67	-	91.67	0.00	98.04	100.00	98.33	-	98.21	0.00	100.00	93.24	95.83	-	93.94	0.00	98.55	96.27	50.00	-	96.59	95.83
Trucks (%)	0.00	0.00	0.00	33.33	-	8.33	0.00	1.96	0.00	1.67	-	1.79	0.00	0.00	6.76	4.17	-	6.06	0.00	1.45	3.73	50.00	-	3.41	4.17
PHF	0.000	0.583	0.500	0.250	-	0.600	0.000	0.850	0.250	0.714	-	0.778	0.000	0.500	0.771	0.632	-	0.839	0.000	0.663	0.657	0.250	-	0.649	0.762

(Southbound) US-31A North 2nd Avenue

In	Out	Total
205	215	420

Peds	Right	Thru	Left	U-Turn
-	2	134	69	0



(Eastbound) Dodson Drive

Out	5
In	12
Total	17

U-Turn	0
Left	7
Thru	2
Right	3
Peds	-

(Westbound) SR-50 Franklin Road (East)

Peds	-
Right	60
Thru	1
Left	51
U-Turn	0

In	112
Out	119
Total	231

(Northbound) Heil Quaker Avenue

U-Turn	Left	Thru	Right	Peds
0	2	148	48	-

Out	In	Total
188	198	386



1300 - 1400 (Weekday Inter Peak Hour)

TIME	Eastbound Dodson Drive						Westbound SR-50 Franklin Road (East)						Northbound Heil Quaker Avenue						Southbound SR-50 Franklin Road (East)						Int Total
	U-Turn 9.1	Left 9.2	Thru 9.3	Right 9.4	Peds	App Total	U-Turn 9.5	Left 9.6	Thru 9.7	Right 9.8	Peds	App Total	U-Turn 9.9	Left 9.10	Thru 9.11	Right 9.12	Peds	App Total	U-Turn 9.13	Left 9.14	Thru 9.15	Right 9.16	Peds	App Total	
1300 - 1315	0	1	0	0	-	1	0	5	0	6	-	11	0	0	14	5	-	19	0	7	19	1	-	27	58
1315 - 1330	0	1	2	0	-	3	0	5	0	10	-	15	0	0	16	10	-	26	0	7	31	1	-	39	83
1330 - 1345	0	0	1	1	-	2	0	9	2	8	-	19	0	0	17	6	-	23	0	9	24	0	-	33	77
1345 - 1400	0	1	0	2	-	3	0	8	2	7	-	17	0	1	16	8	-	25	0	7	16	0	-	23	68
Hourly Total	0	3	3	3	-	9	0	27	4	31	-	62	0	1	63	29	-	93	0	30	90	2	-	122	286
Grand Total	0	3	3	3	-	9	0	27	4	31	-	62	0	1	63	29	-	93	0	30	90	2	-	122	286
App Percentage	0.00	33.33	33.33	33.33	-		0.00	43.55	6.45	50.00	-		0.00	1.08	67.74	31.18	-		0.00	24.59	73.77	1.64	-		
Int Percentage	0.00	1.05	1.05	1.05	-	3.15	0.00	9.44	1.40	10.84	-	21.68	0.00	0.35	22.03	10.14	-	32.52	0.00	10.49	31.47	0.70	-	42.66	
Cars	0	3	3	3	-	9	0	26	4	29	-	59	0	1	53	29	-	83	0	30	74	2	-	106	257
Trucks	0	0	0	0	-	0	0	1	0	2	-	3	0	0	10	0	-	10	0	0	16	0	-	16	29
Cars (%)	0.00	100.00	100.00	100.00	-	100.00	0.00	96.30	100.00	93.55	-	95.16	0.00	100.00	84.13	100.00	-	89.25	0.00	100.00	82.22	100.00	-	86.89	89.86
Trucks (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	3.70	0.00	6.45	-	4.84	0.00	0.00	15.87	0.00	-	10.75	0.00	0.00	17.78	0.00	-	13.11	10.14
PHF	0.000	0.750	0.375	0.375	-	0.750	0.000	0.750	0.500	0.775	-	0.816	0.000	0.250	0.926	0.725	-	0.894	0.000	0.833	0.726	0.500	-	0.782	0.861

(Southbound) US-31A North 2nd Avenue

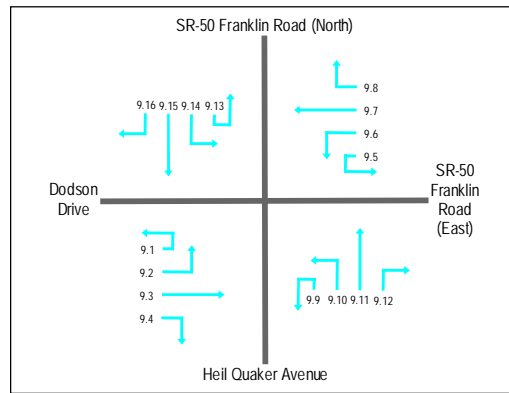
In	Out	Total
122	97	219

Peds	Right	Thru	Left	U-Turn
-	2	90	30	0

(Eastbound) Dodson Drive

Out	7
In	9
Total	16

U-Turn	0
Left	3
Thru	3
Right	3
Peds	-



(Westbound) SR-50 Franklin Road (East)

Peds	-
Right	31
Thru	4
Left	27
U-Turn	0

In	62
Out	62
Total	124

(Northbound) Heil Quaker Avenue

U-Turn	0
Left	1
Thru	63
Right	29
Peds	-

Out	120
In	93
Total	213

1445 - 1545 (Weekday PM Peak Hour)

TIME	Eastbound Dodson Drive						Westbound SR-50 Franklin Road (East)						Northbound Heil Quaker Avenue						Southbound SR-50 Franklin Road (East)						Int Total					
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total						
	9.1	9.2	9.3	9.4	-	-	9.5	9.6	9.7	9.8	-	-	9.9	9.10	9.11	9.12	-	-	9.13	9.14	9.15	9.16	-	-						
1445 - 1500	0	1	0	0	-	1	0	11	0	8	-	19	0	0	28	12	-	40	0	20	55	1	-	76						
1500 - 1515	0	1	2	0	-	3	0	15	0	8	-	23	0	1	23	23	-	47	0	15	39	1	-	55						
1515 - 1530	1	0	1	1	-	3	0	8	0	9	-	17	0	2	13	23	-	38	0	12	28	4	-	44						
1530 - 1545	0	2	1	0	-	3	0	12	0	4	-	16	0	0	27	15	-	42	0	8	27	1	-	36						
Hourly Total	1	4	4	1	-	10	0	46	0	29	-	75	0	3	91	73	-	167	0	55	149	7	-	211						
Grand Total	1	4	4	1	-	10	0	46	0	29	-	75	0	3	91	73	-	167	0	55	149	7	-	211						
App Percentage	10.00	40.00	40.00	10.00	-	-	0.00	61.33	0.00	38.67	-	-	0.00	1.80	54.49	43.71	-	-	0.00	26.07	70.62	3.32	-	-						
Int Percentage	0.22	0.86	0.86	0.22	-	2.16	0.00	9.94	0.00	6.26	-	16.20	0.00	0.65	19.65	15.77	-	36.07	0.00	11.88	32.18	1.51	-	45.57						
Cars	1	4	4	1	-	10	0	46	0	29	-	75	0	3	85	73	-	161	0	55	137	7	-	199						
Trucks	0	0	0	0	-	0	0	0	0	0	-	0	0	0	6	0	-	6	0	0	12	0	-	12						
Cars (%)	100.00	100.00	100.00	100.00	-	100.00	0.00	100.00	0.00	100.00	-	100.00	0.00	100.00	93.41	100.00	-	96.41	0.00	100.00	91.95	100.00	-	94.31						
Trucks (%)	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	0.00	0.00	-	0.00	0.00	0.00	6.59	0.00	-	3.59	0.00	0.00	8.05	0.00	-	5.69						
PHF	0.250	0.500	0.500	0.250	-	0.833	0.000	0.767	0.000	0.806	-	0.815	0.000	0.375	0.813	0.793	-	0.888	0.000	0.688	0.677	0.438	-	0.694						

(Southbound) US-31A North 2nd Avenue

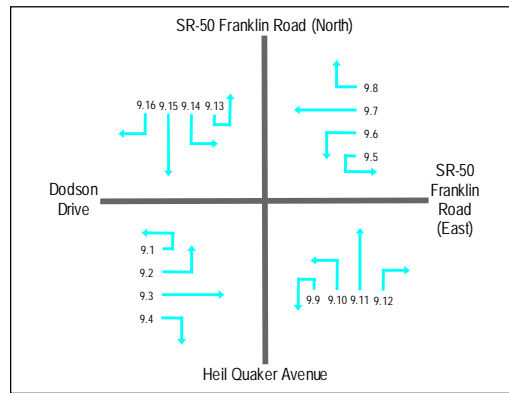
In	Out	Total
211	124	335

Peds	Right	Thru	Left	U-Turn
-	7	149	55	0

(Eastbound) Dodson Drive

Out	11
In	10
Total	21

U-Turn	1
Left	4
Thru	4
Right	1
Peds	-



(Westbound) SR-50 Franklin Road (East)

Peds	-
Right	29
Thru	0
Left	46
U-Turn	0

In	75
Out	132
Total	207

(Northbound) Heil Quaker Avenue

U-Turn	0	Left	3	Thru	91	Right	73	Peds	-
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Out	196	In	167	Total	363
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# Signal Timing Optimization Study

Lewisburg, Tennessee  
 Kimley-Horn Project: 118000037

N/S Street: Heil Quaker Avenue  
 E/W Street: W Commerce Street

File Name : Lewisburg-01  
 Site Code : 00000001  
 Start Date : 2/24/2015  
 Page No : 1

Counted By: City of Lewisburg

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	16	0	1	0	17	0	76	16	0	92	0	0	0	0	0	2	66	0	0	68	177
07:15 AM	19	0	7	0	26	1	135	28	0	164	0	0	0	0	0	7	81	0	0	88	278
07:30 AM	24	0	10	0	34	0	122	20	0	142	0	0	0	0	0	6	103	0	0	109	285
07:45 AM	20	0	2	0	22	0	103	11	0	114	0	0	0	0	0	6	142	0	0	148	284
<b>Total</b>	<b>79</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>99</b>	<b>1</b>	<b>436</b>	<b>75</b>	<b>0</b>	<b>512</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>392</b>	<b>0</b>	<b>0</b>	<b>413</b>	<b>1024</b>
08:00 AM	2	0	4	0	6	0	78	10	0	88	0	0	0	0	0	2	68	0	0	70	164
08:15 AM	9	0	0	0	9	1	44	3	0	48	0	0	0	0	0	1	46	0	0	47	104
08:30 AM	6	0	0	0	6	1	54	7	0	62	0	0	0	0	0	1	64	0	0	65	133
08:45 AM	11	0	0	0	11	1	47	6	0	54	0	0	0	0	0	3	67	0	0	70	135
<b>Total</b>	<b>28</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>32</b>	<b>3</b>	<b>223</b>	<b>26</b>	<b>0</b>	<b>252</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>245</b>	<b>0</b>	<b>0</b>	<b>252</b>	<b>536</b>
*** BREAK ***																					
11:00 AM	12	0	2	0	14	0	58	7	0	65	0	0	0	0	0	1	84	0	0	85	164
11:15 AM	13	0	3	0	16	0	75	4	0	79	0	0	0	0	0	2	62	0	0	64	159
11:30 AM	13	1	1	0	15	1	65	8	0	74	0	0	0	0	0	2	87	0	0	89	178
11:45 AM	9	0	3	0	12	0	73	4	0	77	0	0	0	0	0	3	72	0	0	75	164
<b>Total</b>	<b>47</b>	<b>1</b>	<b>9</b>	<b>0</b>	<b>57</b>	<b>1</b>	<b>271</b>	<b>23</b>	<b>0</b>	<b>295</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>305</b>	<b>0</b>	<b>0</b>	<b>313</b>	<b>665</b>
12:00 PM	16	0	3	0	19	0	69	11	0	80	0	0	0	0	0	4	61	0	0	65	164
12:15 PM	10	0	3	0	13	0	55	7	0	62	0	0	0	0	0	3	65	0	0	68	143
12:30 PM	13	0	2	0	15	0	68	2	0	70	0	0	0	0	0	2	67	0	0	69	154
12:45 PM	15	0	3	0	18	0	70	7	0	77	0	0	0	0	0	3	72	0	0	75	170
<b>Total</b>	<b>54</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>65</b>	<b>0</b>	<b>262</b>	<b>27</b>	<b>0</b>	<b>289</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>265</b>	<b>0</b>	<b>0</b>	<b>277</b>	<b>631</b>
*** BREAK ***																					
04:00 PM	23	0	4	0	27	0	134	5	0	139	0	0	0	0	0	2	111	0	0	113	279
04:15 PM	13	0	5	0	18	0	130	7	0	137	0	0	0	0	0	3	112	0	0	115	270
04:30 PM	25	0	8	0	33	0	131	13	0	144	0	0	0	0	0	3	110	0	0	113	290
04:45 PM	17	0	6	0	23	0	100	13	0	113	0	0	0	0	0	5	95	0	0	100	236
<b>Total</b>	<b>78</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>101</b>	<b>0</b>	<b>495</b>	<b>38</b>	<b>0</b>	<b>533</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>428</b>	<b>0</b>	<b>0</b>	<b>441</b>	<b>1075</b>
05:00 PM	17	0	2	0	19	0	146	6	0	152	0	0	0	0	0	5	90	0	0	95	266
05:15 PM	21	0	6	0	27	0	112	11	0	123	0	0	0	0	0	1	94	0	0	95	245
05:30 PM	6	0	4	0	10	0	94	10	0	104	0	0	0	0	0	5	74	0	0	79	193
05:45 PM	13	0	1	0	14	0	70	6	0	76	0	0	0	0	0	1	74	0	0	75	165
<b>Total</b>	<b>57</b>	<b>0</b>	<b>13</b>	<b>0</b>	<b>70</b>	<b>0</b>	<b>422</b>	<b>33</b>	<b>0</b>	<b>455</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>12</b>	<b>332</b>	<b>0</b>	<b>0</b>	<b>344</b>	<b>869</b>
<b>Grand Total</b>	<b>343</b>	<b>1</b>	<b>80</b>	<b>0</b>	<b>424</b>	<b>5</b>	<b>2109</b>	<b>222</b>	<b>0</b>	<b>2336</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>73</b>	<b>1967</b>	<b>0</b>	<b>0</b>	<b>2040</b>	<b>4800</b>
<b>Apprch %</b>	<b>80.9</b>	<b>0.2</b>	<b>18.9</b>	<b>0</b>		<b>0.2</b>	<b>90.3</b>	<b>9.5</b>	<b>0</b>		<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3.6</b>	<b>96.4</b>	<b>0</b>	<b>0</b>		
<b>Total %</b>	<b>7.1</b>	<b>0</b>	<b>1.7</b>	<b>0</b>	<b>8.8</b>	<b>0.1</b>	<b>43.9</b>	<b>4.6</b>	<b>0</b>	<b>48.7</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1.5</b>	<b>41</b>	<b>0</b>	<b>0</b>	<b>42.5</b>	
<b>Passenger Vehicles</b>																					
<b>% Passenger Vehicles</b>	<b>93.6</b>	<b>100</b>	<b>91.2</b>	<b>0</b>	<b>93.2</b>	<b>100</b>	<b>98.4</b>	<b>95.5</b>	<b>0</b>	<b>98.1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>86.3</b>	<b>98.8</b>	<b>0</b>	<b>0</b>	<b>98.3</b>	<b>97.8</b>
<b>Heavy Vehicles</b>	<b>22</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>29</b>	<b>0</b>	<b>34</b>	<b>10</b>	<b>0</b>	<b>44</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>10</b>	<b>24</b>	<b>0</b>	<b>0</b>	<b>34</b>	<b>107</b>
<b>% Heavy Vehicles</b>	<b>6.4</b>	<b>0</b>	<b>8.8</b>	<b>0</b>	<b>6.8</b>	<b>0</b>	<b>1.6</b>	<b>4.5</b>	<b>0</b>	<b>1.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13.7</b>	<b>1.2</b>	<b>0</b>	<b>0</b>	<b>1.7</b>	<b>2.2</b>

# Signal Timing Optimization Study

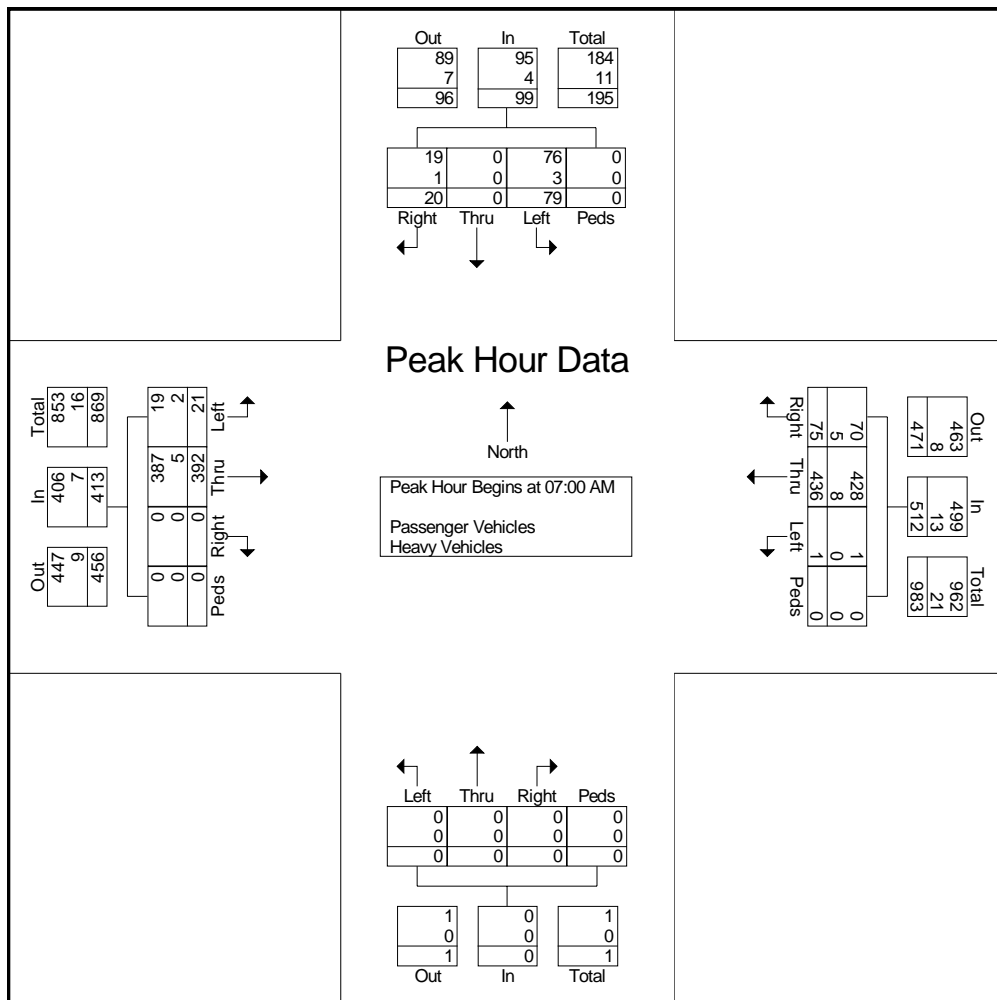
Lewisburg, Tennessee  
Kimley-Horn Project: 11800037

N/S Street: Heil Quaker Avenue  
E/W Street: W Commerce Street

File Name : Lewisburg-01  
Site Code : 0000001  
Start Date : 2/24/2015  
Page No : 2

Counted By: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	16	0	1	0	17	0	76	16	0	92	0	0	0	0	0	2	66	0	0	68	177
07:15 AM	19	0	7	0	26	1	135	28	0	164	0	0	0	0	0	7	81	0	0	88	278
07:30 AM	24	0	10	0	34	0	122	20	0	142	0	0	0	0	0	6	103	0	0	109	285
07:45 AM	20	0	2	0	22	0	103	11	0	114	0	0	0	0	0	6	142	0	0	148	284
Total Volume	79	0	20	0	99	1	436	75	0	512	0	0	0	0	0	21	392	0	0	413	1024
% App. Total	79.8	0	20.2	0		0.2	85.2	14.6	0		0	0	0	0		5.1	94.9	0	0		
PHF	.823	.000	.500	.000	.728	.250	.807	.670	.000	.780	.000	.000	.000	.000	.000	.750	.690	.000	.000	.698	.898
Passenger Vehicles	76	0	19	0	95	1	428	70	0	499	0	0	0	0	0	19	387	0	0	406	1000
% Passenger Vehicles	96.2	0	95.0	0	96.0	100	98.2	93.3	0	97.5	0	0	0	0	0	90.5	98.7	0	0	98.3	97.7
Heavy Vehicles	3	0	1	0	4	0	8	5	0	13	0	0	0	0	0	2	5	0	0	7	24
% Heavy Vehicles	3.8	0	5.0	0	4.0	0	1.8	6.7	0	2.5	0	0	0	0	0	9.5	1.3	0	0	1.7	2.3



# Signal Timing Optimization Study

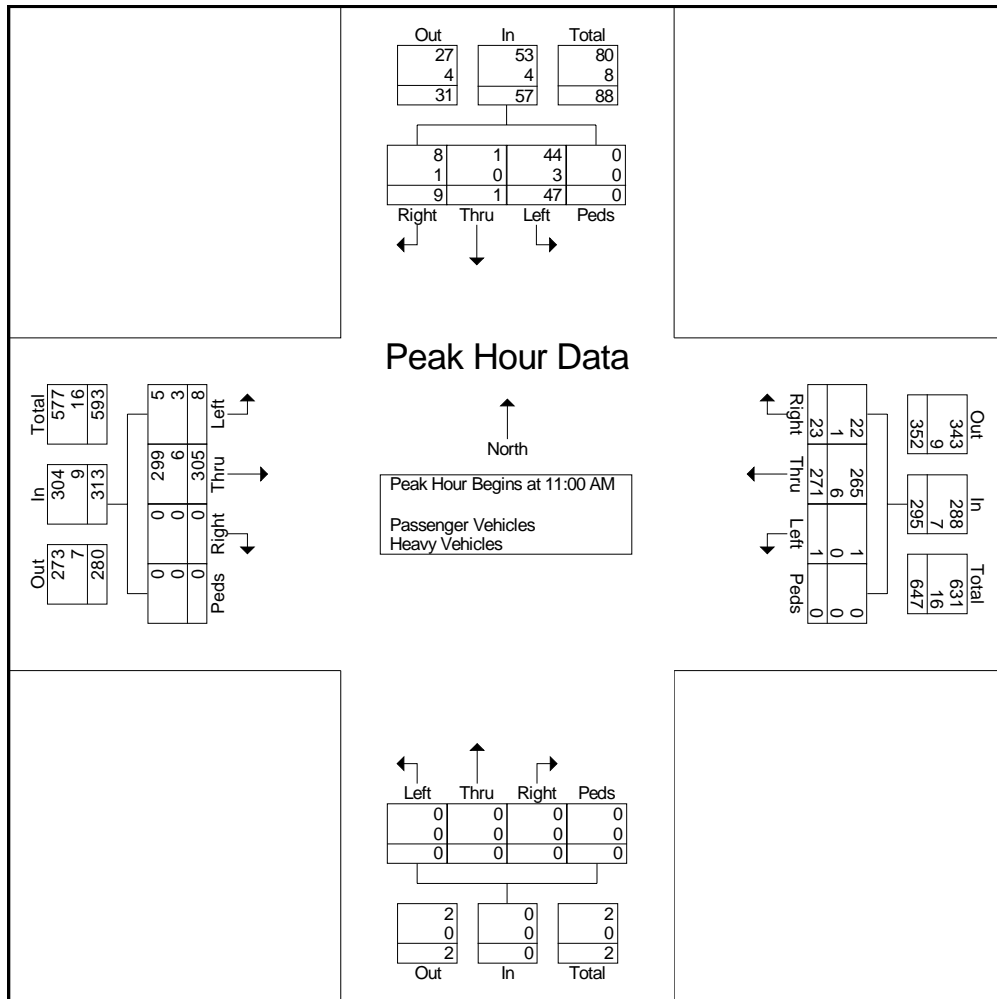
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Heil Quaker Avenue  
E/W Street: W Commerce Street

File Name : Lewisburg-01  
Site Code : 0000001  
Start Date : 2/24/2015  
Page No : 3

Counted By: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	12	0	2	0	14	0	58	7	0	65	0	0	0	0	0	1	84	0	0	85	164
11:15 AM	13	0	3	0	16	0	75	4	0	79	0	0	0	0	0	2	62	0	0	64	159
11:30 AM	13	1	1	0	15	1	65	8	0	74	0	0	0	0	0	2	87	0	0	89	178
11:45 AM	9	0	3	0	12	0	73	4	0	77	0	0	0	0	0	3	72	0	0	75	164
Total Volume	47	1	9	0	57	1	271	23	0	295	0	0	0	0	0	8	305	0	0	313	665
% App. Total	82.5	1.8	15.8	0		0.3	91.9	7.8	0		0	0	0	0		2.6	97.4	0	0		
PHF	.904	.250	.750	.000	.891	.250	.903	.719	.000	.934	.000	.000	.000	.000	.000	.667	.876	.000	.000	.879	.934
Passenger Vehicles	44	1	8	0	53	1	265	22	0	288	0	0	0	0	0	5	299	0	0	304	645
% Passenger Vehicles	93.6	100	88.9	0	93.0	100	97.8	95.7	0	97.6	0	0	0	0	0	62.5	98.0	0	0	97.1	97.0
Heavy Vehicles	3	0	1	0	4	0	6	1	0	7	0	0	0	0	0	3	6	0	0	9	20
% Heavy Vehicles	6.4	0	11.1	0	7.0	0	2.2	4.3	0	2.4	0	0	0	0	0	37.5	2.0	0	0	2.9	3.0



# Signal Timing Optimization Study

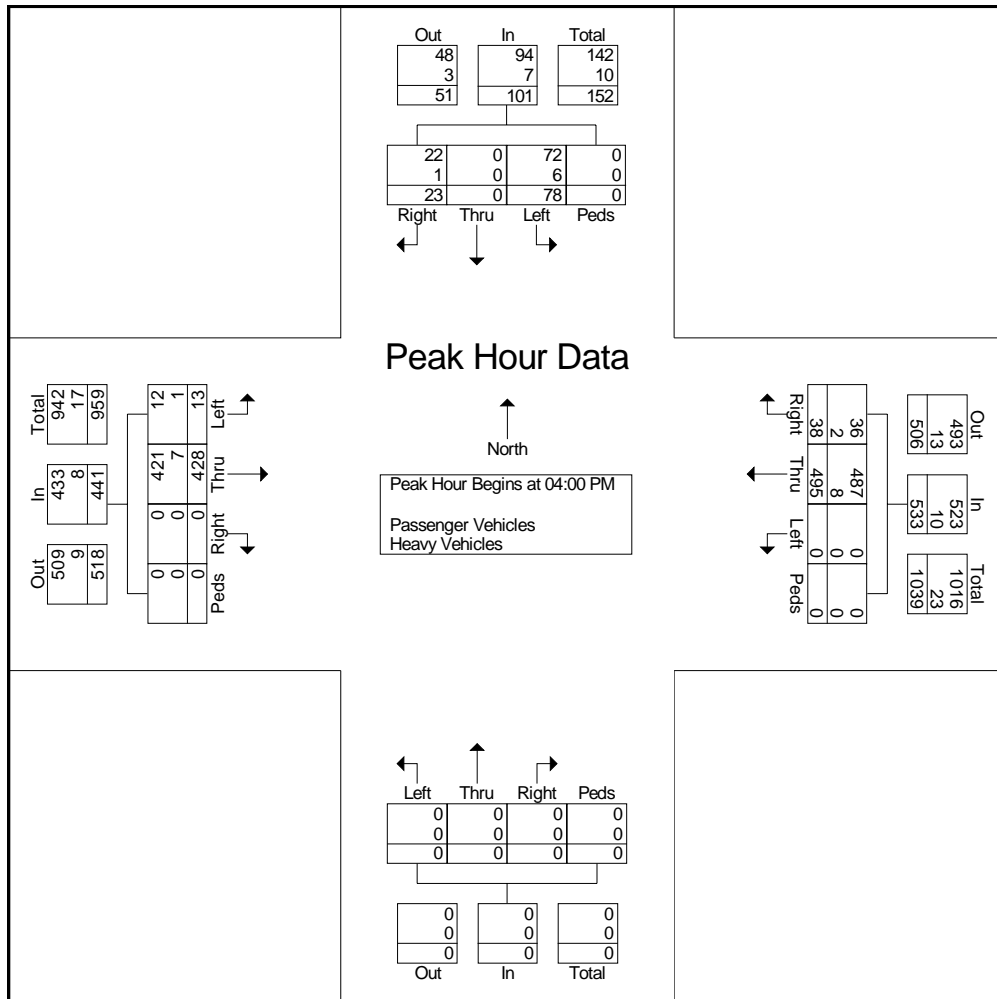
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Heil Quaker Avenue  
E/W Street: W Commerce Street

File Name : Lewisburg-01  
Site Code : 00000001  
Start Date : 2/24/2015  
Page No : 4

Counted By: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	23	0	4	0	27	0	134	5	0	139	0	0	0	0	0	2	111	0	0	113	279
04:15 PM	13	0	5	0	18	0	130	7	0	137	0	0	0	0	0	3	112	0	0	115	270
04:30 PM	25	0	8	0	33	0	131	13	0	144	0	0	0	0	0	3	110	0	0	113	290
04:45 PM	17	0	6	0	23	0	100	13	0	113	0	0	0	0	0	5	95	0	0	100	236
Total Volume	78	0	23	0	101	0	495	38	0	533	0	0	0	0	0	13	428	0	0	441	1075
% App. Total	77.2	0	22.8	0		0	92.9	7.1	0		0	0	0	0		2.9	97.1	0	0		
PHF	.780	.000	.719	.000	.765	.000	.924	.731	.000	.925	.000	.000	.000	.000	.000	.650	.955	.000	.000	.959	.927
Passenger Vehicles	72	0	22	0	94	0	487	36	0	523	0	0	0	0	0	12	421	0	0	433	1050
% Passenger Vehicles	92.3	0	95.7	0	93.1	0	98.4	94.7	0	98.1	0	0	0	0	0	92.3	98.4	0	0	98.2	97.7
Heavy Vehicles	6	0	1	0	7	0	8	2	0	10	0	0	0	0	0	1	7	0	0	8	25
% Heavy Vehicles	7.7	0	4.3	0	6.9	0	1.6	5.3	0	1.9	0	0	0	0	0	7.7	1.6	0	0	1.8	2.3



# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: W Ellington Parkway  
E/W Street: N Ellington Parkway

File Name : Lewisburg-04  
Site Code : 00000002  
Start Date : 3/3/2015  
Page No : 1

Counted by: City of Lewisburg

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:15 AM	0	0	0	0	0	59	116	1	0	176	67	0	44	0	111	0	118	56	0	174	461
07:30 AM	0	0	0	0	0	74	89	0	0	163	40	0	51	0	91	0	151	63	0	214	468
07:45 AM	0	0	0	0	0	50	80	0	0	130	21	2	55	0	78	0	116	20	0	136	344
Total	0	0	0	0	0	183	285	1	0	469	128	2	150	0	280	0	385	139	0	524	1273
08:00 AM	0	0	0	0	0	14	80	0	0	94	18	1	25	0	44	0	55	13	0	68	206
08:15 AM	0	0	0	0	0	28	104	0	0	132	17	0	18	0	35	0	105	14	0	119	286
08:30 AM	0	0	0	0	0	18	56	0	0	74	9	0	18	0	27	0	69	7	0	76	177
08:45 AM	0	0	0	0	0	19	62	0	0	81	7	0	30	0	37	0	67	9	0	76	194
Total	0	0	0	0	0	79	302	0	0	381	51	1	91	0	143	0	296	43	0	339	863
09:00 AM	0	0	0	0	0	17	88	0	0	105	11	0	22	0	33	0	59	3	0	62	200
*** BREAK ***																					
Total	0	0	0	0	0	17	88	0	0	105	11	0	22	0	33	0	59	3	0	62	200
*** BREAK ***																					
11:00 AM	0	0	0	0	0	22	66	0	0	88	13	0	22	0	35	0	64	9	0	73	196
11:15 AM	0	0	0	0	0	27	62	0	0	89	4	0	34	0	38	0	72	14	0	86	213
11:30 AM	0	0	0	0	0	40	59	0	0	99	7	0	26	0	33	0	73	10	0	83	215
11:45 AM	0	0	0	0	0	37	79	0	0	116	7	0	31	0	38	2	81	10	0	93	247
Total	0	0	0	0	0	126	266	0	0	392	31	0	113	0	144	2	290	43	0	335	871
12:00 PM	0	0	0	0	0	34	66	0	0	100	13	0	36	0	49	0	57	5	0	62	211
12:15 PM	0	0	0	0	0	29	90	0	0	119	8	0	35	0	43	0	61	9	0	70	232
12:30 PM	0	0	0	0	0	31	61	0	0	92	9	0	33	0	42	0	76	5	0	81	215
12:45 PM	0	0	0	0	0	32	73	0	0	105	10	0	35	0	45	0	68	7	0	75	225
Total	0	0	0	0	0	126	290	0	0	416	40	0	139	0	179	0	262	26	0	288	883
*** BREAK ***																					
04:15 PM	0	0	0	0	0	57	85	0	0	142	16	0	45	0	61	0	80	24	0	104	307
04:30 PM	0	0	0	0	0	69	83	0	0	152	15	0	42	0	57	0	103	45	0	148	357
04:45 PM	0	0	0	0	0	67	100	0	0	167	18	0	53	0	71	0	87	26	0	113	351
Total	0	0	0	0	0	193	268	0	0	461	49	0	140	0	189	0	270	95	0	365	1015
05:00 PM	0	0	0	0	0	80	102	0	0	182	18	0	45	0	63	0	96	36	0	132	377
05:15 PM	0	0	0	0	0	104	86	0	0	190	22	0	34	0	56	1	91	19	0	111	357
05:30 PM	0	0	0	0	0	66	94	0	0	160	18	0	42	0	60	1	108	23	0	132	352
05:45 PM	0	0	0	0	0	48	78	0	0	126	8	0	26	0	34	0	102	22	0	124	284
Total	0	0	0	0	0	298	360	0	0	658	66	0	147	0	213	2	397	100	0	499	1370
06:00 PM	0	0	0	0	0	31	73	0	0	104	10	0	36	0	46	0	74	15	0	89	239
Grand Total	0	0	0	0	0	1053	1932	1	0	2986	386	3	838	0	1227	4	2033	464	0	2501	6714
Apprch %	0	0	0	0		35.3	64.7	0	0		31.5	0.2	68.3	0		0.2	81.3	18.6	0		
Total %	0	0	0	0		15.7	28.8	0	0	44.5	5.7	0	12.5	0	18.3	0.1	30.3	6.9	0	37.3	
Passenger Vehicles																					
% Passenger Vehicles	0	0	0	0	0	96.9	93.6	100	0	94.7	98.2	100	97.7	0	97.9	100	93.6	96.6	0	94.1	95.1
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	3.1	6.4	0	0	5.3	1.8	0	2.3	0	2.1	0	6.4	3.4	0	5.9	4.9

# Signal Timing Optimization Study

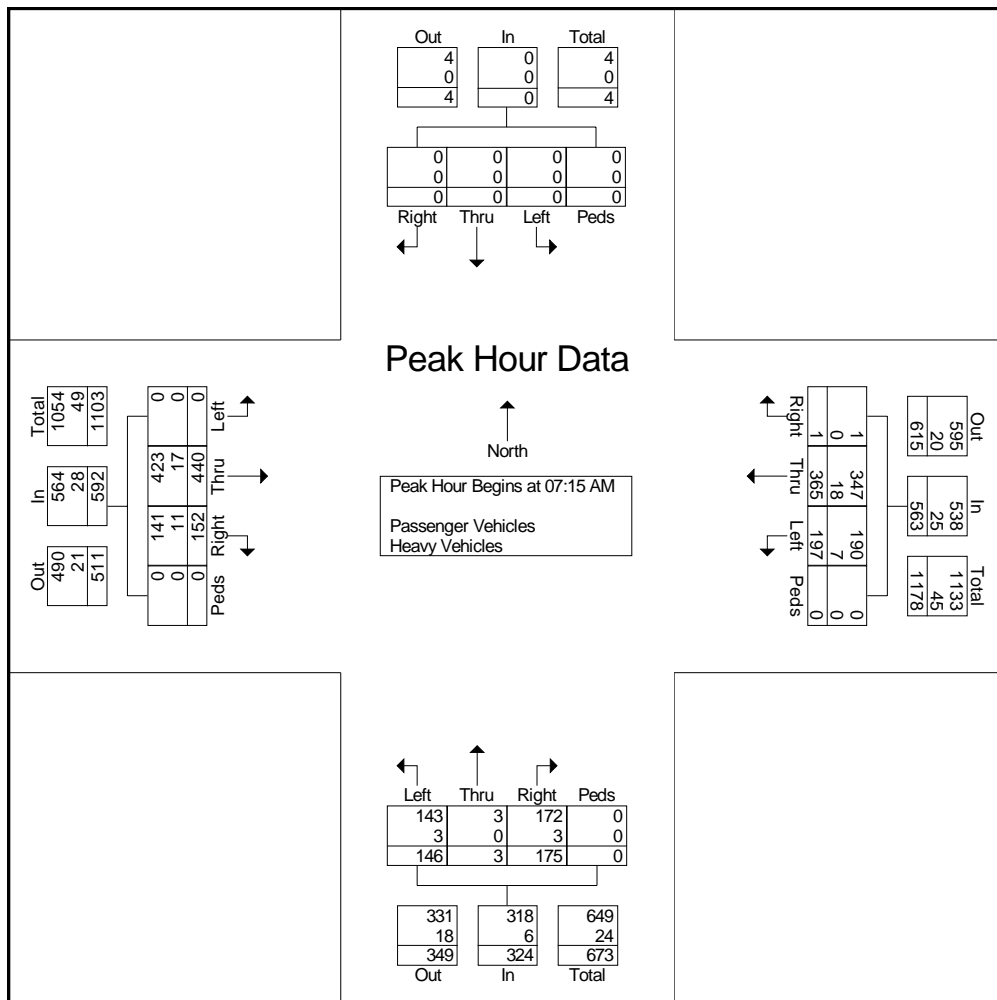
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: W Ellington Parkway  
E/W Street: N Ellington Parkway

File Name : Lewisburg-04  
Site Code : 00000002  
Start Date : 3/3/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:15 AM to 09:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:15 AM																					
07:15 AM	0	0	0	0	0	59	116	1	0	176	67	0	44	0	111	0	118	56	0	174	461
07:30 AM	0	0	0	0	0	74	89	0	0	163	40	0	51	0	91	0	151	63	0	214	468
07:45 AM	0	0	0	0	0	50	80	0	0	130	21	2	55	0	78	0	116	20	0	136	344
08:00 AM	0	0	0	0	0	14	80	0	0	94	18	1	25	0	44	0	55	13	0	68	206
Total Volume	0	0	0	0	0	197	365	1	0	563	146	3	175	0	324	0	440	152	0	592	1479
% App. Total	0	0	0	0	0	35	64.8	0.2	0		45.1	0.9	54	0		0	74.3	25.7	0		
PHF	.000	.000	.000	.000	.000	.666	.787	.250	.000	.800	.545	.375	.795	.000	.730	.000	.728	.603	.000	.692	.790
Passenger Vehicles	0	0	0	0	0	190	347	1	0	538	143	3	172	0	318	0	423	141	0	564	1420
% Passenger Vehicles	0	0	0	0	0	96.4	95.1	100	0	95.6	97.9	100	98.3	0	98.1	0	96.1	92.8	0	95.3	96.0
Heavy Vehicles	0	0	0	0	0	7	18	0	0	25	3	0	3	0	6	0	17	11	0	28	59
% Heavy Vehicles	0	0	0	0	0	3.6	4.9	0	0	4.4	2.1	0	1.7	0	1.9	0	3.9	7.2	0	4.7	4.0





# Signal Timing Optimization Study

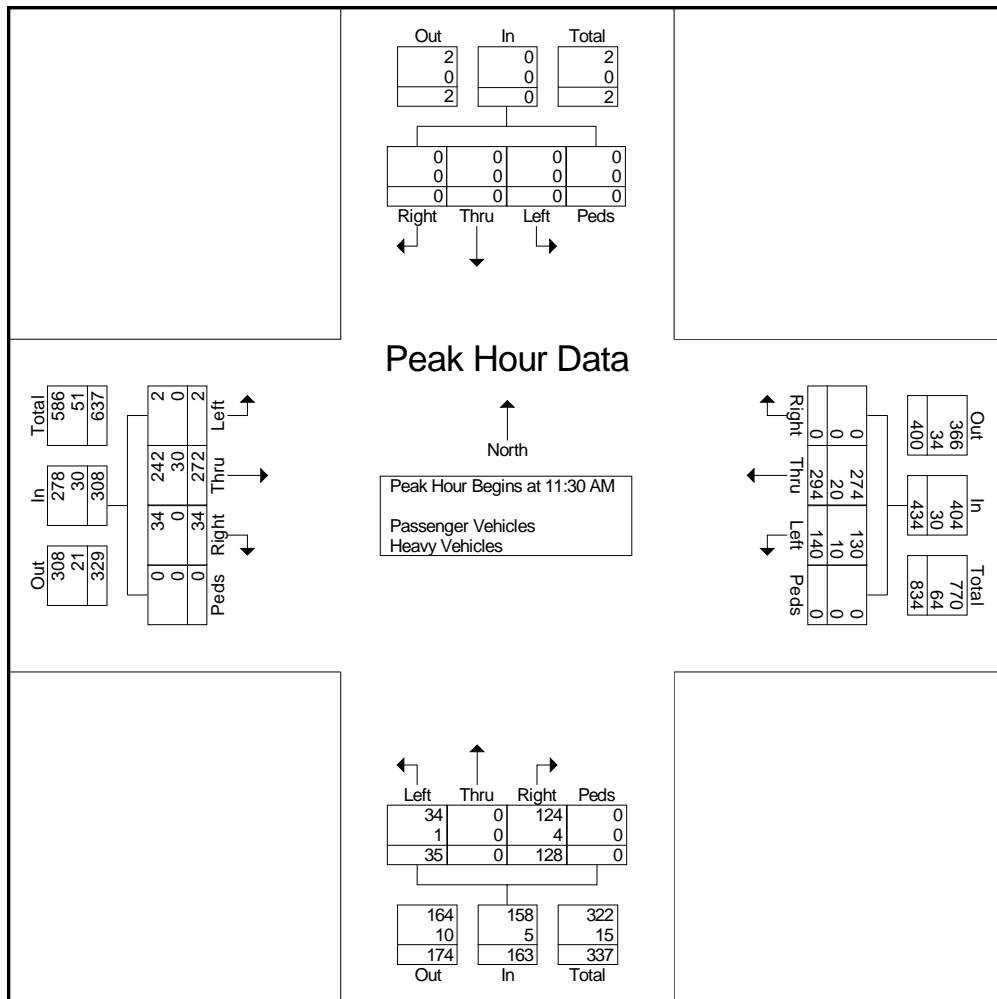
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: W Ellington Parkway  
E/W Street: N Ellington Parkway

File Name : Lewisburg-04  
Site Code : 0000002  
Start Date : 3/3/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 11:30 AM																						
11:30 AM	0	0	0	0	0	40	59	0	0	99	7	0	26	0	33	0	73	10	0	83	215	
11:45 AM	0	0	0	0	0	37	79	0	0	116	7	0	31	0	38	2	81	10	0	93	247	
12:00 PM	0	0	0	0	0	34	66	0	0	100	13	0	36	0	49	0	57	5	0	62	211	
12:15 PM	0	0	0	0	0	29	90	0	0	119	8	0	35	0	43	0	61	9	0	70	232	
Total Volume	0	0	0	0	0	140	294	0	0	434	35	0	128	0	163	2	272	34	0	308	905	
% App. Total	0	0	0	0	0	32.3	67.7	0	0		21.5	0	78.5	0		0.6	88.3	11	0			
PHF	.000	.000	.000	.000	.000	.875	.817	.000	.000	.912	.673	.000	.889	.000	.832	.250	.840	.850	.000	.828	.916	
Passenger Vehicles	0	0	0	0	0	130	274	0	0	404	34	0	124	0	158	2	242	34	0	278	840	
% Passenger Vehicles	0	0	0	0	0	92.9	93.2	0	0	93.1	97.1	0	96.9	0	96.9	100	89.0	100	0	90.3	92.8	
Heavy Vehicles	0	0	0	0	0	10	20	0	0	30	1	0	4	0	5	0	30	0	0	30	65	
% Heavy Vehicles	0	0	0	0	0	7.1	6.8	0	0	6.9	2.9	0	3.1	0	3.1	0	11.0	0	0	9.7	7.2	



# Signal Timing Optimization Study

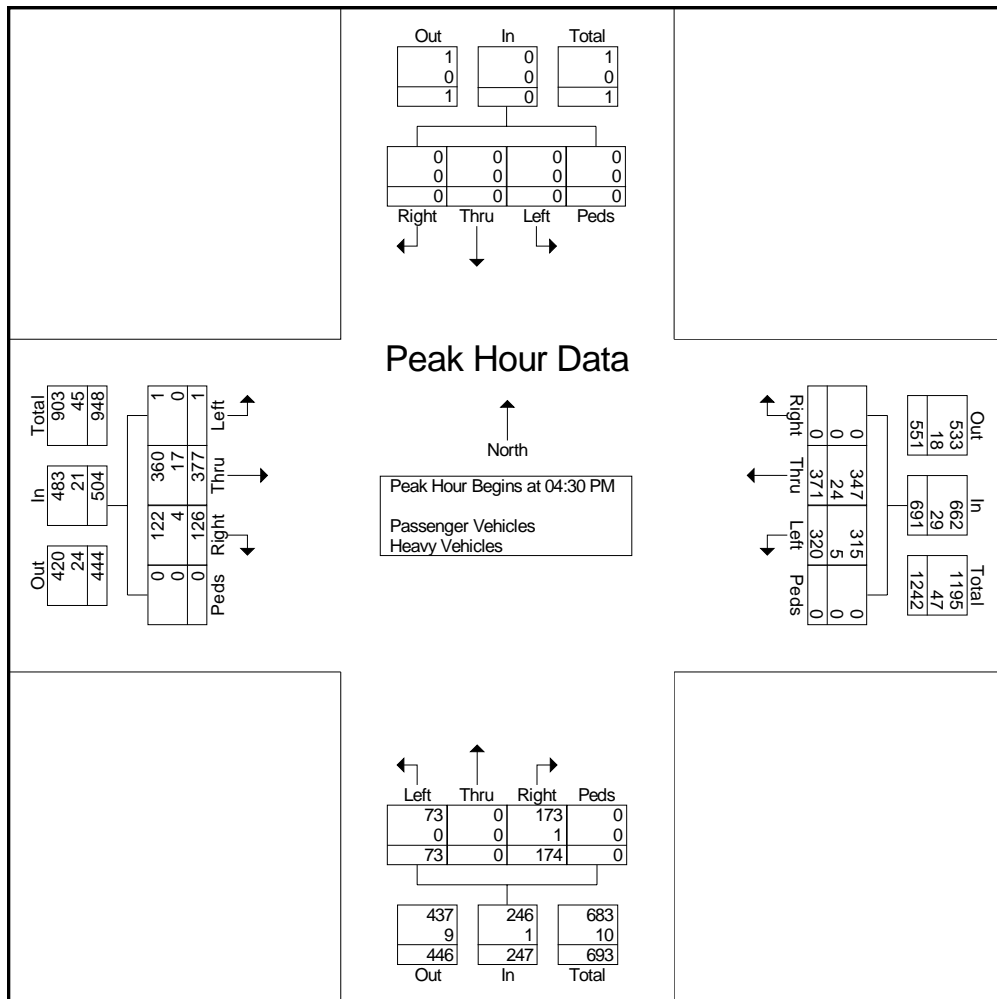
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: W Ellington Parkway  
E/W Street: N Ellington Parkway

File Name : Lewisburg-04  
Site Code : 00000002  
Start Date : 3/3/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 02:15 PM to 06:00 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:30 PM																						
04:30 PM	0	0	0	0	0	69	83	0	0	152	15	0	42	0	57	0	<b>103</b>	<b>45</b>	0	<b>148</b>	357	
04:45 PM	0	0	0	0	0	67	100	0	0	167	18	0	<b>53</b>	0	<b>71</b>	0	87	26	0	113	351	
05:00 PM	0	0	0	0	0	80	<b>102</b>	0	0	182	18	0	45	0	63	0	96	36	0	132	<b>377</b>	
05:15 PM	0	0	0	0	0	<b>104</b>	86	0	0	<b>190</b>	<b>22</b>	0	34	0	56	<b>1</b>	91	19	0	111	357	
Total Volume	0	0	0	0	0	320	371	0	0	691	73	0	174	0	247	1	377	126	0	504	1442	
% App. Total	0	0	0	0	0	46.3	53.7	0	0		29.6	0	70.4	0		0.2	74.8	25	0			
PHF	.000	.000	.000	.000	.000	.769	.909	.000	.000	.909	.830	.000	.821	.000	.870	.250	.915	.700	.000	.851	.956	
Passenger Vehicles	0	0	0	0	0	315	347	0	0	662	73	0	173	0	246	1	360	122	0	483	1391	
% Passenger Vehicles	0	0	0	0	0	98.4	93.5	0	0	95.8	100	0	99.4	0	99.6	100	95.5	96.8	0	95.8	96.5	
Heavy Vehicles	0	0	0	0	0	5	24	0	0	29	0	0	1	0	1	0	17	4	0	21	51	
% Heavy Vehicles	0	0	0	0	0	1.6	6.5	0	0	4.2	0	0	0.6	0	0.4	0	4.5	3.2	0	4.2	3.5	





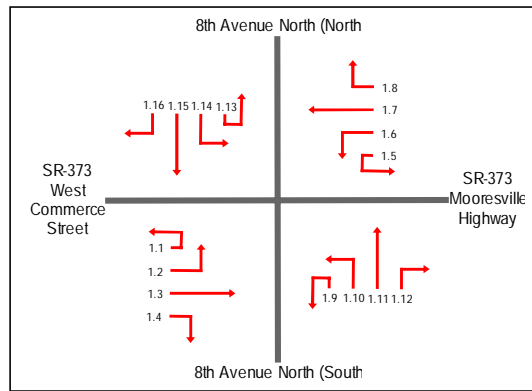
1445 - 1545 (Weekday 12h Peak Hour)

TIME	Eastbound SR-373 West Commerce Street						Westbound SR-373 Mooresville Highway						Northbound 8th Avenue South (South)						Southbound 8th Avenue South (North)						Int Total
	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds	App Total	
1445 - 1500	0	3	87	24	-	114	0	1	100	3	-	104	0	28	2	8	-	38	0	0	1	3	-	4	260
1500 - 1515	0	3	131	30	-	164	0	2	85	1	-	88	0	19	4	2	-	25	0	3	5	4	-	12	289
1515 - 1530	0	2	113	44	-	159	0	4	89	1	-	94	0	24	2	5	-	31	0	0	4	1	-	5	289
1530 - 1545	0	3	102	29	-	134	0	3	110	0	-	113	0	17	3	3	-	23	0	0	4	7	-	11	281
Hourly Total	0	11	433	127	-	571	0	10	384	5	-	399	0	88	11	18	-	117	0	3	14	15	-	32	1119
Grand Total	0	11	433	127	-	571	0	10	384	5	-	399	0	88	11	18	-	117	0	3	14	15	-	32	1119
App Percentage	0.00	1.93	75.83	22.24	-		0.00	2.51	96.24	1.25	-		0.00	75.21	9.40	15.38	-		0.00	9.38	43.75	46.88	-		
Int Percentage	0.00	0.98	38.70	11.35	-	51.03	0.00	0.89	34.32	0.45	-	35.66	0.00	7.86	0.98	1.61	-	10.46	0.00	0.27	1.25	1.34	-	2.86	
Cars	0	11	419	123	-	553	0	10	380	5	-	395	0	85	11	18	-	114	0	3	13	15	-	31	1093
Trucks	0	0	14	4	-	18	0	0	4	0	-	4	0	3	0	0	-	3	0	0	1	0	-	1	26
Cars (%)	0.00	100.00	96.77	96.85	-	96.85	0.00	100.00	98.96	100.00	-	99.00	0.00	96.59	100.00	100.00	-	97.44	0.00	100.00	92.86	100.00	-	96.88	97.68
Trucks (%)	0.00	0.00	3.23	3.15	-	3.15	0.00	0.00	1.04	0.00	-	1.00	0.00	3.41	0.00	0.00	-	2.56	0.00	0.00	7.14	0.00	-	3.13	2.32
PHF	0.000	0.917	0.826	0.722	-	0.870	0.000	0.625	0.873	0.417	-	0.883	0.000	0.786	0.688	0.563	-	0.770	0.000	0.250	0.700	0.536	-	0.667	0.968

(Southbound) 8th Avenue South (North)

In	Out	Total
32	27	59

Peds	Right	Thru	Left	U-Turn
-	15	14	3	0



(Westbound) SR-373 Mooresville Highway

Peds	Right	Thru	Left	U-Turn
-	5	384	10	0

In	Out	Total
399	454	853

(Eastbound) SR-373 West Commerce Street

Out	In	Total
487	571	1058

U-Turn	Left	Thru	Right	Peds
0	11	433	127	-

(Northbound) 8th Avenue South (South)

U-Turn	Left	Thru	Right	Peds
0	88	11	18	-

Out	In	Total
151	117	268

0700 - 0800 (Weekday AM Peak Hour)

TIME	Eastbound SR-373 West Commerce Street						Westbound SR-373 Mooresville Highway						Northbound 8th Avenue South (South)						Southbound 8th Avenue South (North)						Int Total
	U-Turn 1.1	Left 1.2	Thru 1.3	Right 1.4	Peds	App Total	U-Turn 1.5	Left 1.6	Thru 1.7	Right 1.8	Peds	App Total	U-Turn 1.9	Left 1.10	Thru 1.11	Right 1.12	Peds	App Total	U-Turn 1.13	Left 1.14	Thru 1.15	Right 1.16	Peds	App Total	
0700 - 0715	0	0	61	18	-	79	0	3	63	0	-	66	0	39	1	2	-	42	0	0	4	4	-	8	195
0715 - 0730	0	2	83	16	-	101	0	1	90	0	-	91	0	46	5	4	-	55	0	0	1	2	-	3	250
0730 - 0745	0	0	92	20	-	112	0	2	98	2	-	102	0	59	6	4	-	69	0	0	0	5	-	5	288
0745 - 0800	0	0	103	19	-	122	0	2	64	0	-	66	0	42	2	4	-	48	0	0	1	4	-	5	241
Hourly Total	0	2	339	73	-	414	0	8	315	2	-	325	0	186	14	14	-	214	0	0	6	15	-	21	974
Grand Total	0	2	339	73	-	414	0	8	315	2	-	325	0	186	14	14	-	214	0	0	6	15	-	21	974
App Percentage	0.00	0.48	81.88	17.63	-		0.00	2.46	96.92	0.62	-		0.00	86.92	6.54	6.54	-		0.00	0.00	28.57	71.43	-		
Int Percentage	0.00	0.21	34.80	7.49	-	42.51	0.00	0.82	32.34	0.21	-	33.37	0.00	19.10	1.44	1.44	-	21.97	0.00	0.00	0.62	1.54	-	2.16	
Cars	0	2	329	72	-	403	0	8	308	2	-	318	0	179	14	14	-	207	0	0	6	15	-	21	949
Trucks	0	0	10	1	-	11	0	0	7	0	-	7	0	7	0	0	-	7	0	0	0	0	-	0	25
Cars (%)	0.00	100.00	97.05	98.63	-	97.34	0.00	100.00	97.78	100.00	-	97.85	0.00	96.24	100.00	100.00	-	96.73	0.00	0.00	100.00	100.00	-	100.00	97.43
Trucks (%)	0.00	0.00	2.95	1.37	-	2.66	0.00	0.00	2.22	0.00	-	2.15	0.00	3.76	0.00	0.00	-	3.27	0.00	0.00	0.00	0.00	-	0.00	2.57
PHF	0.000	0.250	0.823	0.913	-	0.848	0.000	0.667	0.804	0.250	-	0.797	0.000	0.788	0.583	0.875	-	0.775	0.000	0.000	0.375	0.750	-	0.656	0.845

(Southbound) 8th Avenue South (North)

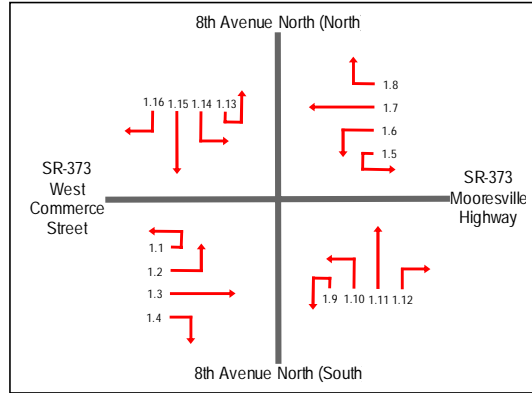
In	Out	Total
21	18	39

Peds	Right	Thru	Left	U-Turn
-	15	6	0	0

(Eastbound) SR-373 West Commerce Street

Out	516
In	414
Total	930

U-Turn	0
Left	2
Thru	339
Right	73
Peds	-



(Westbound) SR-373 Mooresville Highway

Peds	-
Right	2
Thru	315
Left	8
U-Turn	0

In	325
Out	353
Total	678

(Northbound) 8th Avenue South (South)

U-Turn	Left	Thru	Right	Peds
0	186	14	14	-

Out	In	Total
87	214	301

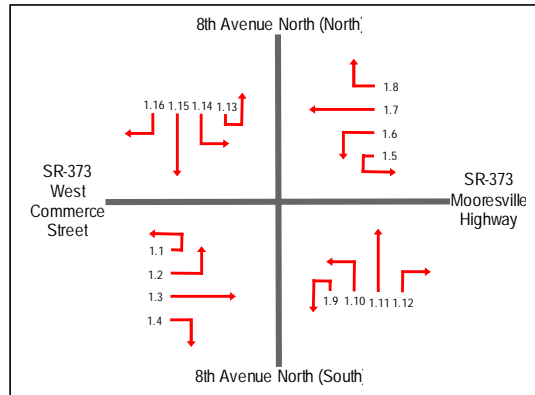
1145 - 1245 (Weekday Inter Peak Hour)

TIME	Eastbound SR-373 West Commerce Street						Westbound SR-373 Mooresville Highway						Northbound 8th Avenue South (South)						Southbound 8th Avenue South (North)						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
1145 - 1200	0	4	68	13	-	85	0	3	48	1	-	52	0	10	1	3	-	14	0	2	0	3	-	5	156
1200 - 1215	0	0	66	18	-	84	0	3	102	0	-	105	0	9	3	4	-	16	0	2	5	3	-	10	215
1215 - 1230	0	0	73	16	-	89	0	3	52	1	-	56	0	18	4	3	-	25	0	2	3	1	-	6	176
1230 - 1245	0	0	66	17	-	83	0	1	70	0	-	71	0	16	1	4	-	21	0	2	3	5	-	10	185
Hourly Total	0	4	273	64	-	341	0	10	272	2	-	284	0	53	9	14	-	76	0	8	11	12	-	31	732
Grand Total	0	4	273	64	-	341	0	10	272	2	-	284	0	53	9	14	-	76	0	8	11	12	-	31	732
App Percentage	0.00	1.17	80.06	18.77	-		0.00	3.52	95.77	0.70	-		0.00	69.74	11.84	18.42	-		0.00	25.81	35.48	38.71	-		
Int Percentage	0.00	0.55	37.30	8.74	-	46.58	0.00	1.37	37.16	0.27	-	38.80	0.00	7.24	1.23	1.91	-	10.38	0.00	1.09	1.50	1.64	-	4.23	
Cars	0	4	269	64	-	337	0	10	265	2	-	277	0	51	9	14	-	74	0	6	11	12	-	29	717
Trucks	0	0	4	0	-	4	0	0	7	0	-	7	0	2	0	0	-	2	0	2	0	0	-	2	15
Cars (%)	0.00	100.00	98.53	100.00	-	98.83	0.00	100.00	97.43	100.00	-	97.54	0.00	96.23	100.00	100.00	-	97.37	0.00	75.00	100.00	100.00	-	93.55	97.95
Trucks (%)	0.00	0.00	1.47	0.00	-	1.17	0.00	0.00	2.57	0.00	-	2.46	0.00	3.77	0.00	0.00	-	2.63	0.00	25.00	0.00	0.00	-	6.45	2.05
PHF	0.000	0.250	0.935	0.889	-	0.958	0.000	0.833	0.667	0.500	-	0.676	0.000	0.736	0.563	0.875	-	0.760	0.000	1.000	0.550	0.600	-	0.775	0.851

(Southbound) 8th Avenue South (North)

In	Out	Total
31	15	46

Peds	Right	Thru	Left	U-Turn
-	12	11	8	0



(Eastbound) SR-373 West Commerce Street

Out	337
In	341
Total	678

U-Turn	0
Left	4
Thru	273
Right	64
Peds	-

(Westbound) SR-373 Mooresville Highway

Peds	-
Right	2
Thru	272
Left	10
U-Turn	0

In	284
Out	295
Total	579

(Northbound) 8th Avenue South (South)

U-Turn	Left	Thru	Right	Peds
0	53	9	14	-

Out	In	Total
85	76	161

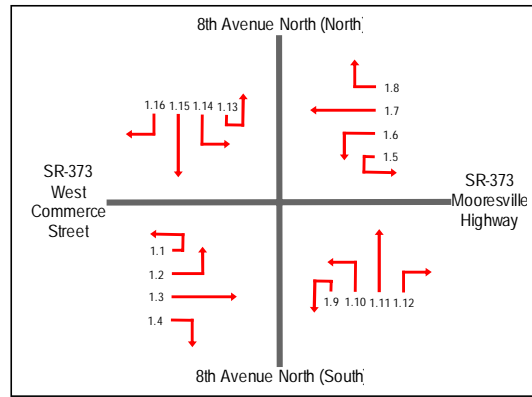
1445 - 1545 (Weekday PM Peak Hour)

TIME	Eastbound SR-373 West Commerce Street						Westbound SR-373 Mooresville Highway						Northbound 8th Avenue South (South)						Southbound 8th Avenue South (North)						Int Total
	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Right	Peds	App Total	
1445 - 1500	0	3	87	24	-	114	0	1	100	3	-	104	0	28	2	8	-	38	0	0	1	3	-	4	260
1500 - 1515	0	3	131	30	-	164	0	2	85	1	-	88	0	19	4	2	-	25	0	3	5	4	-	12	289
1515 - 1530	0	2	113	44	-	159	0	4	89	1	-	94	0	24	2	5	-	31	0	0	4	1	-	5	289
1530 - 1545	0	3	102	29	-	134	0	3	110	0	-	113	0	17	3	3	-	23	0	0	4	7	-	11	281
Hourly Total	0	11	433	127	-	571	0	10	384	5	-	399	0	88	11	18	-	117	0	3	14	15	-	32	1119
Grand Total	0	11	433	127	-	571	0	10	384	5	-	399	0	88	11	18	-	117	0	3	14	15	-	32	1119
App Percentage	0.00	1.93	75.83	22.24	-		0.00	2.51	96.24	1.25	-		0.00	75.21	9.40	15.38	-		0.00	9.38	43.75	46.88	-		
Int Percentage	0.00	0.98	38.70	11.35	-	51.03	0.00	0.89	34.32	0.45	-	35.66	0.00	7.86	0.98	1.61	-	10.46	0.00	0.27	1.25	1.34	-	2.86	
Cars	0	11	419	123	-	553	0	10	380	5	-	395	0	85	11	18	-	114	0	3	13	15	-	31	1093
Trucks	0	0	14	4	-	18	0	0	4	0	-	4	0	3	0	0	-	3	0	0	1	0	-	1	26
Cars (%)	0.00	100.00	96.77	96.85	-	96.85	0.00	100.00	98.96	100.00	-	99.00	0.00	96.59	100.00	100.00	-	97.44	0.00	100.00	92.86	100.00	-	96.88	97.68
Trucks (%)	0.00	0.00	3.23	3.15	-	3.15	0.00	0.00	1.04	0.00	-	1.00	0.00	3.41	0.00	0.00	-	2.56	0.00	0.00	7.14	0.00	-	3.13	2.32
PHF	0.000	0.917	0.826	0.722	-	0.870	0.000	0.625	0.873	0.417	-	0.883	0.000	0.786	0.688	0.563	-	0.770	0.000	0.250	0.700	0.536	-	0.667	0.968

(Southbound) 8th Avenue South (North)

In	Out	Total
32	27	59

Peds	Right	Thru	Left	U-Turn
-	15	14	3	0



(Eastbound) SR-373 West Commerce Street

Out	487
In	571
Total	1058

U-Turn	0
Left	11
Thru	433
Right	127
Peds	-

(Westbound) SR-373 Mooresville Highway

Peds	-
Right	5
Thru	384
Left	10
U-Turn	0

In	399
Out	454
Total	853

(Northbound) 8th Avenue South (South)

U-Turn	Left	Thru	Right	Peds
0	88	11	18	-

Out	In	Total
151	117	268

# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Franklin Road  
E/W Street: N Ellington Parkway

Counted by: City of Lewisburg

File Name : lewisburg-04  
Site Code : 00000004  
Start Date : 3/10/2015  
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:00 AM	0	0	0	0	0	15	99	0	0	114	24	0	10	0	34	0	89	13	0	102	250
06:15 AM	0	0	0	0	0	13	122	0	0	135	31	0	12	0	43	0	120	23	0	143	321
06:30 AM	0	0	0	0	0	30	125	4	0	159	36	2	23	0	61	0	134	18	0	152	372
06:45 AM	0	0	0	0	0	16	123	0	0	139	17	0	25	0	42	1	150	36	0	187	368
Total	0	0	0	0	0	74	469	4	0	547	108	2	70	0	180	1	493	90	0	584	1311
07:00 AM	0	0	0	0	0	14	67	0	0	81	15	0	14	0	29	0	93	11	0	104	214
07:15 AM	0	0	0	0	0	9	96	0	0	105	9	0	8	0	17	0	92	11	0	103	225
07:30 AM	0	0	0	0	0	7	73	0	0	80	11	0	9	0	20	0	86	14	0	100	200
07:45 AM	0	0	0	0	0	12	76	0	0	88	9	0	9	0	18	0	57	10	0	67	173
Total	0	0	0	0	0	42	312	0	0	354	44	0	40	0	84	0	328	46	0	374	812
*** BREAK ***																					
10:00 AM	0	0	0	0	0	10	75	0	0	85	8	0	10	0	18	0	91	5	0	96	199
10:15 AM	0	0	0	0	0	10	76	0	0	86	2	0	14	0	16	0	83	7	0	90	192
10:30 AM	0	0	0	0	0	6	72	0	0	78	5	0	13	0	18	0	79	6	0	85	181
10:45 AM	0	0	0	0	0	13	65	0	0	78	13	0	11	0	24	0	78	7	0	85	187
Total	0	0	0	0	0	39	288	0	0	327	28	0	48	0	76	0	331	25	0	356	759
11:00 AM	0	0	0	0	0	14	77	0	0	91	15	0	10	0	25	1	74	6	0	81	197
11:15 AM	0	0	0	0	0	13	93	0	0	106	5	0	11	0	16	0	79	10	0	89	211
11:30 AM	0	0	0	0	0	12	67	0	0	79	7	0	9	0	16	0	71	14	0	85	180
11:45 AM	0	0	0	0	0	11	82	0	0	93	9	0	2	0	11	0	78	2	0	80	184
Total	0	0	0	0	0	50	319	0	0	369	36	0	32	0	68	1	302	32	0	335	772
*** BREAK ***																					
03:00 PM	0	0	0	0	0	15	132	0	0	147	17	0	30	0	47	0	119	26	0	145	339
03:15 PM	0	0	0	0	0	16	128	0	0	144	7	0	13	0	20	0	113	11	0	124	288
03:30 PM	0	0	0	0	0	18	136	0	0	154	15	0	18	1	34	0	123	16	0	139	327
03:45 PM	0	0	0	0	0	23	130	0	0	153	16	0	12	0	28	0	102	19	0	121	302
Total	0	0	0	0	0	72	526	0	0	598	55	0	73	1	129	0	457	72	0	529	1256
04:00 PM	0	0	0	0	0	12	142	0	0	154	11	0	10	0	21	0	104	10	0	114	289
04:15 PM	0	0	0	0	0	21	137	0	0	158	16	0	16	0	32	0	93	23	0	116	306
04:30 PM	0	0	0	0	0	24	127	0	0	151	17	0	5	0	22	0	143	12	0	155	328
04:45 PM	0	0	0	0	0	29	109	0	0	138	17	0	8	0	25	0	77	20	0	97	260
Total	0	0	0	0	0	86	515	0	0	601	61	0	39	0	100	0	417	65	0	482	1183
Grand Total	0	0	0	0	0	363	2429	4	0	2796	332	2	302	1	637	2	2328	330	0	2660	6093
Approch %	0	0	0	0	0	13	86.9	0.1	0	45.9	52.1	0.3	47.4	0.2	10.5	0.1	87.5	12.4	0	43.7	
Total %	0	0	0	0	0	6	39.9	0.1	0	45.9	5.4	0	5	0	10.5	0	38.2	5.4	0	43.7	
Passenger Vehicles																					
% Passenger Vehicles	0	0	0	0	0	95.9	95.3	100	0	95.4	91.6	100	96.7	100	94	100	95.6	91.8	0	95.1	95.1
Heavy Vehicles																					
% Heavy Vehicles	0	0	0	0	0	4.1	4.7	0	0	4.6	8.4	0	3.3	0	6	0	4.4	8.2	0	4.9	4.9



# Signal Timing Optimization Study

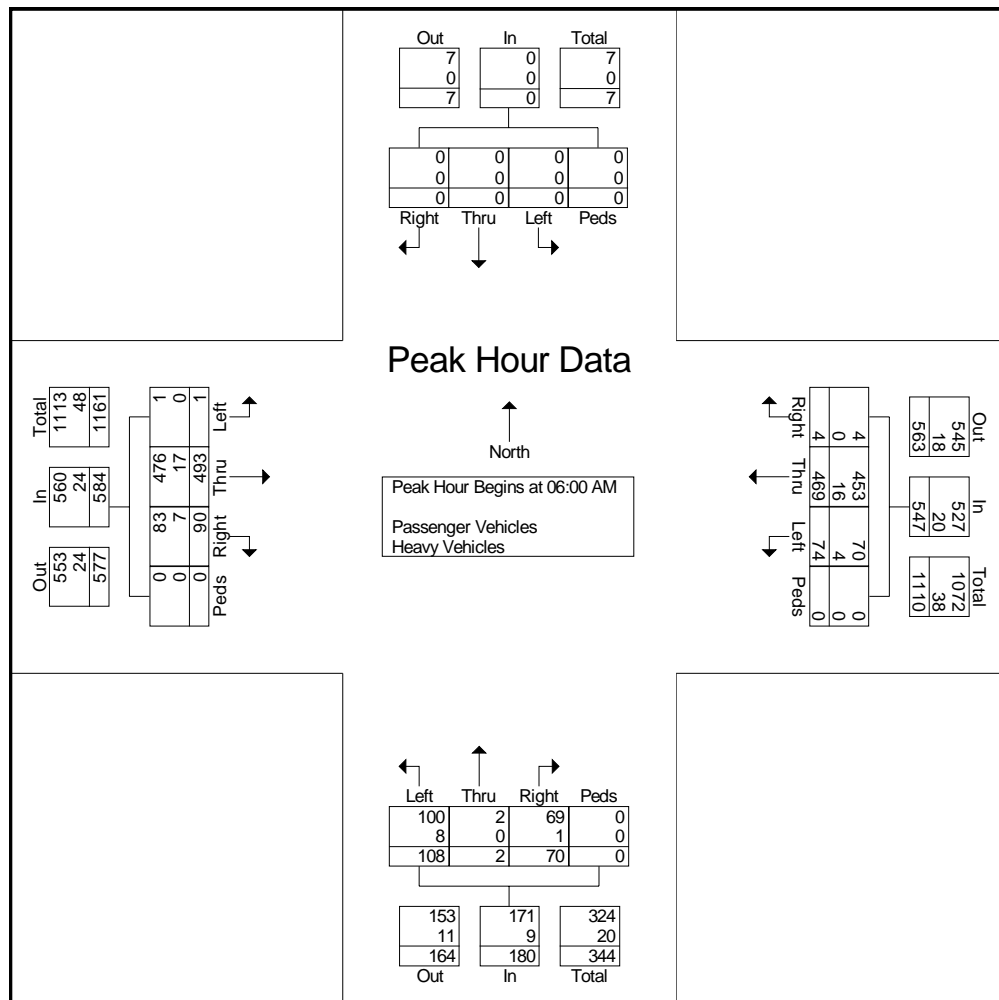
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Franklin Road  
E/W Street: N Ellington Parkway

File Name : lewisburg-04  
Site Code : 00000004  
Start Date : 3/10/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 AM																					
06:00 AM	0	0	0	0	0	15	99	0	0	114	24	0	10	0	34	0	89	13	0	102	250
06:15 AM	0	0	0	0	0	13	122	0	0	135	31	0	12	0	43	0	120	23	0	143	321
06:30 AM	0	0	0	0	0	<b>30</b>	<b>125</b>	<b>4</b>	<b>0</b>	<b>159</b>	<b>36</b>	<b>2</b>	<b>23</b>	<b>0</b>	<b>61</b>	<b>0</b>	<b>134</b>	<b>18</b>	<b>0</b>	<b>152</b>	<b>372</b>
06:45 AM	0	0	0	0	0	16	123	0	0	139	17	0	<b>25</b>	0	42	<b>1</b>	<b>150</b>	<b>36</b>	<b>0</b>	<b>187</b>	368
Total Volume	0	0	0	0	0	74	469	4	0	547	108	2	70	0	180	1	493	90	0	584	1311
% App. Total	0	0	0	0	0	13.5	85.7	0.7	0		60	1.1	38.9	0		0.2	84.4	15.4	0		
PHF	.000	.000	.000	.000	.000	.617	.938	.250	.000	.860	.750	.250	.700	.000	.738	.250	.822	.625	.000	.781	.881
Passenger Vehicles	0	0	0	0	0	70	453	4	0	527	100	2	69	0	171	1	476	83	0	560	1258
% Passenger Vehicles	0	0	0	0	0	94.6	96.6	100	0	96.3	92.6	100	98.6	0	95.0	100	96.6	92.2	0	95.9	96.0
Heavy Vehicles	0	0	0	0	0	4	16	0	0	20	8	0	1	0	9	0	17	7	0	24	53
% Heavy Vehicles	0	0	0	0	0	5.4	3.4	0	0	3.7	7.4	0	1.4	0	5.0	0	3.4	7.8	0	4.1	4.0



# Signal Timing Optimization Study

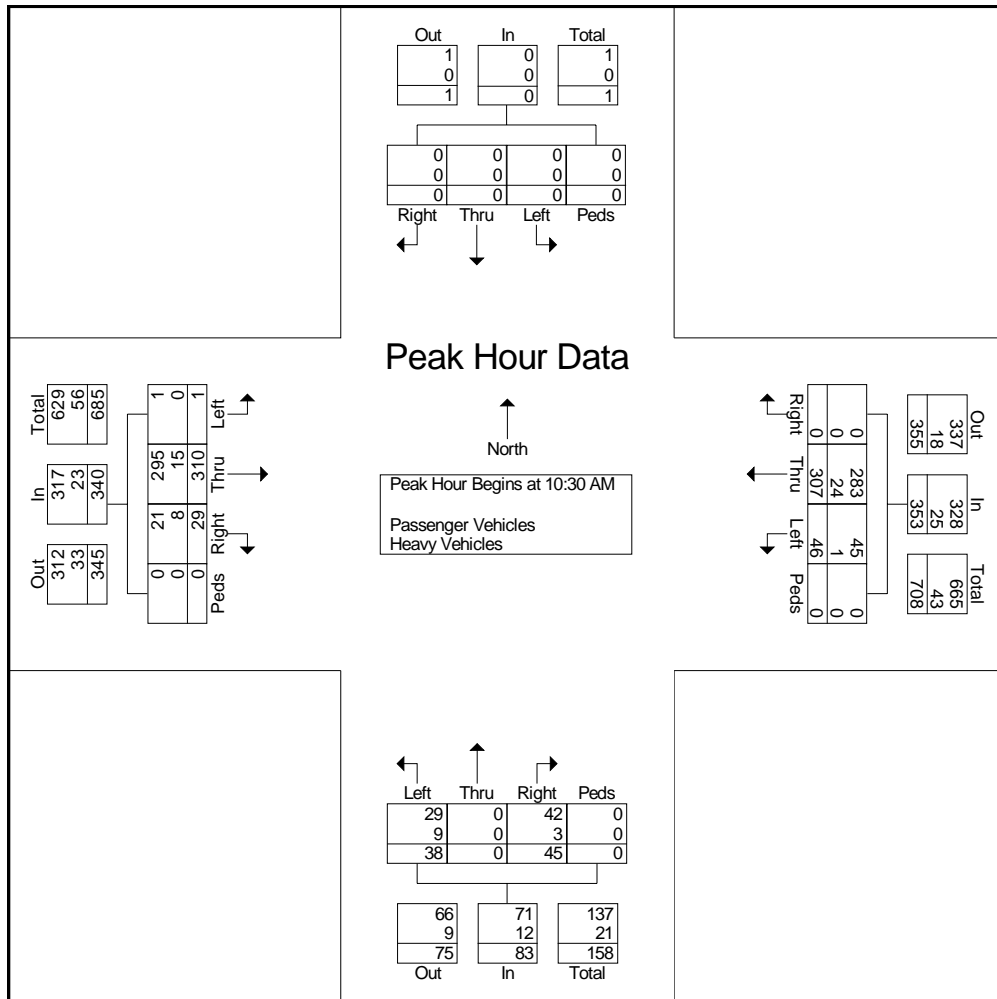
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Franklin Road  
E/W Street: N Ellington Parkway

File Name : lewisburg-04  
Site Code : 00000004  
Start Date : 3/10/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 10:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:30 AM																					
10:30 AM	0	0	0	0	0	6	72	0	0	78	5	0	13	0	18	0	79	6	0	85	181
10:45 AM	0	0	0	0	0	13	65	0	0	78	13	0	11	0	24	0	78	7	0	85	187
11:00 AM	0	0	0	0	0	14	77	0	0	91	15	0	10	0	25	1	74	6	0	81	197
11:15 AM	0	0	0	0	0	13	93	0	0	106	5	0	11	0	16	0	79	10	0	89	211
Total Volume	0	0	0	0	0	46	307	0	0	353	38	0	45	0	83	1	310	29	0	340	776
% App. Total	0	0	0	0	0	13	87	0	0		45.8	0	54.2	0		0.3	91.2	8.5	0		
PHF	.000	.000	.000	.000	.000	.821	.825	.000	.000	.833	.633	.000	.865	.000	.830	.250	.981	.725	.000	.955	.919
Passenger Vehicles	0	0	0	0	0	45	283	0	0	328	29	0	42	0	71	1	295	21	0	317	716
% Passenger Vehicles	0	0	0	0	0	97.8	92.2	0	0	92.9	76.3	0	93.3	0	85.5	100	95.2	72.4	0	93.2	92.3
Heavy Vehicles	0	0	0	0	0	1	24	0	0	25	9	0	3	0	12	0	15	8	0	23	60
% Heavy Vehicles	0	0	0	0	0	2.2	7.8	0	0	7.1	23.7	0	6.7	0	14.5	0	4.8	27.6	0	6.8	7.7



# Signal Timing Optimization Study

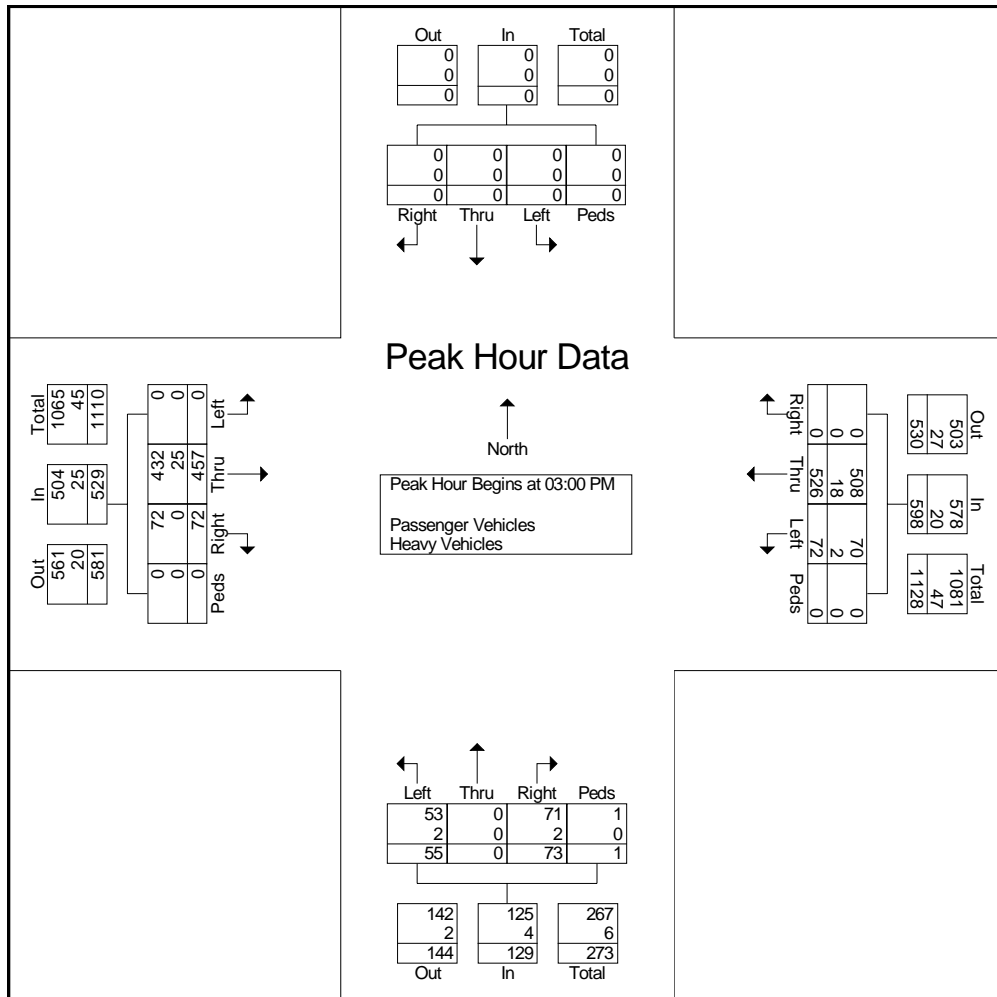
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Franklin Road  
E/W Street: N Ellington Parkway

File Name : lewisburg-04  
Site Code : 00000004  
Start Date : 3/10/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 03:00 PM																						
03:00 PM	0	0	0	0	0	15	132	0	0	147	17	0	30	0	47	0	119	26	0	145	339	
03:15 PM	0	0	0	0	0	16	128	0	0	144	7	0	13	0	20	0	113	11	0	124	288	
03:30 PM	0	0	0	0	0	18	136	0	0	154	15	0	18	1	34	0	123	16	0	139	327	
03:45 PM	0	0	0	0	0	23	130	0	0	153	16	0	12	0	28	0	102	19	0	121	302	
Total Volume	0	0	0	0	0	72	526	0	0	598	55	0	73	1	129	0	457	72	0	529	1256	
% App. Total	0	0	0	0	0	12	88	0	0		42.6	0	56.6	0.8		0	86.4	13.6	0			
PHF	.000	.000	.000	.000	.000	.783	.967	.000	.000	.971	.809	.000	.608	.250	.686	.000	.929	.692	.000	.912	.926	
Passenger Vehicles	0	0	0	0	0	70	508	0	0	578	53	0	71	1	125	0	432	72	0	504	1207	
% Passenger Vehicles	0	0	0	0	0	97.2	96.6	0	0	96.7	96.4	0	97.3	100	96.9	0	94.5	100	0	95.3	96.1	
Heavy Vehicles	0	0	0	0	0	2	18	0	0	20	2	0	2	0	4	0	25	0	0	25	49	
% Heavy Vehicles	0	0	0	0	0	2.8	3.4	0	0	3.3	3.6	0	2.7	0	3.1	0	5.5	0	0	4.7	3.9	



# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: 5th Avenue  
E/W Street: W Commerce Street

File Name : lewisburg-05  
Site Code : 00000005  
Start Date : 3/12/2015  
Page No : 1

Counted by: City of Lewisburg

## Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:30 AM	3	0	4	0	7	0	82	0	0	82	2	0	4	0	6	5	119	2	0	126	221
07:45 AM	4	1	2	0	7	2	50	3	0	55	7	0	2	0	9	3	93	1	0	97	168
<b>Total</b>	<b>7</b>	<b>1</b>	<b>6</b>	<b>0</b>	<b>14</b>	<b>2</b>	<b>132</b>	<b>3</b>	<b>0</b>	<b>137</b>	<b>9</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>15</b>	<b>8</b>	<b>212</b>	<b>3</b>	<b>0</b>	<b>223</b>	<b>389</b>
08:00 AM	2	0	5	0	7	5	39	2	0	46	4	0	2	0	6	3	62	2	0	67	126
08:15 AM	1	1	10	0	12	1	45	0	0	46	0	0	3	0	3	2	52	1	0	55	116
08:30 AM	1	1	4	0	6	1	37	1	0	39	2	0	3	0	5	5	62	2	0	69	119
08:45 AM	1	0	5	0	6	5	40	1	0	46	2	0	3	0	5	1	58	5	0	64	121
<b>Total</b>	<b>5</b>	<b>2</b>	<b>24</b>	<b>0</b>	<b>31</b>	<b>12</b>	<b>161</b>	<b>4</b>	<b>0</b>	<b>177</b>	<b>8</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>19</b>	<b>11</b>	<b>234</b>	<b>10</b>	<b>0</b>	<b>255</b>	<b>482</b>
09:00 AM	5	2	5	0	12	2	44	1	0	47	6	0	2	0	8	2	48	0	0	50	117
09:15 AM	4	1	7	0	12	1	47	1	0	49	4	0	7	0	11	4	57	4	0	65	137
*** BREAK ***																					
<b>Total</b>	<b>9</b>	<b>3</b>	<b>12</b>	<b>0</b>	<b>24</b>	<b>3</b>	<b>91</b>	<b>2</b>	<b>0</b>	<b>96</b>	<b>10</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>19</b>	<b>6</b>	<b>105</b>	<b>4</b>	<b>0</b>	<b>115</b>	<b>254</b>
*** BREAK ***																					
11:00 AM	3	0	9	0	12	4	57	0	0	61	2	0	3	0	5	4	59	1	0	64	142
11:15 AM	2	1	10	0	13	3	58	4	0	65	1	0	4	0	5	4	73	3	0	80	163
11:30 AM	6	1	10	0	17	4	51	2	0	57	2	0	9	0	11	6	78	2	0	86	171
11:45 AM	9	0	4	0	13	1	63	0	0	64	0	0	3	0	3	2	77	0	0	79	159
<b>Total</b>	<b>20</b>	<b>2</b>	<b>33</b>	<b>0</b>	<b>55</b>	<b>12</b>	<b>229</b>	<b>6</b>	<b>0</b>	<b>247</b>	<b>5</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>24</b>	<b>16</b>	<b>287</b>	<b>6</b>	<b>0</b>	<b>309</b>	<b>635</b>
12:00 PM	5	0	13	0	18	1	55	0	0	56	3	0	5	0	8	2	87	0	0	89	171
12:15 PM	5	0	11	0	16	2	77	2	0	81	3	0	3	0	6	3	62	2	0	67	170
12:30 PM	4	0	10	0	14	1	69	0	0	70	3	0	5	0	8	3	55	3	0	61	153
12:45 PM	3	0	9	0	12	6	53	2	0	61	0	0	3	0	3	5	69	0	0	74	150
<b>Total</b>	<b>17</b>	<b>0</b>	<b>43</b>	<b>0</b>	<b>60</b>	<b>10</b>	<b>254</b>	<b>4</b>	<b>0</b>	<b>268</b>	<b>9</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>25</b>	<b>13</b>	<b>273</b>	<b>5</b>	<b>0</b>	<b>291</b>	<b>644</b>
*** BREAK ***																					
04:00 PM	7	0	13	0	20	1	103	1	0	105	10	0	6	0	16	1	105	5	0	111	252
04:15 PM	10	0	9	0	19	3	95	2	0	100	1	0	6	0	7	7	82	3	0	92	218
04:30 PM	5	0	16	0	21	2	111	2	0	115	5	0	6	0	11	7	100	1	0	108	255
04:45 PM	7	0	16	0	23	1	89	4	0	94	7	0	7	0	14	7	76	6	0	89	220
<b>Total</b>	<b>29</b>	<b>0</b>	<b>54</b>	<b>0</b>	<b>83</b>	<b>7</b>	<b>398</b>	<b>9</b>	<b>0</b>	<b>414</b>	<b>23</b>	<b>0</b>	<b>25</b>	<b>0</b>	<b>48</b>	<b>22</b>	<b>363</b>	<b>15</b>	<b>0</b>	<b>400</b>	<b>945</b>
05:00 PM	5	0	10	0	15	3	117	1	0	121	4	0	4	0	8	4	81	3	0	88	232
05:15 PM	3	0	15	0	18	4	87	2	0	93	4	0	4	0	8	10	79	1	0	90	209
05:30 PM	2	0	8	0	10	3	64	1	0	68	4	0	3	0	7	9	69	5	0	83	168
05:45 PM	7	0	9	0	16	3	54	1	0	58	4	0	5	0	9	2	60	3	0	65	148
<b>Total</b>	<b>17</b>	<b>0</b>	<b>42</b>	<b>0</b>	<b>59</b>	<b>13</b>	<b>322</b>	<b>5</b>	<b>0</b>	<b>340</b>	<b>16</b>	<b>0</b>	<b>16</b>	<b>0</b>	<b>32</b>	<b>25</b>	<b>289</b>	<b>12</b>	<b>0</b>	<b>326</b>	<b>757</b>
<b>Grand Total</b>	<b>104</b>	<b>8</b>	<b>214</b>	<b>0</b>	<b>326</b>	<b>59</b>	<b>1587</b>	<b>33</b>	<b>0</b>	<b>1679</b>	<b>80</b>	<b>0</b>	<b>102</b>	<b>0</b>	<b>182</b>	<b>101</b>	<b>1763</b>	<b>55</b>	<b>0</b>	<b>1919</b>	<b>4106</b>
<b>Apprch %</b>	<b>31.9</b>	<b>2.5</b>	<b>65.6</b>	<b>0</b>		<b>3.5</b>	<b>94.5</b>	<b>2</b>	<b>0</b>		<b>44</b>	<b>0</b>	<b>56</b>	<b>0</b>		<b>5.3</b>	<b>91.9</b>	<b>2.9</b>	<b>0</b>		
<b>Total %</b>	<b>2.5</b>	<b>0.2</b>	<b>5.2</b>	<b>0</b>	<b>7.9</b>	<b>1.4</b>	<b>38.7</b>	<b>0.8</b>	<b>0</b>	<b>40.9</b>	<b>1.9</b>	<b>0</b>	<b>2.5</b>	<b>0</b>	<b>4.4</b>	<b>2.5</b>	<b>42.9</b>	<b>1.3</b>	<b>0</b>	<b>46.7</b>	
Passenger Vehicles																					
% Passenger Vehicles	100	100	99.1	0	99.4	100	98.4	97	0	98.4	100	0	99	0	99.5	100	98.2	100	0	98.3	98.5
Heavy Vehicles	0	0	2	0	2	0	26	1	0	27	0	0	1	0	1	0	32	0	0	32	62
% Heavy Vehicles	0	0	0.9	0	0.6	0	1.6	3	0	1.6	0	0	1	0	0.5	0	1.8	0	0	1.7	1.5

# Signal Timing Optimization Study

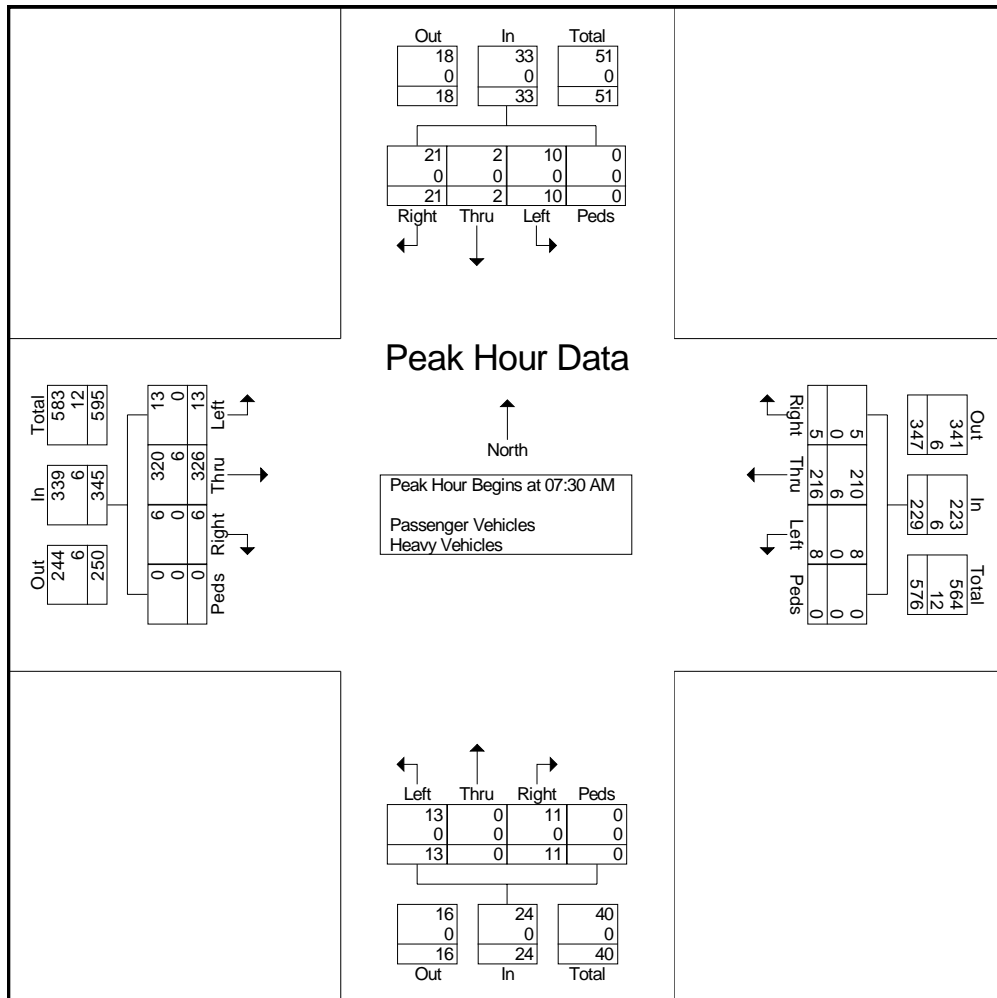
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: 5th Avenue  
E/W Street: W Commerce Street

File Name : lewisburg-05  
Site Code : 00000005  
Start Date : 3/12/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:30 AM to 09:15 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:30 AM																					
07:30 AM	3	0	4	0	7	0	82	0	0	82	2	0	4	0	6	5	119	2	0	126	221
07:45 AM	4	1	2	0	7	2	50	3	0	55	7	0	2	0	9	3	93	1	0	97	168
08:00 AM	2	0	5	0	7	5	39	2	0	46	4	0	2	0	6	3	62	2	0	67	126
08:15 AM	1	1	10	0	12	1	45	0	0	46	0	0	3	0	3	2	52	1	0	55	116
Total Volume	10	2	21	0	33	8	216	5	0	229	13	0	11	0	24	13	326	6	0	345	631
% App. Total	30.3	6.1	63.6	0		3.5	94.3	2.2	0		54.2	0	45.8	0		3.8	94.5	1.7	0		
PHF	.625	.500	.525	.000	.688	.400	.659	.417	.000	.698	.464	.000	.688	.000	.667	.650	.685	.750	.000	.685	.714
Passenger Vehicles	10	2	21	0	33	8	210	5	0	223	13	0	11	0	24	13	320	6	0	339	619
% Passenger Vehicles	100	100	100	0	100	100	97.2	100	0	97.4	100	0	100	0	100	100	98.2	100	0	98.3	98.1
Heavy Vehicles	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	6	0	0	6	12
% Heavy Vehicles	0	0	0	0	0	0	2.8	0	0	2.6	0	0	0	0	0	0	1.8	0	0	1.7	1.9



# Signal Timing Optimization Study

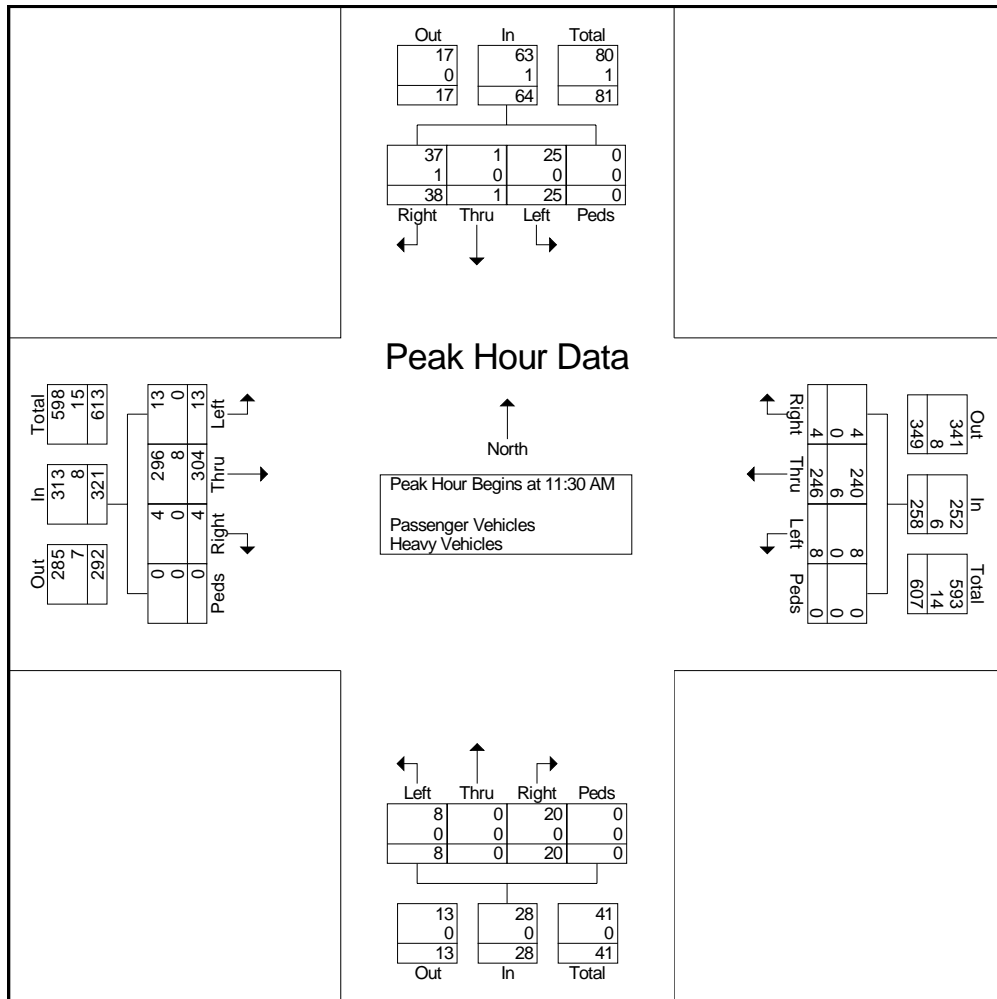
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: 5th Avenue  
E/W Street: W Commerce Street

File Name : lewisburg-05  
Site Code : 00000005  
Start Date : 3/12/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30 AM																					
11:30 AM	6	1	10	0	17	4	51	2	0	57	2	0	9	0	11	6	78	2	0	86	171
11:45 AM	9	0	4	0	13	1	63	0	0	64	0	0	3	0	3	2	77	0	0	79	159
12:00 PM	5	0	13	0	18	1	55	0	0	56	3	0	5	0	8	2	87	0	0	89	171
12:15 PM	5	0	11	0	16	2	77	2	0	81	3	0	3	0	6	3	62	2	0	67	170
Total Volume	25	1	38	0	64	8	246	4	0	258	8	0	20	0	28	13	304	4	0	321	671
% App. Total	39.1	1.6	59.4	0		3.1	95.3	1.6	0		28.6	0	71.4	0		4	94.7	1.2	0		
PHF	.694	.250	.731	.000	.889	.500	.799	.500	.000	.796	.667	.000	.556	.000	.636	.542	.874	.500	.000	.902	.981
Passenger Vehicles	25	1	37	0	63	8	240	4	0	252	8	0	20	0	28	13	296	4	0	313	656
% Passenger Vehicles	100	100	97.4	0	98.4	100	97.6	100	0	97.7	100	0	100	0	100	100	97.4	100	0	97.5	97.8
Heavy Vehicles	0	0	1	0	1	0	6	0	0	6	0	0	0	0	0	0	8	0	0	8	15
% Heavy Vehicles	0	0	2.6	0	1.6	0	2.4	0	0	2.3	0	0	0	0	0	0	2.6	0	0	2.5	2.2



# Signal Timing Optimization Study

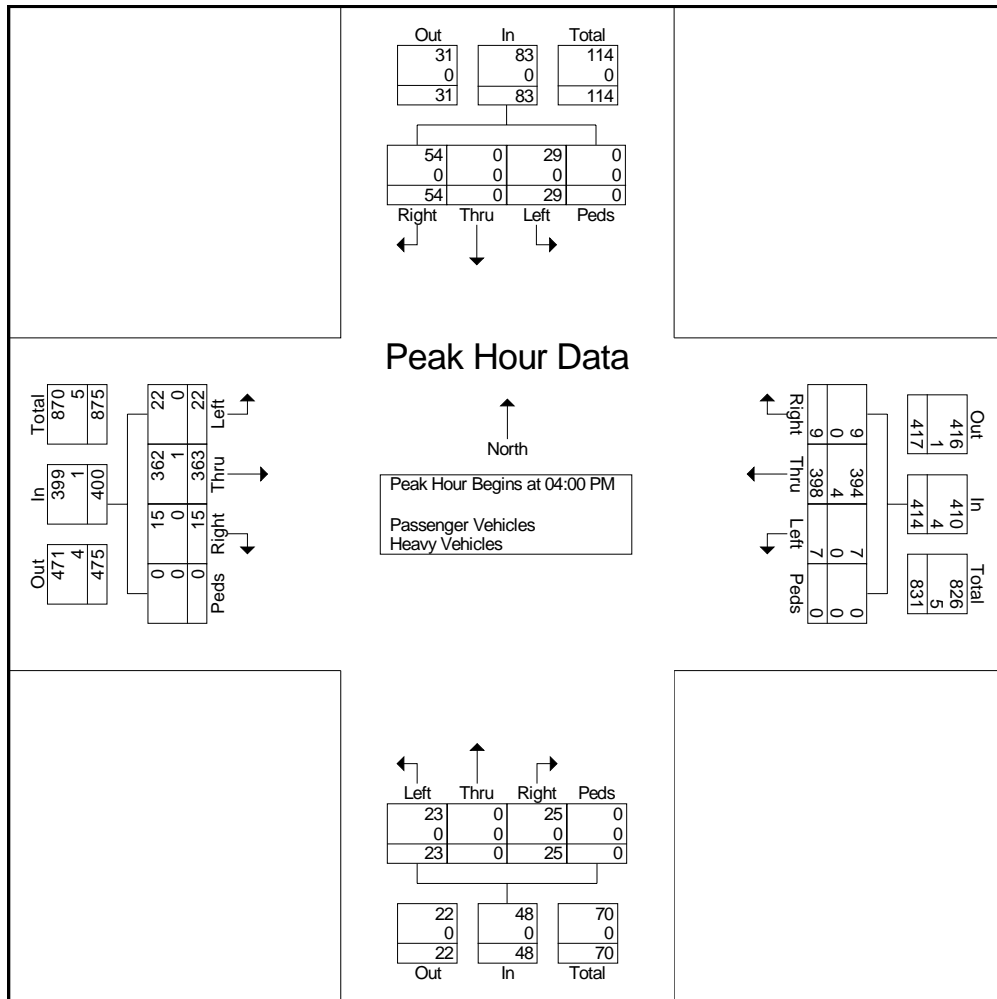
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: 5th Avenue  
E/W Street: W Commerce Street

File Name : lewisburg-05  
Site Code : 00000005  
Start Date : 3/12/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:00 PM																					
04:00 PM	7	0	13	0	20	1	103	1	0	105	10	0	6	0	16	1	105	5	0	111	252
04:15 PM	10	0	9	0	19	3	95	2	0	100	1	0	6	0	7	7	82	3	0	92	218
04:30 PM	5	0	16	0	21	2	111	2	0	115	5	0	6	0	11	7	100	1	0	108	255
04:45 PM	7	0	16	0	23	1	89	4	0	94	7	0	7	0	14	7	76	6	0	89	220
Total Volume	29	0	54	0	83	7	398	9	0	414	23	0	25	0	48	22	363	15	0	400	945
% App. Total	34.9	0	65.1	0		1.7	96.1	2.2	0		47.9	0	52.1	0		5.5	90.8	3.8	0		
PHF	.725	.000	.844	.000	.902	.583	.896	.563	.000	.900	.575	.000	.893	.000	.750	.786	.864	.625	.000	.901	.926
Passenger Vehicles	29	0	54	0	83	7	394	9	0	410	23	0	25	0	48	22	362	15	0	399	940
% Passenger Vehicles	100	0	100	0	100	100	99.0	100	0	99.0	100	0	100	0	100	100	99.7	100	0	99.8	99.5
Heavy Vehicles	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	1	0	0	1	5
% Heavy Vehicles	0	0	0	0	0	0	1.0	0	0	1.0	0	0	0	0	0	0	0.3	0	0	0.3	0.5



# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Walmart Entrance  
E/W Street: N Ellington Parkway

File Name : Lewisburg-08  
Site Code : 00000006  
Start Date : 3/12/2015  
Page No : 1

Counted by: City of Lewisburg

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:00 AM	0	0	0	0	0	16	91	0	0	107	6	0	8	0	14	0	106	11	0	117	238
06:15 AM	0	0	0	0	0	5	118	0	0	123	3	0	16	0	19	0	113	7	0	120	262
06:30 AM	0	0	0	0	0	24	144	0	0	168	6	0	11	0	17	0	129	5	0	134	319
06:45 AM	0	0	0	0	0	19	142	0	0	161	8	0	14	0	22	0	86	7	0	93	276
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>64</b>	<b>495</b>	<b>0</b>	<b>0</b>	<b>559</b>	<b>23</b>	<b>0</b>	<b>49</b>	<b>0</b>	<b>72</b>	<b>0</b>	<b>434</b>	<b>30</b>	<b>0</b>	<b>464</b>	<b>1095</b>
07:00 AM	0	0	0	0	0	12	70	0	0	82	10	0	12	0	22	0	65	16	0	81	185
07:15 AM	0	0	0	0	0	16	83	0	0	99	10	0	20	0	30	0	81	9	0	90	219
07:30 AM	0	0	0	0	0	12	75	0	0	87	8	0	9	0	17	0	85	14	0	99	203
07:45 AM	0	0	0	0	0	19	84	0	0	103	16	0	9	0	25	0	81	9	0	90	218
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>59</b>	<b>312</b>	<b>0</b>	<b>0</b>	<b>371</b>	<b>44</b>	<b>0</b>	<b>50</b>	<b>0</b>	<b>94</b>	<b>0</b>	<b>312</b>	<b>48</b>	<b>0</b>	<b>360</b>	<b>825</b>
*** BREAK ***																					
10:00 AM	0	0	0	0	0	24	74	0	0	98	23	0	16	0	39	0	74	22	0	96	233
10:15 AM	0	0	0	0	0	23	80	0	0	103	20	0	26	0	46	0	68	27	0	95	244
10:30 AM	0	0	0	0	0	18	62	0	0	80	27	0	20	1	48	0	72	42	0	114	242
10:45 AM	0	0	0	0	0	27	79	0	1	107	32	0	21	0	53	0	70	23	0	93	253
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>92</b>	<b>295</b>	<b>0</b>	<b>1</b>	<b>388</b>	<b>102</b>	<b>0</b>	<b>83</b>	<b>1</b>	<b>186</b>	<b>0</b>	<b>284</b>	<b>114</b>	<b>0</b>	<b>398</b>	<b>972</b>
11:00 AM	0	0	0	0	0	22	82	0	0	104	45	0	26	0	71	0	89	17	0	106	281
11:15 AM	0	0	0	0	0	20	71	1	0	92	29	0	22	0	51	0	80	30	0	110	253
11:30 AM	0	0	0	0	0	20	69	0	0	89	42	0	21	0	63	0	92	23	0	115	267
11:45 AM	0	0	0	0	0	32	72	0	0	104	30	0	21	0	51	1	89	30	0	120	275
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>94</b>	<b>294</b>	<b>1</b>	<b>0</b>	<b>389</b>	<b>146</b>	<b>0</b>	<b>90</b>	<b>0</b>	<b>236</b>	<b>1</b>	<b>350</b>	<b>100</b>	<b>0</b>	<b>451</b>	<b>1076</b>
*** BREAK ***																					
03:00 PM	0	0	0	0	0	38	108	0	0	146	35	0	35	0	70	0	115	30	0	145	361
03:15 PM	0	0	0	0	0	31	102	0	0	133	39	0	41	0	80	0	110	31	0	141	354
03:30 PM	0	0	0	0	0	35	119	0	0	154	34	0	39	0	73	0	125	28	0	153	380
03:45 PM	0	0	0	0	0	41	100	0	0	141	40	0	32	0	72	0	147	35	0	182	395
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>145</b>	<b>429</b>	<b>0</b>	<b>0</b>	<b>574</b>	<b>148</b>	<b>0</b>	<b>147</b>	<b>0</b>	<b>295</b>	<b>0</b>	<b>497</b>	<b>124</b>	<b>0</b>	<b>621</b>	<b>1490</b>
04:00 PM	0	0	0	0	0	31	107	0	0	138	47	0	41	0	88	0	131	21	0	152	378
04:15 PM	0	0	0	0	0	41	104	0	0	145	25	0	33	0	58	0	135	16	0	151	354
04:30 PM	0	0	0	0	0	35	125	0	0	160	23	0	28	0	51	0	110	23	0	133	344
04:45 PM	0	0	0	0	0	27	86	0	0	113	38	0	35	0	73	0	83	30	1	114	300
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>134</b>	<b>422</b>	<b>0</b>	<b>0</b>	<b>556</b>	<b>133</b>	<b>0</b>	<b>137</b>	<b>0</b>	<b>270</b>	<b>0</b>	<b>459</b>	<b>90</b>	<b>1</b>	<b>550</b>	<b>1376</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>588</b>	<b>2247</b>	<b>1</b>	<b>1</b>	<b>2837</b>	<b>596</b>	<b>0</b>	<b>556</b>	<b>1</b>	<b>1153</b>	<b>1</b>	<b>2336</b>	<b>506</b>	<b>1</b>	<b>2844</b>	<b>6834</b>
<b>Apprch %</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20.7</b>	<b>79.2</b>	<b>0</b>	<b>0</b>	<b>20.7</b>	<b>51.7</b>	<b>0</b>	<b>48.2</b>	<b>0.1</b>	<b>51.7</b>	<b>0</b>	<b>82.1</b>	<b>17.8</b>	<b>0</b>	<b>82.1</b>	<b>0</b>
<b>Total %</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8.6</b>	<b>32.9</b>	<b>0</b>	<b>0</b>	<b>41.5</b>	<b>8.7</b>	<b>0</b>	<b>8.1</b>	<b>0</b>	<b>16.9</b>	<b>0</b>	<b>34.2</b>	<b>7.4</b>	<b>0</b>	<b>41.6</b>	<b>0</b>
<b>Passenger Vehicles</b>																					
<b>% Passenger Vehicles</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>99.1</b>	<b>94.1</b>	<b>100</b>	<b>100</b>	<b>95.2</b>	<b>99.3</b>	<b>0</b>	<b>98.7</b>	<b>100</b>	<b>99</b>	<b>0</b>	<b>94.5</b>	<b>98.6</b>	<b>100</b>	<b>95.2</b>	<b>95.8</b>
<b>Heavy Vehicles</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>132</b>	<b>0</b>	<b>0</b>	<b>137</b>	<b>4</b>	<b>0</b>	<b>7</b>	<b>0</b>	<b>11</b>	<b>1</b>	<b>129</b>	<b>7</b>	<b>0</b>	<b>137</b>	<b>285</b>
<b>% Heavy Vehicles</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0.9</b>	<b>5.9</b>	<b>0</b>	<b>0</b>	<b>4.8</b>	<b>0.7</b>	<b>0</b>	<b>1.3</b>	<b>0</b>	<b>1</b>	<b>100</b>	<b>5.5</b>	<b>1.4</b>	<b>0</b>	<b>4.8</b>	<b>4.2</b>



# Signal Timing Optimization Study

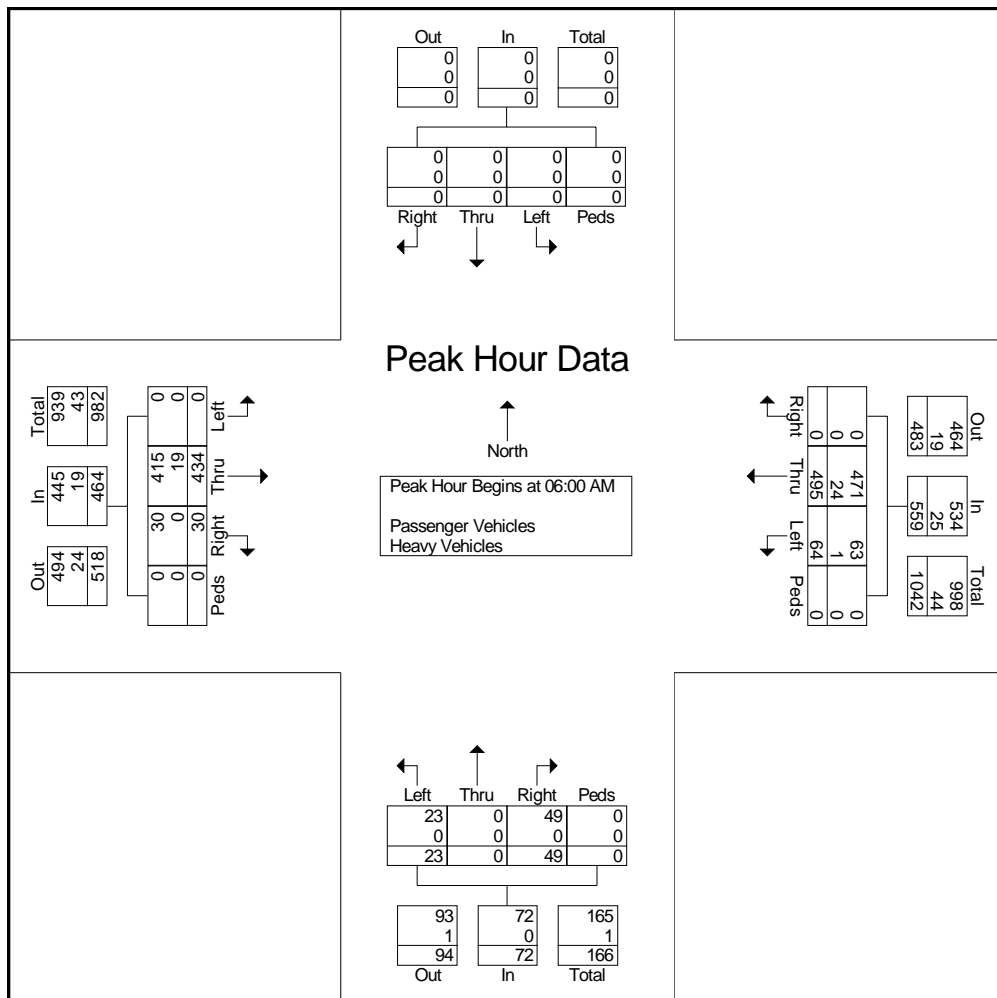
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Walmart Entrance  
E/W Street: N Ellington Parkway

File Name : Lewisburg-08  
Site Code : 00000006  
Start Date : 3/12/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 AM																					
06:00 AM	0	0	0	0	0	16	91	0	0	107	6	0	8	0	14	0	106	11	0	117	238
06:15 AM	0	0	0	0	0	5	118	0	0	123	3	0	16	0	19	0	113	7	0	120	262
06:30 AM	0	0	0	0	0	24	144	0	0	168	6	0	11	0	17	0	129	5	0	134	319
06:45 AM	0	0	0	0	0	19	142	0	0	161	8	0	14	0	22	0	86	7	0	93	276
Total Volume	0	0	0	0	0	64	495	0	0	559	23	0	49	0	72	0	434	30	0	464	1095
% App. Total	0	0	0	0	0	11.4	88.6	0	0		31.9	0	68.1	0		0	93.5	6.5	0		
PHF	.000	.000	.000	.000	.000	.667	.859	.000	.000	.832	.719	.000	.766	.000	.818	.000	.841	.682	.000	.866	.858
Passenger Vehicles	0	0	0	0	0	63	471	0	0	534	23	0	49	0	72	0	415	30	0	445	1051
% Passenger Vehicles	0	0	0	0	0	98.4	95.2	0	0	95.5	100	0	100	0	100	0	95.6	100	0	95.9	96.0
Heavy Vehicles	0	0	0	0	0	1	24	0	0	25	0	0	0	0	0	0	19	0	0	19	44
% Heavy Vehicles	0	0	0	0	0	1.6	4.8	0	0	4.5	0	0	0	0	0	0	4.4	0	0	4.1	4.0



# Signal Timing Optimization Study

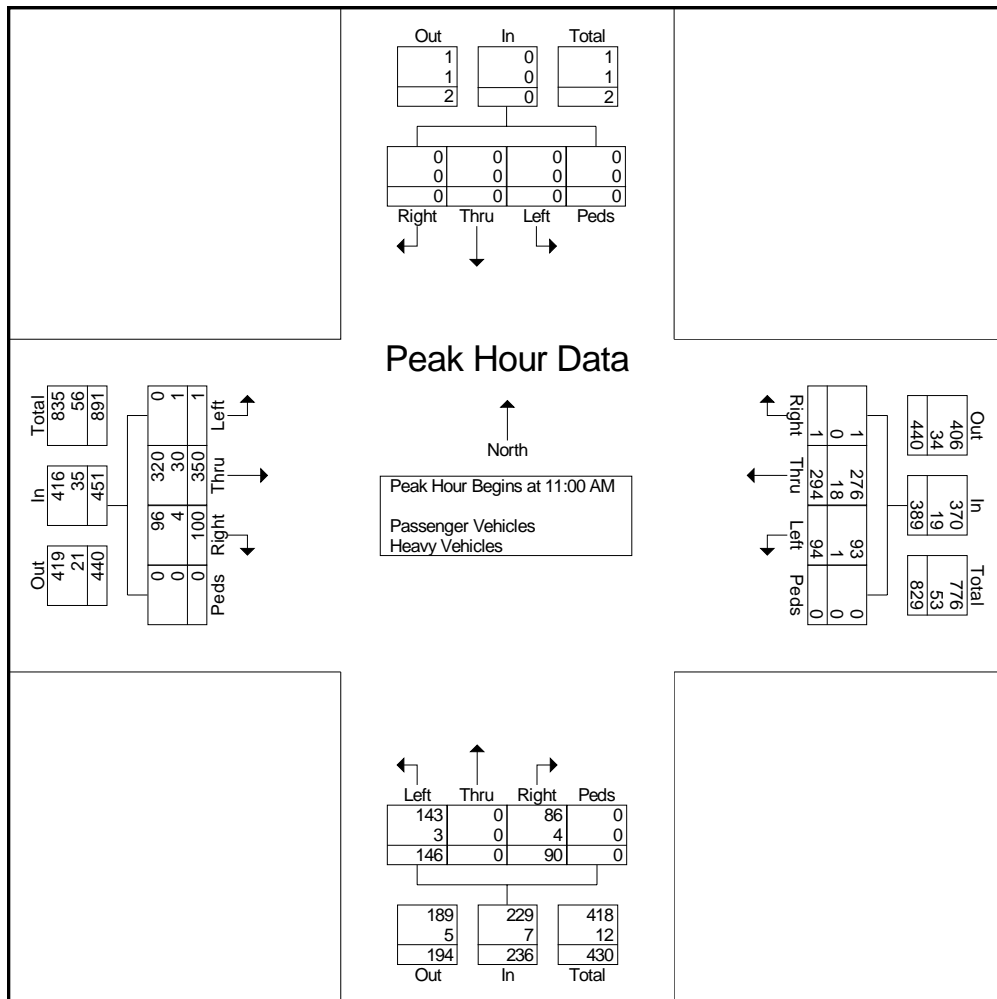
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Walmart Entrance  
E/W Street: N Ellington Parkway

File Name : Lewisburg-08  
Site Code : 00000006  
Start Date : 3/12/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 10:00 AM to 11:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 11:00 AM																						
11:00 AM	0	0	0	0	0	22	82	0	0	104	45	0	26	0	71	0	89	17	0	106	281	
11:15 AM	0	0	0	0	0	20	71	1	0	92	29	0	22	0	51	0	80	30	0	110	253	
11:30 AM	0	0	0	0	0	20	69	0	0	89	42	0	21	0	63	0	92	23	0	115	267	
11:45 AM	0	0	0	0	0	32	72	0	0	104	30	0	21	0	51	1	89	30	0	120	275	
Total Volume	0	0	0	0	0	94	294	1	0	389	146	0	90	0	236	1	350	100	0	451	1076	
% App. Total	0	0	0	0	0	24.2	75.6	0.3	0		61.9	0	38.1	0		0.2	77.6	22.2	0			
PHF	.000	.000	.000	.000	.000	.734	.896	.250	.000	.935	.811	.000	.865	.000	.831	.250	.951	.833	.000	.940	.957	
Passenger Vehicles	0	0	0	0	0	93	276	1	0	370	143	0	86	0	229	0	320	96	0	416	1015	
% Passenger Vehicles	0	0	0	0	0	98.9	93.9	100	0	95.1	97.9	0	95.6	0	97.0	0	91.4	96.0	0	92.2	94.3	
Heavy Vehicles	0	0	0	0	0	1	18	0	0	19	3	0	4	0	7	1	30	4	0	35	61	
% Heavy Vehicles	0	0	0	0	0	1.1	6.1	0	0	4.9	2.1	0	4.4	0	3.0	100	8.6	4.0	0	7.8	5.7	



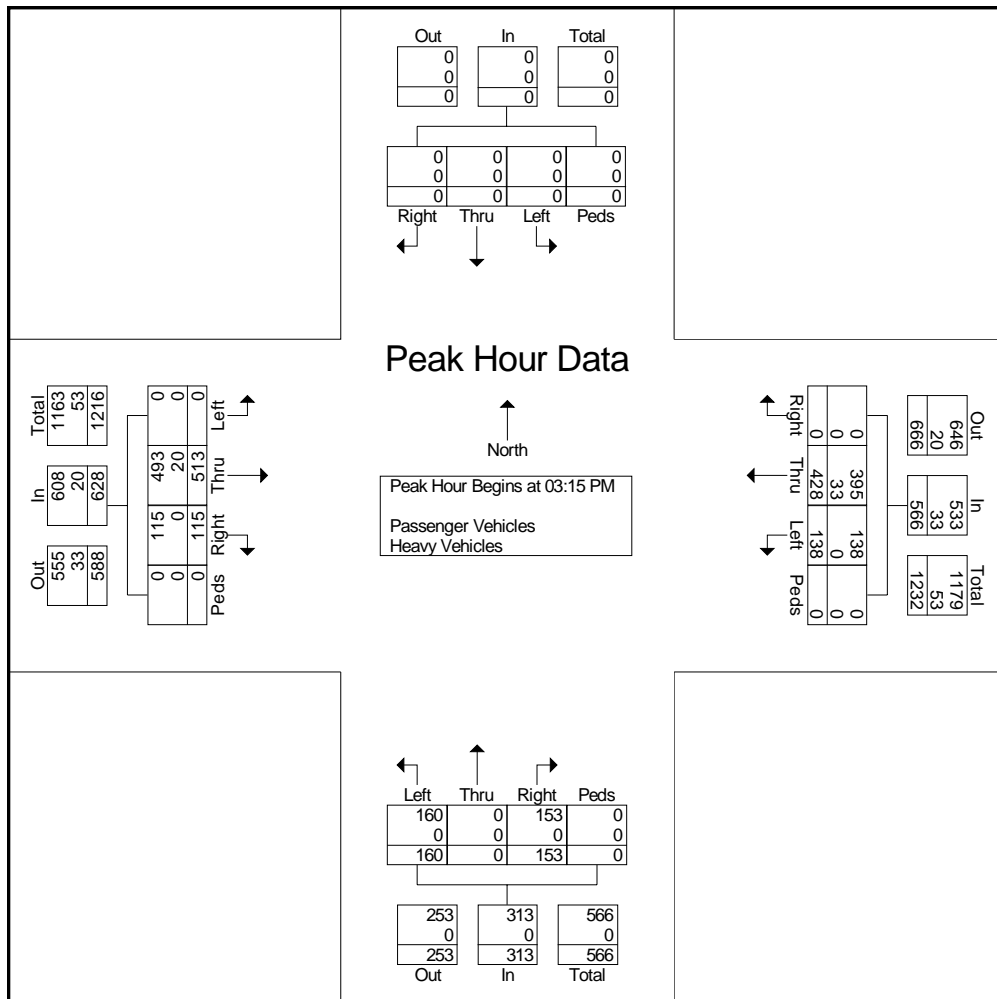
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Walmart Entrance  
E/W Street: N Ellington Parkway  
Counted by: City of Lewisburg

File Name : Lewisburg-08  
Site Code : 00000006  
Start Date : 3/12/2015  
Page No : 4

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 03:15 PM																						
03:15 PM	0	0	0	0	0	31	102	0	0	133	39	0	41	0	80	0	110	31	0	141	354	
03:30 PM	0	0	0	0	0	35	119	0	0	154	34	0	39	0	73	0	125	28	0	153	380	
03:45 PM	0	0	0	0	0	41	100	0	0	141	40	0	32	0	72	0	147	35	0	182	395	
04:00 PM	0	0	0	0	0	31	107	0	0	138	47	0	41	0	88	0	131	21	0	152	378	
Total Volume	0	0	0	0	0	138	428	0	0	566	160	0	153	0	313	0	513	115	0	628	1507	
% App. Total	0	0	0	0	0	24.4	75.6	0	0		51.1	0	48.9	0		0	81.7	18.3	0			
PHF	.000	.000	.000	.000	.000	.841	.899	.000	.000	.919	.851	.000	.933	.000	.889	.000	.872	.821	.000	.863	.954	
Passenger Vehicles	0	0	0	0	0	138	395	0	0	533	160	0	153	0	313	0	493	115	0	608	1454	
% Passenger Vehicles	0	0	0	0	0	100	92.3	0	0	94.2	100	0	100	0	100	0	96.1	100	0	96.8	96.5	
Heavy Vehicles	0	0	0	0	0	0	33	0	0	33	0	0	0	0	0	0	20	0	0	20	53	
% Heavy Vehicles	0	0	0	0	0	0	7.7	0	0	5.8	0	0	0	0	0	0	3.9	0	0	3.2	3.5	



Lewisburg, TN  
Classified Turn Movement Count

Lat/Long  
lat 35.449196° lon -86.790242°



Site 6 of 9  
SR-373 West Commerce Street (East)  
SR-373 West Commerce Street (East)  
Franklin Road  
North 3rd Avenue

Date  
Wednesday 17 February 2016

Weather  
Cloudy  
Temp: 4°C

41 Peabody Street, Nashville, TN 37210  
1 (615) 431-6750  
1 (800) 615-3765

0600 - 1800 (Weekday 12h Session)

TIME	Eastbound SR-373 West Commerce Street (West)						Westbound SR-373 West Commerce Street (East)						Northbound Franklin Road						Southbound North 3rd Avenue						Int Total
	U-Turn 6.1	Left 6.2	Thru 6.3	Right 6.4	Peds	App Total	U-Turn 6.5	Left 6.6	Thru 6.7	Right 6.8	Peds	App Total	U-Turn 6.9	Left 6.10	Thru 6.11	Right 6.12	Peds	App Total	U-Turn 6.13	Left 6.14	Thru 6.15	Right 6.16	Peds	App Total	
0600 - 0615	0	2	35	8	0	45	0	0	10	0	0	10	0	7	1	0	0	8	0	0	2	2	0	4	67
0615 - 0630	0	3	51	7	0	61	0	1	13	0	0	14	0	8	3	0	0	11	0	0	0	1	0	1	87
0630 - 0645	0	2	59	6	0	67	0	0	23	0	0	23	0	10	1	1	3	15	0	1	3	1	0	5	110
0645 - 0700	0	3	64	9	0	76	0	0	29	1	0	30	0	5	1	0	2	8	0	0	0	2	0	2	116
Hourly Total	0	10	209	30	0	249	0	1	75	1	0	77	0	30	6	1	5	42	0	1	5	6	0	12	380
0700 - 0715	0	2	44	8	0	54	0	0	41	0	0	41	0	24	6	0	4	34	0	0	2	1	0	3	132
0715 - 0730	0	5	60	10	0	75	0	0	54	0	0	54	0	24	7	0	2	33	0	0	3	0	0	3	165
0730 - 0745	0	3	75	9	0	87	0	0	73	1	0	74	0	29	9	0	1	39	0	0	4	1	0	5	205
0745 - 0800	0	5	59	8	0	72	0	1	50	1	0	52	0	19	13	2	1	35	0	1	4	3	0	8	167
Hourly Total	0	15	238	35	0	288	0	1	218	2	0	221	0	96	35	2	8	141	0	1	13	5	0	19	669
0800 - 0815	0	3	60	4	0	67	0	0	45	0	0	45	0	14	10	1	0	25	0	4	5	6	0	15	152
0815 - 0830	0	6	49	7	0	62	0	1	38	0	0	39	0	17	5	2	0	24	0	2	4	4	1	11	136
0830 - 0845	0	4	51	10	0	65	0	1	33	0	0	34	0	14	1	1	0	16	0	0	4	3	1	8	123
0845 - 0900	0	5	60	8	0	73	0	1	33	0	0	34	0	12	5	0	0	17	0	2	5	3	0	10	134
Hourly Total	0	18	220	29	0	267	0	3	149	0	0	152	0	57	21	4	0	82	0	8	18	16	2	44	545
0900 - 0915	0	8	47	9	0	64	0	2	43	0	0	45	0	7	1	2	0	10	0	0	2	1	0	3	122
0915 - 0930	0	4	55	13	0	72	0	0	30	2	0	32	0	8	1	4	0	13	0	2	2	4	2	10	127
0930 - 0945	0	2	51	9	0	62	0	2	37	1	0	40	0	10	11	0	0	21	0	1	4	1	0	6	129
0945 - 1000	0	9	46	8	0	63	0	4	49	0	0	53	0	17	6	2	0	25	0	2	7	6	0	15	156
Hourly Total	0	23	199	39	0	261	0	8	159	3	0	170	0	42	19	8	0	69	0	5	15	12	2	34	534
1000 - 1015	0	2	54	8	0	64	0	0	35	1	1	37	0	13	2	0	1	16	0	5	4	3	0	12	129
1015 - 1030	0	4	53	9	0	66	0	2	41	1	0	44	0	10	4	1	2	17	0	0	3	6	0	9	136
1030 - 1045	0	2	56	7	0	65	0	0	44	0	3	47	0	8	5	3	1	17	0	1	2	3	0	6	135
1045 - 1100	0	6	49	6	0	61	0	0	55	1	2	58	0	12	4	0	1	17	0	1	3	5	0	9	145
Hourly Total	0	14	212	30	0	256	0	2	175	3	6	186	0	43	15	4	5	67	0	7	12	17	0	36	545
1100 - 1115	0	5	60	17	0	82	0	1	43	1	1	46	0	16	5	3	7	31	0	2	2	2	0	6	165
1115 - 1130	0	2	61	16	0	79	0	1	41	0	0	42	0	16	5	2	0	23	0	4	4	6	0	14	158
1130 - 1145	0	4	52	7	0	63	0	2	41	0	3	46	0	17	8	0	2	27	0	2	3	5	0	10	146
1145 - 1200	0	5	58	13	1	77	0	4	53	1	0	54	0	8	7	1	2	18	0	6	9	3	0	18	167
Hourly Total	0	16	231	53	1	301	0	4	178	2	4	188	0	57	25	6	11	99	0	14	18	16	0	48	636
1200 - 1215	0	5	60	11	0	76	0	2	67	2	4	75	0	26	4	0	2	32	0	3	7	5	0	15	198
1215 - 1230	0	3	75	16	0	94	0	0	49	1	0	50	0	9	5	0	0	14	0	1	6	4	0	11	169
1230 - 1245	0	5	68	10	0	83	0	2	46	1	1	50	0	14	3	0	4	21	0	1	4	8	0	13	167
1245 - 1300	0	7	60	7	0	74	0	3	36	1	1	41	0	7	2	3	3	15	0	2	2	5	1	10	140
Hourly Total	0	20	263	44	0	327	0	7	198	5	6	216	0	56	14	3	9	82	0	7	19	22	1	49	674
1300 - 1315	0	3	62	5	0	70	0	0	43	0	1	44	0	11	7	4	1	23	0	0	4	1	0	5	142
1315 - 1330	0	2	40	15	0	57	0	2	36	1	0	39	0	17	7	1	1	26	0	1	5	3	0	9	131
1330 - 1345	0	5	62	13	0	80	0	0	48	0	0	48	0	13	3	0	1	17	0	1	5	2	0	8	153
1345 - 1400	0	2	59	12	0	73	0	3	53	0	0	56	0	17	6	0	1	24	0	1	1	3	0	5	158
Hourly Total	0	12	223	45	0	280	0	5	180	1	1	187	0	58	23	5	4	90	0	3	15	9	0	27	584
1400 - 1415	0	5	72	12	0	89	0	0	38	0	0	38	0	19	4	2	0	25	0	2	8	5	0	15	167
1415 - 1430	0	3	72	13	0	88	0	2	58	1	0	61	0	11	8	0	1	20	0	1	1	2	0	4	173
1430 - 1445	0	3	64	11	0	78	0	0	53	1	0	54	0	16	7	0	0	23	0	1	5	2	0	8	163
1445 - 1500	0	7	76	7	0	90	0	0	72	2	0	74	0	27	6	0	1	34	0	1	9	2	0	12	210
Hourly Total	0	18	284	43	0	345	0	2	221	4	0	227	0	73	25	2	2	102	0	5	23	11	0	39	713
1500 - 1515	0	5	90	27	0	122	0	1	63	3	0	67	0	23	8	2	0	33	0	3	4	5	0	12	234
1515 - 1530	0	4	84	27	0	115	0	0	70	1	0	71	0	24	8	0	0	32	0	1	8	2	0	11	229
1530 - 1545	0	4	86	17	0	107	0	1	67	0	0	68	0	30	8	1	0	39	0	0	2	3	0	5	219
1545 - 1600	0	7	72	10	0	89	0	0	88	1	0	89	0	20	6	2	0	28	0	1	6	5	0	12	218
Hourly Total	0	20	332	81	0	433	0	2	288	5	0	295	0	97	30	5	0	132	0	5	20	15	0	40	900
1600 - 1615	0	4	63	18	0	85	0	0	80	1	0	81	0	17	3	1	2	23	0	0	12	3	0	15	204
1615 - 1630	0	5	67	16	0	88	0	0	65	1	0	66	0	20	4	1	1	26	0	2	7	3	0	12	192
1630 - 1645	0	4	73	17	0	94	0	1	79	0	0	80	0	21	5	1	2	29	0	1	7	7	0	15	218
1645 - 1700	0	6	63	11	0	80	0	1	69	3	0	73	0	16	6	0	2	24	0	2	6	8	0	16	193
Hourly Total	0	19	266	62	0	347	0	2	293	5	0	300	0	74	18	3	7	102	0	5	32	21	0	58	807
1700 - 1715	0	3	69	8	0	80	0	0	72	2	0	74	0	16	9	1	9	35	0	1	7	2	0	10	199
1715 - 1730	0	5	66	10	0	81	0	1	55	1	0	57	0	25	1	2	1	29	0	0	4	2	0	6	173
1730 - 1745	0	7	72	10	0	89	0	1	62	1	0	64	0	16	5	1	1	23	0	1	4	3	0	8	184
1745 - 1800	0	5	56	10	0	71	0	0	53	1	0	54	0	11	7	0	0	18	0	1	3	1	0	5	148
Hourly Total	0	20	263	38	0	321	0	2	242	5	0	249	0	68	22	4	11	105	0	3	18	8	0	29	704
Grand Total	0	205	2940	529	1	3675	0	39	2376	36	17	2468	0	751	253	47	62	1113	0	64	208	158	5	435	7691
App Percentage	0.00	5.58	80.00	14.39	0.03		0.00	1.58	96.27	1.46	0.69		0.00	67.48	22.73	4.22	5.57		0.00	14.71	47.82	36.32	1.15		
Int Percentage	0.00	2.67	38.23	6.88	0.01	47.78	0.00	0.51	30.89	0.47	0.22	32.09	0.00	9.76	3.29	0.61	0.81	14.47	0.00	0.83	2.70	2.05	0.07	5.66	
Cars	0	196	2862	509	-	3567	0																		

Site 6 of 9  
SR-373 West Commerce Street (East)  
SR-373 West Commerce Street (East)  
Franklin Road  
North 3rd Avenue

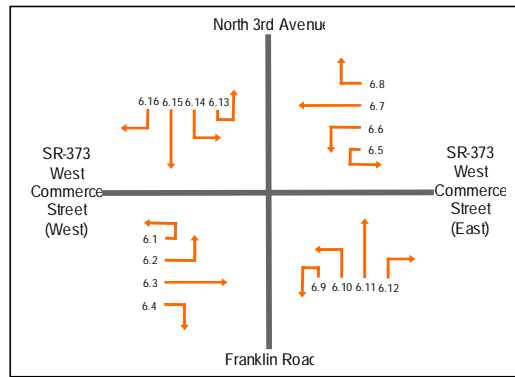
1500 - 1600 (Weekday 12h Peak Hour)

TIME	Eastbound SR-373 West Commerce Street (West)						Westbound SR-373 West Commerce Street (East)						Northbound Franklin Road						Southbound North 3rd Avenue						Int Total
	U-Turn 6.1	Left 6.2	Thru 6.3	Right 6.4	Peds	App Total	U-Turn 6.5	Left 6.6	Thru 6.7	Right 6.8	Peds	App Total	U-Turn 6.9	Left 6.10	Thru 6.11	Right 6.12	Peds	App Total	U-Turn 6.13	Left 6.14	Thru 6.15	Right 6.16	Peds	App Total	
1500 - 1515	0	5	90	27	-	122	0	1	63	3	-	67	0	23	8	2	-	33	0	3	4	5	-	12	234
1515 - 1530	0	4	84	27	-	115	0	0	70	1	-	71	0	24	8	0	-	32	0	1	8	2	-	11	229
1530 - 1545	0	4	86	17	-	107	0	1	67	0	-	68	0	30	8	1	-	39	0	0	2	3	-	5	219
1545 - 1600	0	7	72	10	-	89	0	0	88	1	-	89	0	20	6	2	-	28	0	1	6	5	-	12	218
Hourly Total	0	20	332	81	-	433	0	2	288	5	-	295	0	97	30	5	-	132	0	5	20	15	-	40	900
Grand Total	0	20	332	81	-	433	0	2	288	5	-	295	0	97	30	5	-	132	0	5	20	15	-	40	900
App Percentage	0.00	4.62	76.67	18.71	-		0.00	0.68	97.63	1.69	-		0.00	73.48	22.73	3.79	-		0.00	12.50	50.00	37.50	-		
Int Percentage	0.00	2.22	36.89	9.00	-	48.11	0.00	0.22	32.00	0.56	-	32.78	0.00	10.78	3.33	0.56	-	14.67	0.00	0.56	2.22	1.67	-	4.44	
Cars	0	18	323	78	-	419	0	2	286	5	-	293	0	94	29	5	-	128	0	5	19	14	-	38	878
Trucks	0	2	9	3	-	14	0	0	2	0	-	2	0	3	1	0	-	4	0	0	1	1	-	2	22
Cars (%)	0.00	90.00	97.29	96.30	-	96.77	0.00	100.00	99.31	100.00	-	99.32	0.00	96.91	96.67	100.00	-	96.97	0.00	100.00	95.00	93.33	-	95.00	97.56
Trucks (%)	0.00	10.00	2.71	3.70	-	3.23	0.00	0.00	0.69	0.00	-	0.68	0.00	3.09	3.33	0.00	-	3.03	0.00	0.00	5.00	6.67	-	5.00	2.44
PHF	0.000	0.714	0.922	0.750	-	0.887	0.000	0.500	0.818	0.417	-	0.829	0.000	0.808	0.938	0.625	-	0.846	0.000	0.417	0.625	0.750	-	0.833	0.962

(Southbound) North 3rd Avenue

In	Out	Total
40	55	95

Peds	Right	Thru	Left	U-Turn
-	15	20	5	0



(Eastbound) SR-373 West Commerce Street (East)

Out	400
In	433
Total	833

U-Turn	0
Left	20
Thru	332
Right	81
Peds	-

(Westbound) SR-373 West Commerce Street (East)

Peds	-
Right	5
Thru	288
Left	2
U-Turn	0

In	295
Out	342
Total	637

(Northbound) Franklin Road

U-Turn	Left	Thru	Right	Peds
0	97	30	5	-

Out	In	Total
103	132	235

Site 6 of 9  
SR-373 West Commerce Street (East)  
SR-373 West Commerce Street (East)  
Franklin Road  
North 3rd Avenue

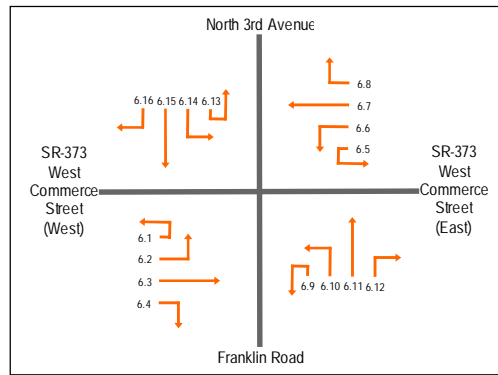
0715 - 0815 (Weekday AM Peak Hour)

TIME	Eastbound SR-373 West Commerce Street (West)						Westbound SR-373 West Commerce Street (East)						Northbound Franklin Road						Southbound North 3rd Avenue						Int Total
	U-Turn 6.1	Left 6.2	Thru 6.3	Right 6.4	Peds	App Total	U-Turn 6.5	Left 6.6	Thru 6.7	Right 6.8	Peds	App Total	U-Turn 6.9	Left 6.10	Thru 6.11	Right 6.12	Peds	App Total	U-Turn 6.13	Left 6.14	Thru 6.15	Right 6.16	Peds	App Total	
0715 - 0730	0	5	60	10	-	75	0	0	54	0	-	54	0	24	7	0	-	31	0	0	3	0	-	3	163
0730 - 0745	0	3	75	9	-	87	0	0	73	1	-	74	0	29	9	0	-	38	0	0	4	1	-	5	204
0745 - 0800	0	5	59	8	-	72	0	1	50	1	-	52	0	19	13	2	-	34	0	1	4	3	-	8	166
0800 - 0815	0	3	60	4	-	67	0	0	45	0	-	45	0	14	10	1	-	25	0	4	5	6	-	15	152
Hourly Total	0	16	254	31	-	301	0	1	222	2	-	225	0	86	39	3	-	128	0	5	16	10	-	31	685
Grand Total	0	16	254	31	-	301	0	1	222	2	-	225	0	86	39	3	-	128	0	5	16	10	-	31	685
App Percentage	0.00	5.32	84.39	10.30	-		0.00	0.44	98.67	0.89	-		0.00	67.19	30.47	2.34	-		0.00	16.13	51.61	32.26	-		
Int Percentage	0.00	2.34	37.08	4.53	-	43.94	0.00	0.15	32.41	0.29	-	32.85	0.00	12.55	5.69	0.44	-	18.69	0.00	0.73	2.34	1.46	-	4.53	
Cars	0	16	246	29	-	291	0	1	219	2	-	222	0	83	38	3	-	124	0	5	15	9	-	29	666
Trucks	0	0	8	2	-	10	0	0	3	0	-	3	0	3	1	0	-	4	0	0	1	1	-	2	19
Cars (%)	0.00	100.00	96.85	93.55	-	96.68	0.00	100.00	98.65	100.00	-	98.67	0.00	96.51	97.44	100.00	-	96.88	0.00	100.00	93.75	90.00	-	93.55	97.23
Trucks (%)	0.00	0.00	3.15	6.45	-	3.32	0.00	0.00	1.35	0.00	-	1.33	0.00	3.49	2.56	0.00	-	3.13	0.00	0.00	6.25	10.00	-	6.45	2.77
PHF	0.000	0.800	0.847	0.775	-	0.865	0.000	0.250	0.760	0.500	-	0.760	0.000	0.741	0.750	0.375	-	0.842	0.000	0.313	0.800	0.417	-	0.517	0.839

(Southbound) North 3rd Avenue

In	Out	Total
31	57	88

Peds	Right	Thru	Left	U-Turn
-	10	16	5	0



(Eastbound) SR-373 West Commerce Street (East)

Out	318
In	301
Total	619

U-Turn	0
Left	16
Thru	254
Right	31
Peds	-

(Westbound) SR-373 West Commerce Street (East)

Peds	-
Right	2
Thru	222
Left	1
U-Turn	0

In	225
Out	262
Total	487

(Northbound) Franklin Road

U-Turn	Left	Thru	Right	Peds
0	86	39	3	-

Out	In	Total
48	128	176

Site 6 of 9  
SR-373 West Commerce Street (East)  
SR-373 West Commerce Street (East)  
Franklin Road  
North 3rd Avenue

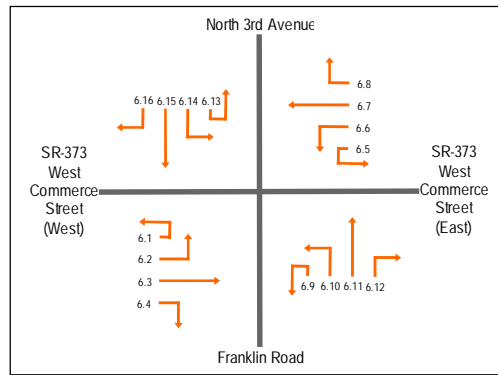
1145 - 1245 (Weekday Inter Peak Hour)

TIME	Eastbound SR-373 West Commerce Street (West)						Westbound SR-373 West Commerce Street (East)						Northbound Franklin Road						Southbound North 3rd Avenue						Int Total
	U-Turn 6.1	Left 6.2	Thru 6.3	Right 6.4	Peds	App Total	U-Turn 6.5	Left 6.6	Thru 6.7	Right 6.8	Peds	App Total	U-Turn 6.9	Left 6.10	Thru 6.11	Right 6.12	Peds	App Total	U-Turn 6.13	Left 6.14	Thru 6.15	Right 6.16	Peds	App Total	
1145 - 1200	0	5	58	13	-	76	0	0	53	1	-	54	0	8	7	1	-	16	0	6	9	3	-	18	164
1200 - 1215	0	5	60	11	-	76	0	2	67	2	-	71	0	26	4	0	-	30	0	3	7	5	-	15	192
1215 - 1230	0	3	75	16	-	94	0	0	49	1	-	50	0	9	5	0	-	14	0	1	6	4	-	11	169
1230 - 1245	0	5	68	10	-	83	0	2	46	1	-	49	0	14	3	0	-	17	0	1	4	8	-	13	162
Hourly Total	0	18	261	50	-	329	0	4	215	5	-	224	0	57	19	1	-	77	0	11	26	20	-	57	687
Grand Total	0	18	261	50	-	329	0	4	215	5	-	224	0	57	19	1	-	77	0	11	26	20	-	57	687
App Percentage	0.00	5.47	79.33	15.20	-		0.00	1.79	95.98	2.23	-		0.00	74.03	24.68	1.30	-		0.00	19.30	45.61	35.09	-		
Int Percentage	0.00	2.62	37.99	7.28	-	47.89	0.00	0.58	31.30	0.73	-	32.61	0.00	8.30	2.77	0.15	-	11.21	0.00	1.60	3.78	2.91	-	8.30	
Cars	0	18	252	48	-	318	0	4	209	5	-	218	0	54	19	1	-	74	0	11	26	20	-	57	667
Trucks	0	0	9	2	-	11	0	0	6	0	-	6	0	3	0	0	-	3	0	0	0	0	-	0	20
Cars (%)	0.00	100.00	96.55	96.00	-	96.66	0.00	100.00	97.21	100.00	-	97.32	0.00	94.74	100.00	100.00	-	96.10	0.00	100.00	100.00	100.00	-	100.00	97.09
Trucks (%)	0.00	0.00	3.45	4.00	-	3.34	0.00	0.00	2.79	0.00	-	2.68	0.00	5.26	0.00	0.00	-	3.90	0.00	0.00	0.00	0.00	-	0.00	2.91
PHF	0.000	0.900	0.870	0.781	-	0.875	0.000	0.500	0.802	0.625	-	0.789	0.000	0.548	0.679	0.250	-	0.642	0.000	0.458	0.722	0.625	-	0.792	0.895

(Southbound) North 3rd Avenue

In	Out	Total
57	42	99

Peds	Right	Thru	Left	U-Turn
-	20	26	11	0



(Eastbound) SR-373 West Commerce Street (East)

Out	292
In	329
Total	621

U-Turn	0
Left	18
Thru	261
Right	50
Peds	-

(Westbound) SR-373 West Commerce Street (East)

Peds	-
Right	5
Thru	215
Left	4
U-Turn	0

In	224
Out	273
Total	497

(Northbound) Franklin Road

U-Turn	Left	Thru	Right	Peds
0	57	19	1	-

Out	In	Total
80	77	157

Site 6 of 9  
SR-373 West Commerce Street (East)  
SR-373 West Commerce Street (East)  
Franklin Road  
North 3rd Avenue

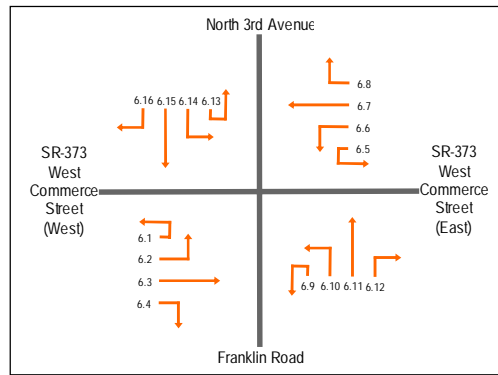
1500 - 1600 (Weekday PM Peak Hour)

TIME	Eastbound SR-373 West Commerce Street (West)						Westbound SR-373 West Commerce Street (East)						Northbound Franklin Road						Southbound North 3rd Avenue						Int Total
	U-Turn 6.1	Left 6.2	Thru 6.3	Right 6.4	Peds	App Total	U-Turn 6.5	Left 6.6	Thru 6.7	Right 6.8	Peds	App Total	U-Turn 6.9	Left 6.10	Thru 6.11	Right 6.12	Peds	App Total	U-Turn 6.13	Left 6.14	Thru 6.15	Right 6.16	Peds	App Total	
1500 - 1515	0	5	90	27	-	122	0	1	63	3	-	67	0	23	8	2	-	33	0	3	4	5	-	12	234
1515 - 1530	0	4	84	27	-	115	0	0	70	1	-	71	0	24	8	0	-	32	0	1	8	2	-	11	229
1530 - 1545	0	4	86	17	-	107	0	1	67	0	-	68	0	30	8	1	-	39	0	0	2	3	-	5	219
1545 - 1600	0	7	72	10	-	89	0	0	88	1	-	89	0	20	6	2	-	28	0	1	6	5	-	12	218
Hourly Total	0	20	332	81	-	433	0	2	288	5	-	295	0	97	30	5	-	132	0	5	20	15	-	40	900
Grand Total	0	20	332	81	-	433	0	2	288	5	-	295	0	97	30	5	-	132	0	5	20	15	-	40	900
App Percentage	0.00	4.62	76.67	18.71	-		0.00	0.68	97.63	1.69	-		0.00	73.48	22.73	3.79	-		0.00	12.50	50.00	37.50	-		
Int Percentage	0.00	2.22	36.89	9.00	-	48.11	0.00	0.22	32.00	0.56	-	32.78	0.00	10.78	3.33	0.56	-	14.67	0.00	0.56	2.22	1.67	-	4.44	
Cars	0	18	323	78	-	419	0	2	286	5	-	293	0	94	29	5	-	128	0	5	19	14	-	38	878
Trucks	0	2	9	3	-	14	0	0	2	0	-	2	0	3	1	0	-	4	0	0	1	1	-	2	22
Cars (%)	0.00	90.00	97.29	96.30	-	96.77	0.00	100.00	99.31	100.00	-	99.32	0.00	96.91	96.67	100.00	-	96.97	0.00	100.00	95.00	93.33	-	95.00	97.56
Trucks (%)	0.00	10.00	2.71	3.70	-	3.23	0.00	0.00	0.69	0.00	-	0.68	0.00	3.09	3.33	0.00	-	3.03	0.00	0.00	5.00	6.67	-	5.00	2.44
PHF	0.000	0.714	0.922	0.750	-	0.887	0.000	0.500	0.818	0.417	-	0.829	0.000	0.808	0.938	0.625	-	0.846	0.000	0.417	0.625	0.750	-	0.833	0.962

(Southbound) North 3rd Avenue

In	Out	Total
40	55	95

Peds	Right	Thru	Left	U-Turn
-	15	20	5	0



(Eastbound) SR-373 West Commerce Street (East)

Out	400	U-Turn	0
In	433	Left	20
Total	833	Thru	332
		Right	81
		Peds	-

(Westbound) SR-373 West Commerce Street (East)

Peds	-	In	295
Right	5	Out	342
Thru	288	Total	637
Left	2		
U-Turn	0		

(Northbound) Franklin Road

U-Turn	0	Left	97	Thru	30	Right	5	Peds	-
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Out	103	In	132	Total	235
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# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: W Ellington Parkway  
E/W Street: Old Columbia / Jason Maxwell

File Name : Lewisburg-A  
Site Code : 00000020  
Start Date : 4/7/2015  
Page No : 1

Counted by: City of Lewisburg

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	4	1	3	0	8	45	16	0	0	61	0	0	54	0	54	2	62	10	0	74	197
07:15 AM	4	2	0	0	6	56	33	1	0	90	1	4	62	0	67	4	78	7	0	89	252
07:30 AM	1	3	8	0	12	57	51	1	0	109	1	0	81	0	82	0	91	11	0	102	305
07:45 AM	8	0	2	0	10	19	48	4	0	71	1	2	43	0	46	3	90	10	0	103	230
<b>Total</b>	<b>17</b>	<b>6</b>	<b>13</b>	<b>0</b>	<b>36</b>	<b>177</b>	<b>148</b>	<b>6</b>	<b>0</b>	<b>331</b>	<b>3</b>	<b>6</b>	<b>240</b>	<b>0</b>	<b>249</b>	<b>9</b>	<b>321</b>	<b>38</b>	<b>0</b>	<b>368</b>	<b>984</b>
08:00 AM	2	2	1	0	5	7	19	1	0	27	0	1	6	0	7	0	24	2	0	26	65
08:15 AM	0	1	1	0	2	8	19	1	0	28	0	0	5	0	5	3	17	0	0	20	55
08:30 AM	2	0	1	0	3	5	15	2	0	22	1	1	4	0	6	1	18	2	0	21	52
08:45 AM	0	2	1	0	3	8	17	2	0	27	0	0	8	0	8	2	25	0	0	27	65
<b>Total</b>	<b>4</b>	<b>5</b>	<b>4</b>	<b>0</b>	<b>13</b>	<b>28</b>	<b>70</b>	<b>6</b>	<b>0</b>	<b>104</b>	<b>1</b>	<b>2</b>	<b>23</b>	<b>0</b>	<b>26</b>	<b>6</b>	<b>84</b>	<b>4</b>	<b>0</b>	<b>94</b>	<b>237</b>
*** BREAK ***																					
11:00 AM	1	1	0	0	2	4	18	1	0	23	2	0	9	0	11	2	32	2	1	37	73
11:15 AM	3	2	2	0	7	5	17	2	0	24	0	1	7	0	8	0	10	1	0	11	50
11:30 AM	0	1	1	0	2	5	23	5	0	33	0	0	6	0	6	0	29	3	1	33	74
11:45 AM	0	1	2	0	3	3	34	0	0	37	0	0	6	0	6	0	29	4	0	33	79
<b>Total</b>	<b>4</b>	<b>5</b>	<b>5</b>	<b>0</b>	<b>14</b>	<b>17</b>	<b>92</b>	<b>8</b>	<b>0</b>	<b>117</b>	<b>2</b>	<b>1</b>	<b>28</b>	<b>0</b>	<b>31</b>	<b>2</b>	<b>100</b>	<b>10</b>	<b>2</b>	<b>114</b>	<b>276</b>
12:00 PM	1	0	1	0	2	7	30	1	0	38	0	0	3	0	3	0	22	2	0	24	67
12:15 PM	1	0	0	0	1	2	23	0	0	25	1	1	12	0	14	0	18	3	0	21	61
12:30 PM	0	1	1	0	2	11	29	2	0	42	0	0	9	0	9	1	21	1	0	23	76
12:45 PM	2	2	1	0	5	7	31	1	0	39	1	1	6	0	8	0	18	3	0	21	73
<b>Total</b>	<b>4</b>	<b>3</b>	<b>3</b>	<b>0</b>	<b>10</b>	<b>27</b>	<b>113</b>	<b>4</b>	<b>0</b>	<b>144</b>	<b>2</b>	<b>2</b>	<b>30</b>	<b>0</b>	<b>34</b>	<b>1</b>	<b>79</b>	<b>9</b>	<b>0</b>	<b>89</b>	<b>277</b>
*** BREAK ***																					
04:00 PM	2	0	2	0	4	16	53	4	1	74	2	0	13	0	15	2	30	2	0	34	127
04:15 PM	2	2	1	0	5	18	45	3	0	66	4	2	6	0	12	4	28	2	0	34	117
04:30 PM	3	2	2	0	7	12	45	1	0	58	1	2	9	0	12	3	36	0	0	39	116
04:45 PM	0	2	1	0	3	10	50	2	0	62	4	1	14	0	19	4	30	2	1	37	121
<b>Total</b>	<b>7</b>	<b>6</b>	<b>6</b>	<b>0</b>	<b>19</b>	<b>56</b>	<b>193</b>	<b>10</b>	<b>1</b>	<b>260</b>	<b>11</b>	<b>5</b>	<b>42</b>	<b>0</b>	<b>58</b>	<b>13</b>	<b>124</b>	<b>6</b>	<b>1</b>	<b>144</b>	<b>481</b>
05:00 PM	0	1	0	0	1	10	56	4	0	70	0	1	12	0	13	2	39	4	0	45	129
05:15 PM	2	0	1	0	3	11	50	0	0	61	0	0	19	0	19	2	33	2	0	37	120
05:30 PM	0	0	1	0	1	14	54	2	0	70	1	1	9	0	11	3	27	1	0	31	113
05:45 PM	2	1	0	0	3	6	31	5	0	42	0	1	6	0	7	2	29	0	0	31	83
<b>Total</b>	<b>4</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>8</b>	<b>41</b>	<b>191</b>	<b>11</b>	<b>0</b>	<b>243</b>	<b>1</b>	<b>3</b>	<b>46</b>	<b>0</b>	<b>50</b>	<b>9</b>	<b>128</b>	<b>7</b>	<b>0</b>	<b>144</b>	<b>445</b>
<b>Grand Total</b>	<b>40</b>	<b>27</b>	<b>33</b>	<b>0</b>	<b>100</b>	<b>346</b>	<b>807</b>	<b>45</b>	<b>1</b>	<b>1199</b>	<b>20</b>	<b>19</b>	<b>409</b>	<b>0</b>	<b>448</b>	<b>40</b>	<b>836</b>	<b>74</b>	<b>3</b>	<b>953</b>	<b>2700</b>
<b>Apprch %</b>	<b>40</b>	<b>27</b>	<b>33</b>	<b>0</b>		<b>28.9</b>	<b>67.3</b>	<b>3.8</b>	<b>0.1</b>		<b>4.5</b>	<b>4.2</b>	<b>91.3</b>	<b>0</b>		<b>4.2</b>	<b>87.7</b>	<b>7.8</b>	<b>0.3</b>		
<b>Total %</b>	<b>1.5</b>	<b>1</b>	<b>1.2</b>	<b>0</b>	<b>3.7</b>	<b>12.8</b>	<b>29.9</b>	<b>1.7</b>	<b>0</b>	<b>44.4</b>	<b>0.7</b>	<b>0.7</b>	<b>15.1</b>	<b>0</b>	<b>16.6</b>	<b>1.5</b>	<b>31</b>	<b>2.7</b>	<b>0.1</b>	<b>35.3</b>	
Passenger Vehicles	40	27	33	0	100	316	786	45	1	1148	19	19	393	0	431	40	816	72	3	931	2610
% Passenger Vehicles	100	100	100	0	100	91.3	97.4	100	100	95.7	95	100	96.1	0	96.2	100	97.6	97.3	100	97.7	96.7
Heavy Vehicles	0	0	0	0	0	30	21	0	0	51	1	0	16	0	17	0	20	2	0	22	90
% Heavy Vehicles	0	0	0	0	0	8.7	2.6	0	0	4.3	5	0	3.9	0	3.8	0	2.4	2.7	0	2.3	3.3

# Signal Timing Optimization Study

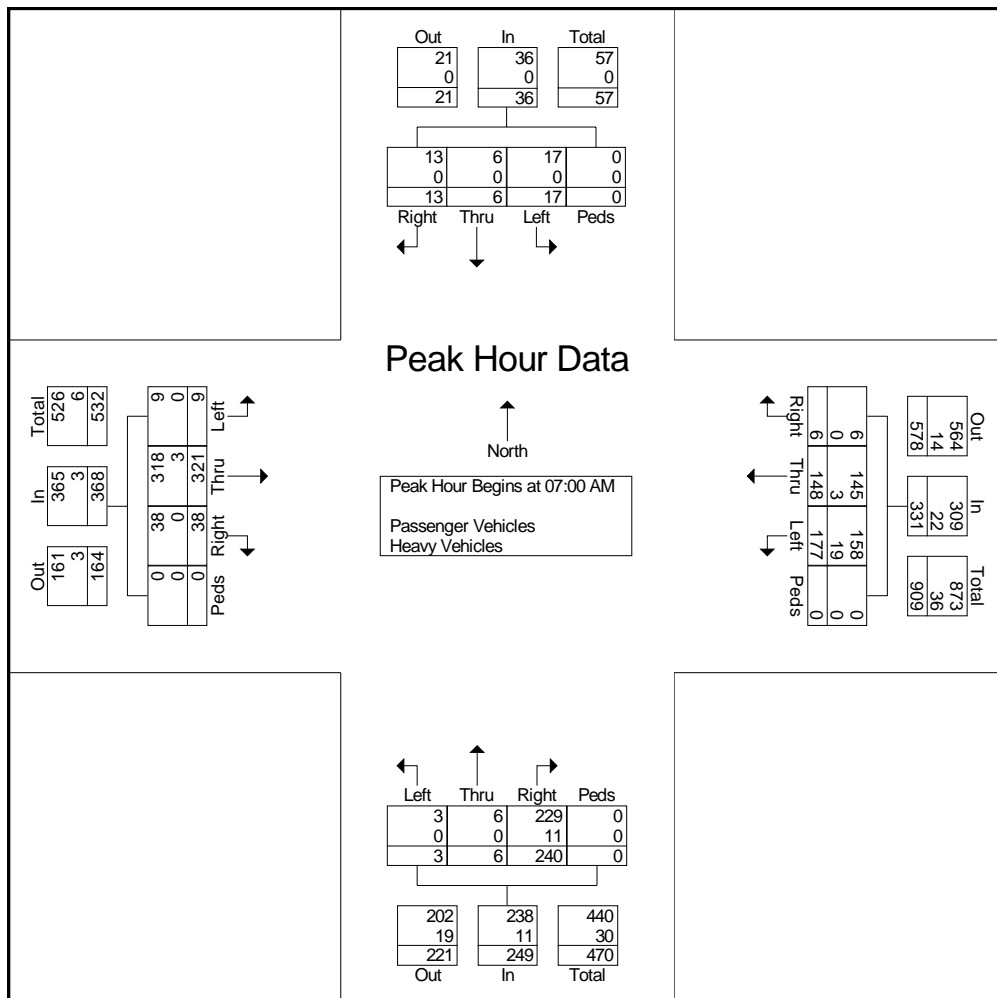
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: W Ellington Parkway  
E/W Street: Old Columbia / Jason Maxwell

File Name : Lewisburg-A  
Site Code : 00000020  
Start Date : 4/7/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	4	1	3	0	8	45	16	0	0	61	0	0	54	0	54	2	62	10	0	74	197
07:15 AM	4	2	0	0	6	56	33	1	0	90	1	4	62	0	67	4	78	7	0	89	252
07:30 AM	1	3	8	0	12	57	51	1	0	109	1	0	81	0	82	0	91	11	0	102	305
07:45 AM	8	0	2	0	10	19	48	4	0	71	1	2	43	0	46	3	90	10	0	103	230
Total Volume	17	6	13	0	36	177	148	6	0	331	3	6	240	0	249	9	321	38	0	368	984
% App. Total	47.2	16.7	36.1	0		53.5	44.7	1.8	0		1.2	2.4	96.4	0		2.4	87.2	10.3	0		
PHF	.531	.500	.406	.000	.750	.776	.725	.375	.000	.759	.750	.375	.741	.000	.759	.563	.882	.864	.000	.893	.807
Passenger Vehicles	17	6	13	0	36	158	145	6	0	309	3	6	229	0	238	9	318	38	0	365	948
% Passenger Vehicles	100	100	100	0	100	89.3	98.0	100	0	93.4	100	100	95.4	0	95.6	100	99.1	100	0	99.2	96.3
Heavy Vehicles	0	0	0	0	0	19	3	0	0	22	0	0	11	0	11	0	3	0	0	3	36
% Heavy Vehicles	0	0	0	0	0	10.7	2.0	0	0	6.6	0	0	4.6	0	4.4	0	0.9	0	0	0.8	3.7



# Signal Timing Optimization Study

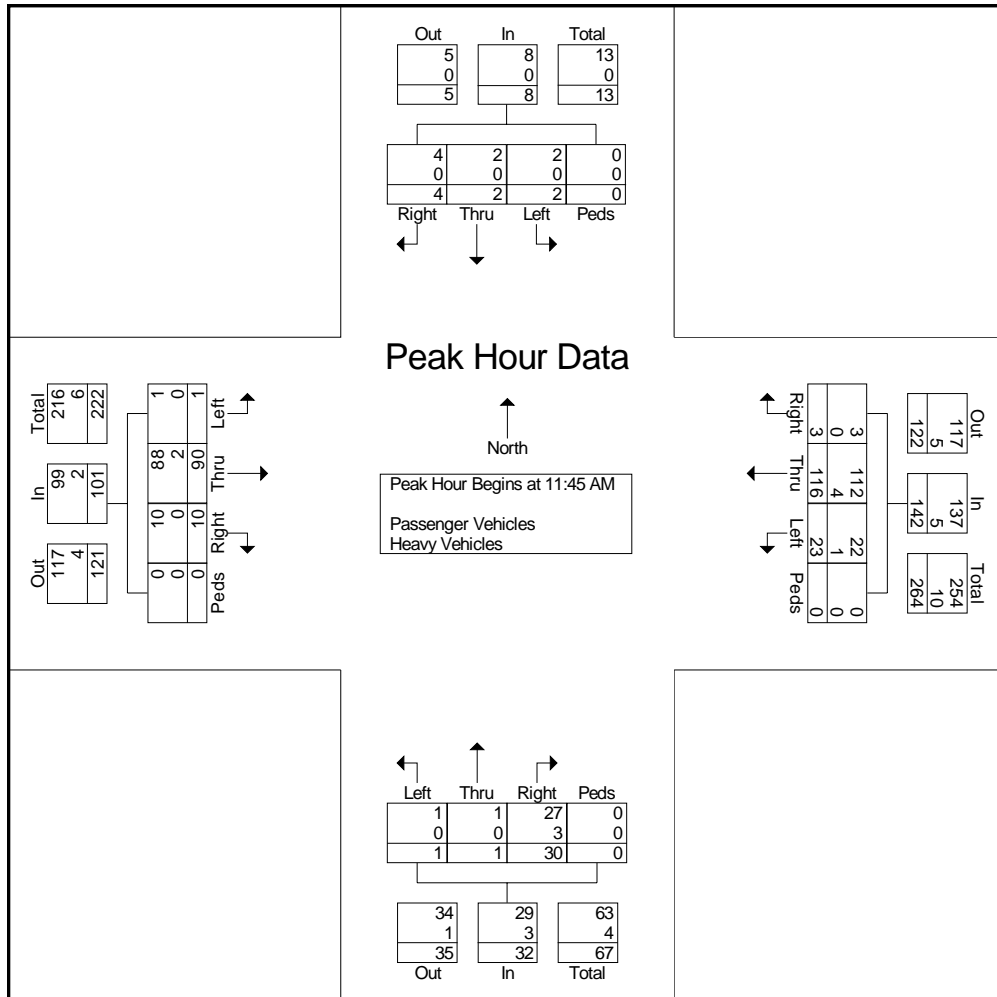
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: W Ellington Parkway  
E/W Street: Old Columbia / Jason Maxwell

File Name : Lewisburg-A  
Site Code : 00000020  
Start Date : 4/7/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:45 AM																					
11:45 AM	0	1	2	0	3	3	34	0	0	37	0	0	6	0	6	0	29	4	0	33	79
12:00 PM	1	0	1	0	2	7	30	1	0	38	0	0	3	0	3	0	22	2	0	24	67
12:15 PM	1	0	0	0	1	2	23	0	0	25	1	1	12	0	14	0	18	3	0	21	61
12:30 PM	0	1	1	0	2	11	29	2	0	42	0	0	9	0	9	1	21	1	0	23	76
Total Volume	2	2	4	0	8	23	116	3	0	142	1	1	30	0	32	1	90	10	0	101	283
% App. Total	25	25	50	0		16.2	81.7	2.1	0		3.1	3.1	93.8	0		1	89.1	9.9	0		
PHF	.500	.500	.500	.000	.667	.523	.853	.375	.000	.845	.250	.250	.625	.000	.571	.250	.776	.625	.000	.765	.896
Passenger Vehicles	2	2	4	0	8	22	112	3	0	137	1	1	27	0	29	1	88	10	0	99	273
% Passenger Vehicles	100	100	100	0	100	95.7	96.6	100	0	96.5	100	100	90.0	0	90.6	100	97.8	100	0	98.0	96.5
Heavy Vehicles	0	0	0	0	0	1	4	0	0	5	0	0	3	0	3	0	2	0	0	2	10
% Heavy Vehicles	0	0	0	0	0	4.3	3.4	0	0	3.5	0	0	10.0	0	9.4	0	2.2	0	0	2.0	3.5



# Signal Timing Optimization Study

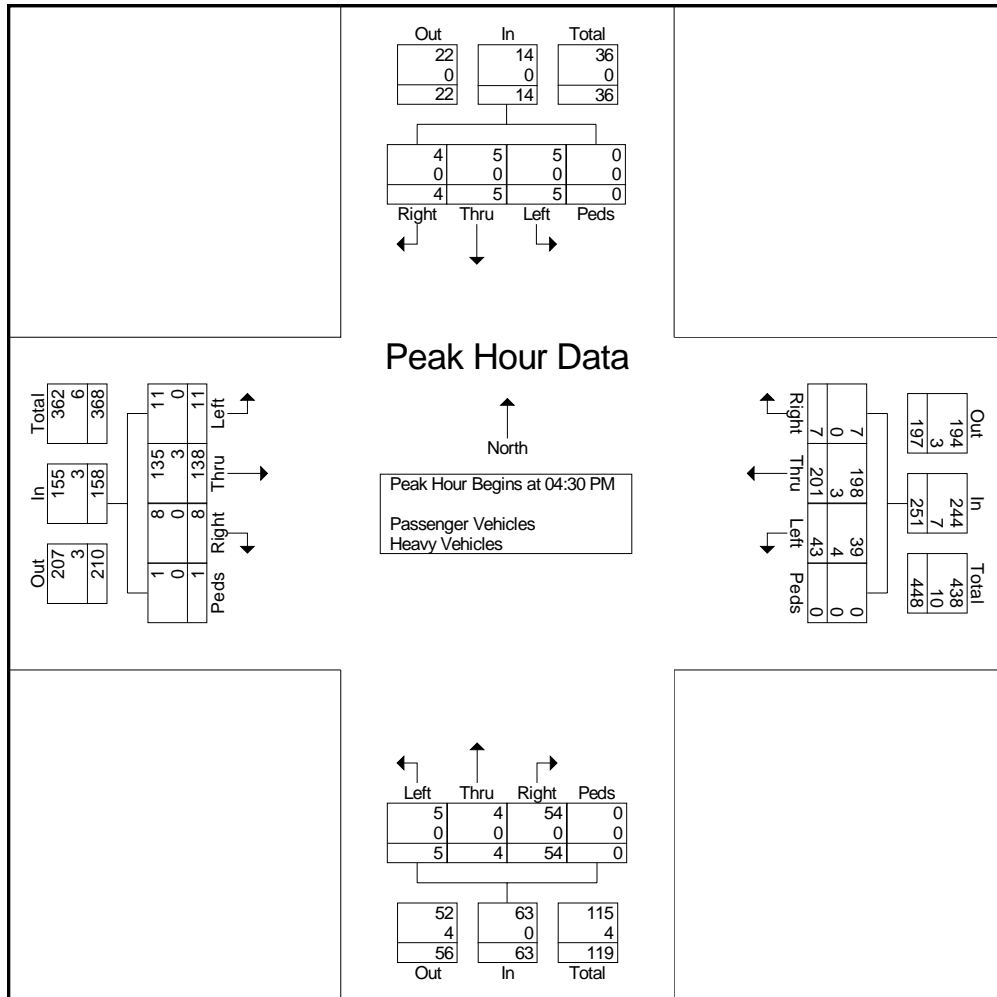
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: W Ellington Parkway  
E/W Street: Old Columbia / Jason Maxwell

File Name : Lewisburg-A  
Site Code : 0000020  
Start Date : 4/7/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	3	2	2	0	7	12	45	1	0	58	1	2	9	0	12	3	36	0	0	39	116
04:45 PM	0	2	1	0	3	10	50	2	0	62	4	1	14	0	19	4	30	2	1	37	121
05:00 PM	0	1	0	0	1	10	56	4	0	70	0	1	12	0	13	2	39	4	0	45	129
05:15 PM	2	0	1	0	3	11	50	0	0	61	0	0	19	0	19	2	33	2	0	37	120
Total Volume	5	5	4	0	14	43	201	7	0	251	5	4	54	0	63	11	138	8	1	158	486
% App. Total	35.7	35.7	28.6	0		17.1	80.1	2.8	0		7.9	6.3	85.7	0		7	87.3	5.1	0.6		
PHF	.417	.625	.500	.000	.500	.896	.897	.438	.000	.896	.313	.500	.711	.000	.829	.688	.885	.500	.250	.878	.942
Passenger Vehicles	5	5	4	0	14	39	198	7	0	244	5	4	54	0	63	11	135	8	1	155	476
% Passenger Vehicles	100	100	100	0	100	90.7	98.5	100	0	97.2	100	100	100	0	100	100	97.8	100	100	98.1	97.9
Heavy Vehicles	0	0	0	0	0	4	3	0	0	7	0	0	0	0	0	0	3	0	0	3	10
% Heavy Vehicles	0	0	0	0	0	9.3	1.5	0	0	2.8	0	0	0	0	0	0	2.2	0	0	1.9	2.1



Lewisburg, TN  
Classified Turn Movement Count

Site 4 of 9  
SR-373 West Commerce Street (West)  
SR-373 West Commerce Street (East)  
Freeman Drive  
SR-417 West Ellington Parkway

Lat/Long  
lat 35.454400° lon -86.821855°

Date  
Wednesday 17 February 2016

Weather  
Cloudy  
Temp: 4°C



41 Peabody Street, Nashville, TN 37210  
1 (615) 431-6750  
1 (800) 615-3765

0600 - 1800 (Weekday 12h Session)

TIME	Eastbound SR-373 West Commerce Street (West)						Westbound SR-373 West Commerce Street (East)						Northbound Freeman Drive						Southbound SR-417 West Ellington Parkway						Int Total
	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds	App Total	
0600 - 0615	0	11	19	0	0	30	0	0	23	9	0	32	0	2	3	4	1	10	0	7	2	7	0	16	88
0615 - 0630	0	11	34	0	0	45	0	1	30	4	0	35	0	1	2	2	0	5	0	6	0	12	0	18	103
0630 - 0645	0	17	40	0	0	57	0	1	38	18	0	57	0	0	2	4	0	6	0	13	2	8	0	23	143
0645 - 0700	0	28	27	0	0	55	0	0	41	29	0	70	0	1	3	3	0	7	0	3	3	8	0	14	146
Hourly Total	0	67	120	0	0	187	0	2	132	60	0	194	0	4	10	13	1	28	0	29	7	35	0	71	480
0700 - 0715	0	18	26	1	0	45	0	3	36	46	0	85	0	2	5	7	0	14	0	13	3	11	0	27	171
0715 - 0730	0	29	49	3	0	81	0	4	40	49	0	93	0	2	1	4	0	7	0	25	1	6	0	32	213
0730 - 0745	0	30	57	1	0	88	0	5	42	71	0	118	0	2	3	6	0	11	0	24	3	14	0	41	258
0745 - 0800	0	29	39	0	0	68	0	4	49	72	0	125	0	1	5	2	0	8	0	30	2	13	0	45	246
Hourly Total	0	106	171	5	0	282	0	16	167	238	0	421	0	7	14	19	0	40	0	92	9	44	0	145	888
0800 - 0815	0	12	28	0	0	40	0	3	26	15	0	44	0	2	0	2	0	4	0	13	4	7	0	24	112
0815 - 0830	0	9	29	1	0	39	0	3	29	15	0	47	0	1	0	2	0	3	0	26	1	7	0	34	123
0830 - 0845	0	13	23	1	0	37	0	4	28	13	0	45	0	1	1	5	0	7	0	15	1	6	0	22	111
0845 - 0900	0	12	27	1	0	40	0	7	25	16	0	48	0	0	3	1	0	4	0	16	4	6	0	26	118
Hourly Total	0	46	107	3	0	156	0	17	108	59	0	184	0	4	4	10	0	18	0	70	10	26	0	106	464
0900 - 0915	0	11	27	0	0	38	0	1	17	9	0	27	0	3	1	3	0	7	0	8	1	4	0	13	85
0915 - 0930	0	8	30	1	0	39	0	2	31	10	0	43	0	4	1	3	0	8	0	11	4	7	0	22	112
0930 - 0945	0	8	23	0	0	31	0	3	21	9	0	33	0	1	3	3	0	7	0	11	1	3	0	15	86
0945 - 1000	0	8	26	0	0	34	0	5	21	5	0	31	0	0	2	3	0	5	0	14	1	8	0	23	93
Hourly Total	0	35	106	1	0	142	0	11	90	33	0	134	0	8	7	12	0	27	0	44	7	22	0	73	376
1000 - 1015	0	7	20	1	0	28	0	1	20	18	0	39	0	0	1	3	0	4	0	8	2	7	0	17	88
1015 - 1030	0	9	20	0	0	29	0	1	25	13	0	39	0	1	1	4	0	6	0	8	2	12	0	22	96
1030 - 1045	0	9	20	2	0	31	0	3	23	12	0	38	0	0	1	2	0	3	0	13	2	8	0	23	95
1045 - 1100	0	11	28	0	0	39	0	5	21	13	0	39	0	0	2	5	0	7	0	10	1	6	0	17	102
Hourly Total	0	36	88	3	0	127	0	10	89	56	0	155	0	1	5	14	0	20	0	39	7	33	0	79	381
1100 - 1115	0	9	28	0	0	37	1	0	23	21	0	45	0	0	2	6	0	8	0	17	6	6	0	29	119
1115 - 1130	0	5	25	0	0	30	0	1	32	11	0	44	0	1	2	0	0	3	0	10	2	17	0	29	106
1130 - 1145	0	9	23	2	0	34	0	4	22	17	0	43	0	1	3	0	0	4	0	10	4	10	0	24	105
1145 - 1200	0	9	26	0	0	35	0	6	20	8	0	34	0	0	4	2	0	6	0	15	2	14	0	31	106
Hourly Total	0	32	102	2	0	136	1	11	97	57	0	166	0	2	11	8	0	21	0	52	14	47	0	113	436
1200 - 1215	0	10	24	0	0	34	0	2	29	15	0	46	0	1	3	1	0	5	0	26	4	7	0	37	122
1215 - 1230	0	5	27	1	0	33	0	4	29	18	0	51	0	1	1	4	0	6	0	20	2	12	0	34	124
1230 - 1245	0	7	16	1	0	24	0	3	24	15	0	42	0	0	2	2	0	4	0	20	1	9	0	30	100
1245 - 1300	0	8	24	0	0	32	0	3	29	18	0	50	0	3	3	4	0	10	0	12	0	6	0	18	110
Hourly Total	0	30	91	2	0	123	0	12	111	66	0	189	0	5	9	11	0	25	0	78	7	34	0	119	456
1300 - 1315	0	9	23	0	0	32	0	4	17	18	0	39	0	0	1	1	0	2	0	19	3	11	0	33	106
1315 - 1330	0	8	25	0	0	33	0	4	21	15	0	40	0	1	1	2	0	4	0	19	1	7	0	27	104
1330 - 1345	0	5	24	1	0	30	0	0	25	18	0	43	0	0	6	2	0	8	0	19	1	14	0	34	115
1345 - 1400	0	8	23	0	0	31	0	2	21	23	0	46	0	0	1	5	0	6	0	31	0	17	0	48	131
Hourly Total	0	30	95	1	0	126	0	10	84	74	0	168	0	1	9	10	0	20	0	88	5	49	0	142	456
1400 - 1415	0	9	30	0	0	39	0	3	29	18	0	50	0	2	0	1	0	3	0	27	2	17	0	46	138
1415 - 1430	0	17	40	0	0	57	1	2	26	12	0	41	0	0	2	2	0	4	0	15	2	4	0	21	123
1430 - 1445	0	13	34	0	0	47	0	3	23	12	0	38	0	0	0	4	0	4	0	28	1	13	0	42	131
1445 - 1500	0	14	28	1	0	43	0	7	32	30	0	69	0	0	0	3	0	3	0	31	1	17	0	49	164
Hourly Total	0	53	132	1	0	186	1	15	110	72	0	198	0	2	2	10	0	14	0	101	6	51	0	158	556
1500 - 1515	0	13	44	0	0	57	0	5	39	30	0	74	0	1	2	5	0	8	0	54	4	16	0	74	213
1515 - 1530	0	8	28	3	0	39	0	7	35	21	0	63	0	1	1	4	0	6	0	59	6	24	0	89	197
1530 - 1545	0	16	36	1	0	53	0	8	45	27	0	80	0	3	5	5	0	13	0	23	2	21	0	46	192
1545 - 1600	0	16	34	2	0	52	0	3	42	32	0	77	0	2	2	2	0	6	0	35	1	22	0	58	193
Hourly Total	0	53	142	6	0	201	0	23	161	110	0	294	0	7	10	16	0	33	0	171	13	83	0	267	795
1600 - 1615	0	8	42	2	0	52	0	4	33	23	0	60	0	1	1	2	0	4	0	30	2	21	0	53	169
1615 - 1630	0	14	33	1	0	48	0	6	36	35	0	77	0	1	0	4	0	5	0	27	2	19	0	48	178
1630 - 1645	0	17	45	1	0	63	0	3	39	26	0	68	0	0	3	5	0	8	0	40	5	14	0	59	198
1645 - 1700	0	10	39	3	0	52	0	6	39	21	0	66	0	1	4	10	0	15	0	31	4	30	0	65	198
Hourly Total	0	49	159	7	0	215	0	19	147	105	0	271	0	3	8	21	0	32	0	128	13	84	0	225	743
1700 - 1715	0	12	46	3	0	61	0	4	51	26	0	81	0	2	2	5	0	9	0	40	5	11	0	56	207
1715 - 1730	0	10	32	5	0	47	0	4	45	19	0	68	0	2	0	3	0	5	0	29	5	18	0	52	172
1730 - 1745	0	17	42	2	0	61	0	5	42	22	0	69	0	0	1	6	0	7	0	29	6	26	0	61	198
1745 - 1800	0	9	37	1	0	47	0	4	32	27	0	63	0	0	2	4	0	6	0	29	1	13	0	43	159
Hourly Total	0	48	157	11	0	216	0	17	170	94	0	281	0	4	5	18	0	27	0	127	17	68	0	212	736
Grand Total	0	585	1470	42	0	2097	2	163	1466	1024	0	2655	0	48	94	162	1	305	0	1019	115	576	0	1710	6767
App Percentage	0.00	27.90	70.10	2.00	0.00		0.08	6.14	55.22	38.57	0.00		0.00	15.74	30.82	53.11	0.33		0.00	59.59	6.73	33.68	0.00		
Int Percentage	0.00	8.64	21.72	0.62	0.00	30.99	0.03	2.41	21.66	15.13	0.00	39.23	0.00	0.71	1.39	2.39	0.01	4.51	0.00	15.06	1.70	8.51	0.00		

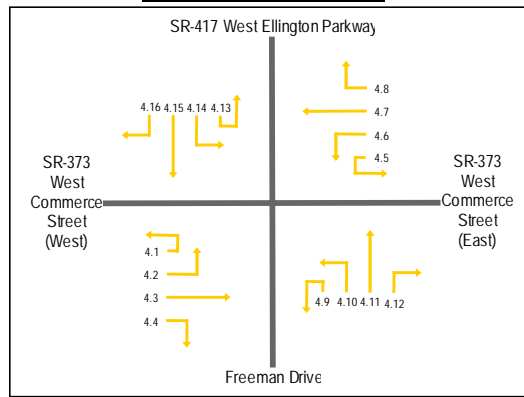
0700 - 0800 (Weekday 12h Peak Hour)

TIME	Eastbound SR-373 West Commerce Street (West)						Westbound SR-373 West Commerce Street (East)						Northbound Freeman Drive						Southbound SR-417 West Ellington Parkway						Int Total
	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds	App Total	
0700 - 0715	0	18	26	1	-	45	0	3	36	46	-	85	0	2	5	7	-	14	0	13	3	11	-	27	171
0715 - 0730	0	29	49	3	-	81	0	4	40	49	-	93	0	2	1	4	-	7	0	25	1	6	-	32	213
0730 - 0745	0	30	57	1	-	88	0	5	42	71	-	118	0	2	3	6	-	11	0	24	3	14	-	41	258
0745 - 0800	0	29	39	0	-	68	0	4	49	72	-	125	0	1	5	2	-	8	0	30	2	13	-	45	246
Hourly Total	0	106	171	5	-	282	0	16	167	238	-	421	0	7	14	19	-	40	0	92	9	44	-	145	888
Grand Total	0	106	171	5	-	282	0	16	167	238	-	421	0	7	14	19	-	40	0	92	9	44	-	145	888
App Percentage	0.00	37.59	60.64	1.77	-		0.00	3.80	39.67	56.53	-		0.00	17.50	35.00	47.50	-		0.00	63.45	6.21	30.34	-		
Int Percentage	0.00	11.94	19.26	0.56	-	31.76	0.00	1.80	18.81	26.80	-	47.41	0.00	0.79	1.58	2.14	-	4.50	0.00	10.36	1.01	4.95	-	16.33	
Cars	0	103	167	5	-	275	0	16	160	238	-	414	0	7	13	18	-	38	0	92	8	42	-	142	869
Trucks	0	3	4	0	-	7	0	0	7	0	-	7	0	0	1	1	-	2	0	0	1	2	-	3	19
Cars (%)	0.00	97.17	97.66	100.00	-	97.52	0.00	100.00	95.81	100.00	-	98.34	0.00	100.00	92.86	94.74	-	95.00	0.00	100.00	88.89	95.45	-	97.93	97.86
Trucks (%)	0.00	2.83	2.34	0.00	-	2.48	0.00	0.00	4.19	0.00	-	1.66	0.00	0.00	7.14	5.26	-	5.00	0.00	0.00	11.11	4.55	-	2.07	2.14
PHF	0.000	0.883	0.750	0.417	-	0.801	0.000	0.800	0.852	0.826	-	0.842	0.000	0.875	0.700	0.679	-	0.714	0.000	0.767	0.750	0.786	-	0.806	0.860

(Southbound) SR-417 West Ellington Parkway

In	Out	Total
145	358	503

Peds	Right	Thru	Left	U-Turn
-	44	9	92	0



(Northbound) Freeman Drive

U-Turn	Left	Thru	Right	Peds
0	7	14	19	-

Out	In	Total
30	40	70

(Eastbound) SR-373 West Commerce Street (West)

Out	218
In	282
Total	500

U-Turn	0
Left	106
Thru	171
Right	5
Peds	-

(Westbound) SR-373 West Commerce Street (East)

Peds	-
Right	238
Thru	167
Left	16
U-Turn	0

In	421
Out	282
Total	703



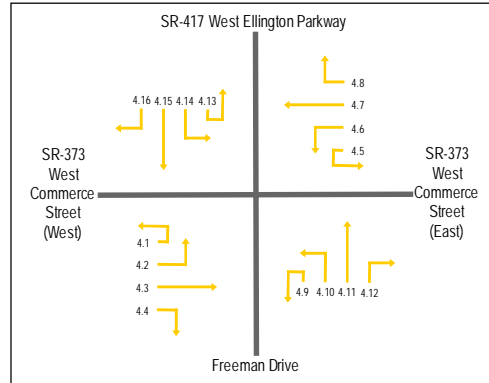
0700 - 0800 (Weekday AM Peak Hour)

TIME	Eastbound SR-373 West Commerce Street (West)						Westbound SR-373 West Commerce Street (East)						Northbound Freeman Drive						Southbound SR-417 West Ellington Parkway						Int Total
	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds	App Total	
0700 - 0715	0	18	26	1	-	45	0	3	36	46	-	85	0	2	5	7	-	14	0	13	3	11	-	27	171
0715 - 0730	0	29	49	3	-	81	0	4	40	49	-	93	0	2	1	4	-	7	0	25	1	6	-	32	213
0730 - 0745	0	30	57	1	-	88	0	5	42	71	-	118	0	2	3	6	-	11	0	24	3	14	-	41	258
0745 - 0800	0	29	39	0	-	68	0	4	49	72	-	125	0	1	5	2	-	8	0	30	2	13	-	45	246
Hourly Total	0	106	171	5	-	282	0	16	167	238	-	421	0	7	14	19	-	40	0	92	9	44	-	145	888
Grand Total	0	106	171	5	-	282	0	16	167	238	-	421	0	7	14	19	-	40	0	92	9	44	-	145	888
App Percentage	0.00	37.59	60.64	1.77	-		0.00	3.80	39.67	56.53	-		0.00	17.50	35.00	47.50	-		0.00	63.45	6.21	30.34	-		
Int Percentage	0.00	11.94	19.26	0.56	-	31.76	0.00	1.80	18.81	26.80	-	47.41	0.00	0.79	1.58	2.14	-	4.50	0.00	10.36	1.01	4.95	-	16.33	
Cars	0	103	167	5	-	275	0	16	160	238	-	414	0	7	13	18	-	38	0	92	8	42	-	142	869
Trucks	0	3	4	0	-	7	0	0	7	0	-	7	0	0	1	1	-	2	0	0	1	2	-	3	19
Cars (%)	0.00	97.17	97.66	100.00	-	97.52	0.00	100.00	95.81	100.00	-	98.34	0.00	100.00	92.86	94.74	-	95.00	0.00	100.00	88.89	95.45	-	97.93	97.86
Trucks (%)	0.00	2.83	2.34	0.00	-	2.48	0.00	0.00	4.19	0.00	-	1.66	0.00	0.00	7.14	5.26	-	5.00	0.00	0.00	11.11	4.55	-	2.07	2.14
PHF	0.000	0.883	0.750	0.417	-	0.801	0.000	0.800	0.852	0.826	-	0.842	0.000	0.875	0.700	0.679	-	0.714	0.000	0.767	0.750	0.786	-	0.806	0.860

(Southbound) SR-417 West Ellington Parkway

In	Out	Total
145	358	503

Peds	Right	Thru	Left	U-Turn
-	44	9	92	0



(Eastbound) SR-373 West Commerce Street (West)

U-Turn	0
Left	106
Thru	171
Right	5
Peds	-

Out	218
In	282
Total	500

(Westbound) SR-373 West Commerce Street (East)

Peds	-
Right	238
Thru	167
Left	16
U-Turn	0

In	421
Out	282
Total	703

(Northbound) Freeman Drive

U-Turn	Left	Thru	Right	Peds
0	7	14	19	-

Out	In	Total
30	40	70

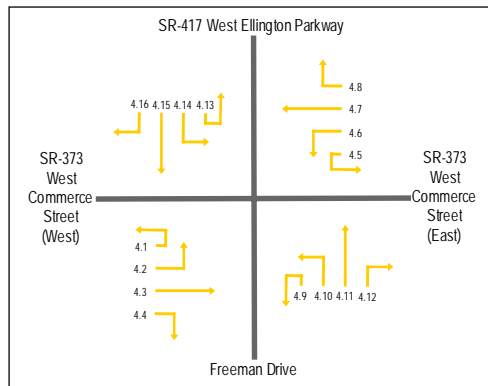
1130 - 1230 (Weekday Inter Peak Hour)

TIME	Eastbound SR-373 West Commerce Street (West)						Westbound SR-373 West Commerce Street (East)						Northbound Freeman Drive						Southbound SR-417 West Ellington Parkway						Int Total
	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds	App Total	
1130 - 1145	0	9	23	2	-	34	0	4	22	17	-	43	0	1	3	0	-	4	0	10	4	10	-	24	105
1145 - 1200	0	9	26	0	-	35	0	6	20	8	-	34	0	0	4	2	-	6	0	15	2	14	-	31	106
1200 - 1215	0	10	24	0	-	34	0	2	29	15	-	46	0	1	3	1	-	5	0	26	4	7	-	37	122
1215 - 1230	0	5	27	1	-	33	0	4	29	18	-	51	0	1	1	4	-	6	0	20	2	12	-	34	124
Hourly Total	0	33	100	3	-	136	0	16	100	58	-	174	0	3	11	7	-	21	0	71	12	43	-	126	457
Grand Total	0	33	100	3	-	136	0	16	100	58	-	174	0	3	11	7	-	21	0	71	12	43	-	126	457
App Percentage	0.00	24.26	73.53	2.21	-		0.00	9.20	57.47	33.33	-		0.00	14.29	52.38	33.33	-		0.00	56.35	9.52	34.13	-		
Int Percentage	0.00	7.22	21.88	0.66	-	29.76	0.00	3.50	21.88	12.69	-	38.07	0.00	0.66	2.41	1.53	-	4.60	0.00	15.54	2.63	9.41	-	27.57	
Cars	0	29	92	3	-	124	0	15	91	56	-	162	0	3	11	7	-	21	0	69	12	43	-	124	431
Trucks	0	4	8	0	-	12	0	1	9	2	-	12	0	0	0	0	-	0	0	2	0	0	-	2	26
Cars (%)	0.00	87.88	92.00	100.00	-	91.18	0.00	93.75	91.00	96.55	-	93.10	0.00	100.00	100.00	100.00	-	100.00	0.00	97.18	100.00	100.00	-	98.41	94.31
Trucks (%)	0.00	12.12	8.00	0.00	-	8.82	0.00	6.25	9.00	3.45	-	6.90	0.00	0.00	0.00	0.00	-	0.00	0.00	2.82	0.00	0.00	-	1.59	5.69
PHF	0.000	0.825	0.926	0.375	-	0.971	0.000	0.667	0.862	0.806	-	0.853	0.000	0.750	0.688	0.438	-	0.875	0.000	0.683	0.750	0.768	-	0.851	0.921

(Southbound) SR-417 West Ellington Parkway

In	Out	Total
126	102	228

Peds	Right	Thru	Left	U-Turn
-	43	12	71	0



(Eastbound) SR-373 West Commerce Street (West)

Out	146
In	136
Total	282

U-Turn	0
Left	33
Thru	100
Right	3
Peds	-

(Westbound) SR-373 West Commerce Street (East)

Peds	-
Right	58
Thru	100
Left	16
U-Turn	0

In	174
Out	178
Total	352

(Northbound) Freeman Drive

U-Turn	Left	Thru	Right	Peds
0	3	11	7	-

Out	In	Total
31	21	52



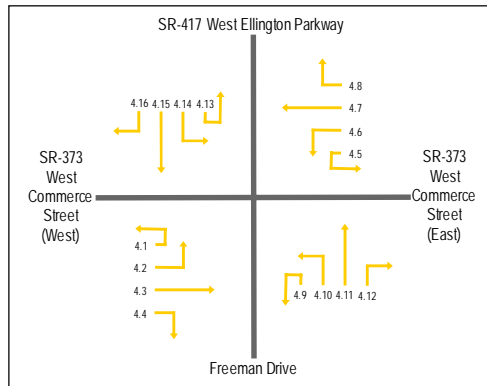
1500 - 1600 (Weekday PM Peak Hour)

TIME	Eastbound SR-373 West Commerce Street (West)						Westbound SR-373 West Commerce Street (East)						Northbound Freeman Drive						Southbound SR-417 West Ellington Parkway						Int Total
	U-Turn 4.1	Left 4.2	Thru 4.3	Right 4.4	Peds	App Total	U-Turn 4.5	Left 4.6	Thru 4.7	Right 4.8	Peds	App Total	U-Turn 4.9	Left 4.10	Thru 4.11	Right 4.12	Peds	App Total	U-Turn 4.13	Left 4.14	Thru 4.15	Right 4.16	Peds	App Total	
1500 - 1515	0	13	44	0	-	57	0	5	39	30	-	74	0	1	2	5	-	8	0	54	4	16	-	74	213
1515 - 1530	0	8	28	3	-	39	0	7	35	21	-	63	0	1	1	4	-	6	0	59	6	24	-	89	197
1530 - 1545	0	16	36	1	-	53	0	8	45	27	-	80	0	3	5	5	-	13	0	23	2	21	-	46	192
1545 - 1600	0	16	34	2	-	52	0	3	42	32	-	77	0	2	2	2	-	6	0	35	1	22	-	58	193
Hourly Total	0	53	142	6	-	201	0	23	161	110	-	294	0	7	10	16	-	33	0	171	13	83	-	267	795
Grand Total	0	53	142	6	-	201	0	23	161	110	-	294	0	7	10	16	-	33	0	171	13	83	-	267	795
App Percentage	0.00	26.37	70.65	2.99	-		0.00	7.82	54.76	37.41	-		0.00	21.21	30.30	48.48	-		0.00	64.04	4.87	31.09	-		
Int Percentage	0.00	6.67	17.86	0.75	-	25.28	0.00	2.89	20.25	13.84	-	36.98	0.00	0.88	1.26	2.01	-	4.15	0.00	21.51	1.64	10.44	-	33.58	
Cars	0	50	135	5	-	190	0	22	152	107	-	281	0	7	9	16	-	32	0	170	13	83	-	266	769
Trucks	0	3	7	1	-	11	0	1	9	3	-	13	0	0	1	0	-	1	0	1	0	0	-	1	26
Cars (%)	0.00	94.34	95.07	83.33	-	94.53	0.00	95.65	94.41	97.27	-	95.58	0.00	100.00	90.00	100.00	-	96.97	0.00	99.42	100.00	100.00	-	99.63	96.73
Trucks (%)	0.00	5.66	4.93	16.67	-	5.47	0.00	4.35	5.59	2.73	-	4.42	0.00	0.00	10.00	0.00	-	3.03	0.00	0.58	0.00	0.00	-	0.37	3.27
PHF	0.000	0.828	0.807	0.500	-	0.882	0.000	0.719	0.894	0.859	-	0.919	0.000	0.583	0.500	0.800	-	0.635	0.000	0.725	0.542	0.865	-	0.750	0.933

(Southbound) SR-417 West Ellington Parkway

In	Out	Total
267	173	440

Peds	Right	Thru	Left	U-Turn
-	83	13	171	0



(Eastbound) SR-373 West Commerce Street (West)

Out	251	U-Turn	0
In	201	Left	53
Total	452	Thru	142
		Right	6
		Peds	-

(Westbound) SR-373 West Commerce Street (East)

Peds	-	In	294
Right	110	Out	329
Thru	161	Total	623
Left	23		
U-Turn	0		

(Northbound) Freeman Drive

U-Turn	Left	Thru	Right	Peds
0	7	10	16	-

Out	In	Total
42	33	75

# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Armory Drive  
E/W Street: E Commerce Street

File Name : Lewisburg-C  
Site Code : 00000022  
Start Date : 4/9/2015  
Page No : 1

Counted by: City of Lewisburg

## Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
07:00 AM	0	0	0	0	0	4	129	0	0	133	0	0	7	0	7	0	110	0	0	110	250
07:15 AM	0	0	0	0	0	1	86	0	0	87	0	0	5	0	5	0	112	1	0	113	205
07:30 AM	0	0	0	0	0	5	65	0	0	70	0	0	5	0	5	0	112	1	0	113	188
07:45 AM	0	0	0	0	0	1	114	0	0	115	1	0	3	0	4	0	109	1	0	110	229
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>11</b>	<b>394</b>	<b>0</b>	<b>0</b>	<b>405</b>	<b>1</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>21</b>	<b>0</b>	<b>443</b>	<b>3</b>	<b>0</b>	<b>446</b>	<b>872</b>
08:00 AM	0	0	0	0	0	0	58	0	0	58	1	0	4	0	5	0	90	2	0	92	155
08:15 AM	0	0	0	0	0	5	60	0	0	65	1	0	4	0	5	0	61	1	0	62	132
08:30 AM	0	0	0	0	0	1	49	0	0	50	0	0	6	0	6	0	67	1	0	68	124
08:45 AM	0	0	0	0	0	2	45	0	0	47	0	0	4	0	4	0	57	1	0	58	109
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>212</b>	<b>0</b>	<b>0</b>	<b>220</b>	<b>2</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>20</b>	<b>0</b>	<b>275</b>	<b>5</b>	<b>0</b>	<b>280</b>	<b>520</b>
*** BREAK ***																					
11:00 AM	0	0	0	0	0	2	58	0	0	60	0	0	1	0	1	0	85	0	0	85	146
11:15 AM	0	0	0	0	0	2	77	0	0	79	0	0	1	0	1	0	78	0	0	78	158
11:30 AM	0	0	0	0	0	2	78	0	0	80	0	0	1	0	1	0	95	0	0	95	176
11:45 AM	0	0	0	0	0	1	76	0	0	77	0	0	2	0	2	0	97	0	0	97	176
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>7</b>	<b>289</b>	<b>0</b>	<b>0</b>	<b>296</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>355</b>	<b>0</b>	<b>0</b>	<b>355</b>	<b>656</b>
12:00 PM	0	0	0	0	0	5	85	0	0	90	0	0	0	0	0	0	129	0	0	129	219
12:15 PM	0	0	0	0	0	2	91	0	0	93	0	0	2	0	2	0	75	1	0	76	171
12:30 PM	0	0	0	0	0	3	89	0	0	92	0	0	4	0	4	0	70	0	0	70	166
12:45 PM	0	0	0	0	0	5	82	0	0	87	0	0	3	0	3	0	81	1	0	82	172
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>15</b>	<b>347</b>	<b>0</b>	<b>0</b>	<b>362</b>	<b>0</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>9</b>	<b>0</b>	<b>355</b>	<b>2</b>	<b>0</b>	<b>357</b>	<b>728</b>
*** BREAK ***																					
04:00 PM	0	0	0	0	0	5	73	0	0	78	0	0	7	0	7	0	136	1	0	137	222
04:15 PM	0	0	0	0	0	4	72	0	0	76	0	0	6	0	6	0	95	0	0	95	177
04:30 PM	0	0	0	0	0	5	66	0	0	71	0	0	9	0	9	0	123	1	0	124	204
04:45 PM	0	0	0	0	0	5	67	0	0	72	0	0	4	0	4	0	95	0	0	95	171
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>19</b>	<b>278</b>	<b>0</b>	<b>0</b>	<b>297</b>	<b>0</b>	<b>0</b>	<b>26</b>	<b>0</b>	<b>26</b>	<b>0</b>	<b>449</b>	<b>2</b>	<b>0</b>	<b>451</b>	<b>774</b>
05:00 PM	0	0	0	0	0	8	94	0	0	102	0	0	5	0	5	0	111	0	0	111	218
05:15 PM	0	0	0	0	0	6	71	0	0	77	0	0	3	0	3	0	67	0	0	67	147
05:30 PM	0	0	0	0	0	6	53	0	0	59	0	0	6	0	6	0	63	0	0	63	128
05:45 PM	0	0	0	0	0	6	65	0	0	71	0	0	3	0	3	0	62	0	0	62	136
<b>Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>26</b>	<b>283</b>	<b>0</b>	<b>0</b>	<b>309</b>	<b>0</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>17</b>	<b>0</b>	<b>303</b>	<b>0</b>	<b>0</b>	<b>303</b>	<b>629</b>
<b>Grand Total</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>86</b>	<b>1803</b>	<b>0</b>	<b>0</b>	<b>1889</b>	<b>3</b>	<b>0</b>	<b>95</b>	<b>0</b>	<b>98</b>	<b>0</b>	<b>2180</b>	<b>12</b>	<b>0</b>	<b>2192</b>	<b>4179</b>
<b>Apprch %</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>4.6</b>	<b>95.4</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3.1</b>	<b>0</b>	<b>96.9</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>99.5</b>	<b>0.5</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>Total %</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>2.1</b>	<b>43.1</b>	<b>0</b>	<b>0</b>	<b>45.2</b>	<b>0.1</b>	<b>0</b>	<b>2.3</b>	<b>0</b>	<b>2.3</b>	<b>0</b>	<b>52.2</b>	<b>0.3</b>	<b>0</b>	<b>52.5</b>	<b>0</b>
Passenger Vehicles																					
% Passenger Vehicles	0	0	0	0	0	100	93	0	0	93.3	100	0	100	0	100	0	93.8	91.7	0	93.8	93.7
Heavy Vehicles	0	0	0	0	0	0	127	0	0	127	0	0	0	0	0	0	135	1	0	136	263
% Heavy Vehicles	0	0	0	0	0	0	7	0	0	6.7	0	0	0	0	0	0	6.2	8.3	0	6.2	6.3

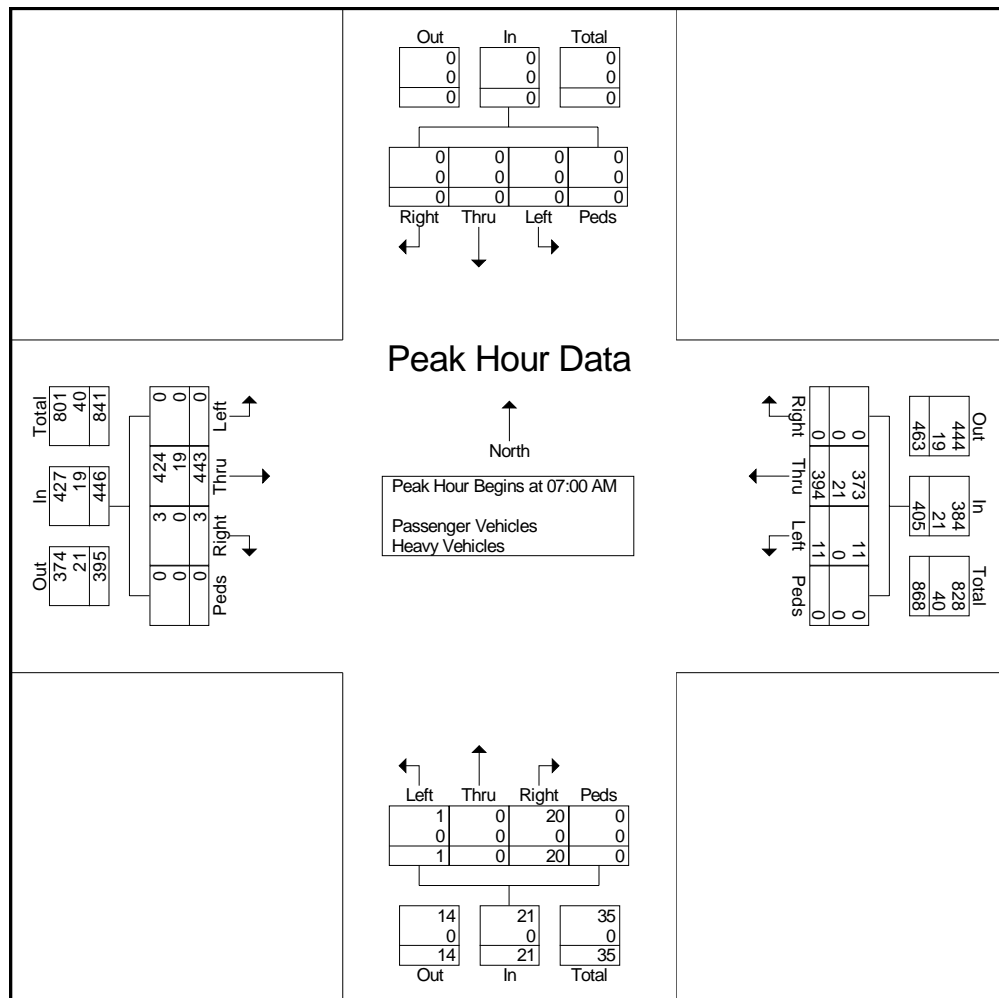
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Armory Drive  
E/W Street: E Commerce Street  
Counted by: City of Lewisburg

File Name : Lewisburg-C  
Site Code : 00000022  
Start Date : 4/9/2015  
Page No : 2

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	4	129	0	0	133	0	0	7	0	7	0	110	0	0	110	250
07:15 AM	0	0	0	0	0	1	86	0	0	87	0	0	5	0	5	0	112	1	0	113	205
07:30 AM	0	0	0	0	0	5	65	0	0	70	0	0	5	0	5	0	112	1	0	113	188
07:45 AM	0	0	0	0	0	1	114	0	0	115	1	0	3	0	4	0	109	1	0	110	229
Total Volume	0	0	0	0	0	11	394	0	0	405	1	0	20	0	21	0	443	3	0	446	872
% App. Total	0	0	0	0	0	2.7	97.3	0	0		4.8	0	95.2	0		0	99.3	0.7	0		
PHF	.000	.000	.000	.000	.000	.550	.764	.000	.000	.761	.250	.000	.714	.000	.750	.000	.989	.750	.000	.987	.872
Passenger Vehicles	0	0	0	0	0	11	373	0	0	384	1	0	20	0	21	0	424	3	0	427	832
% Passenger Vehicles	0	0	0	0	0	100	94.7	0	0	94.8	100	0	100	0	100	0	95.7	100	0	95.7	95.4
Heavy Vehicles	0	0	0	0	0	0	21	0	0	21	0	0	0	0	0	0	19	0	0	19	40
% Heavy Vehicles	0	0	0	0	0	0	5.3	0	0	5.2	0	0	0	0	0	0	4.3	0	0	4.3	4.6



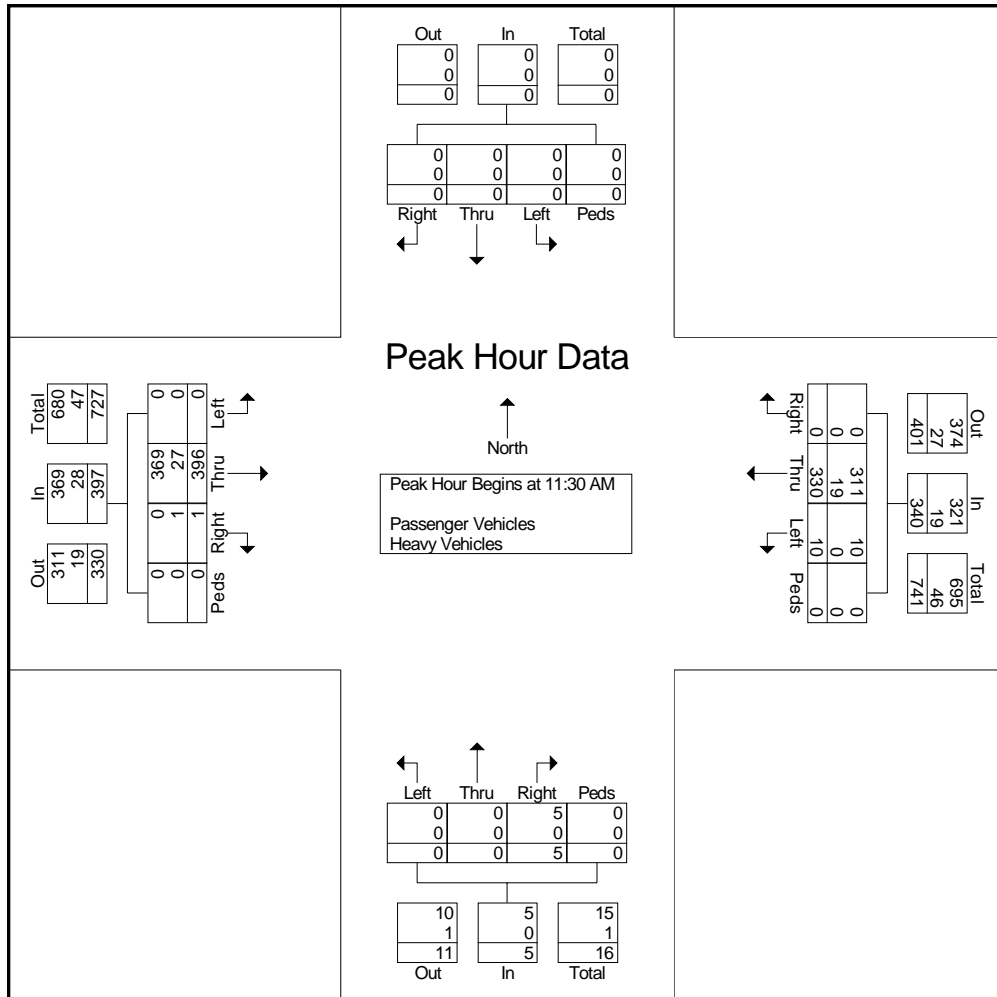
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Armory Drive  
E/W Street: E Commerce Street  
Counted by: City of Lewisburg

File Name : Lewisburg-C  
Site Code : 00000022  
Start Date : 4/9/2015  
Page No : 3

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 11:00 AM to 12:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:30 AM																					
11:30 AM	0	0	0	0	0	2	78	0	0	80	0	0	1	0	1	0	95	0	0	95	176
11:45 AM	0	0	0	0	0	1	76	0	0	77	0	0	2	0	2	0	97	0	0	97	176
12:00 PM	0	0	0	0	0	5	85	0	0	90	0	0	0	0	0	0	129	0	0	129	219
12:15 PM	0	0	0	0	0	2	91	0	0	93	0	0	2	0	2	0	75	1	0	76	171
Total Volume	0	0	0	0	0	10	330	0	0	340	0	0	5	0	5	0	396	1	0	397	742
% App. Total	0	0	0	0	0	2.9	97.1	0	0		0	0	100	0		0	99.7	0.3	0		
PHF	.000	.000	.000	.000	.000	.500	.907	.000	.000	.914	.000	.000	.625	.000	.625	.000	.767	.250	.000	.769	.847
Passenger Vehicles	0	0	0	0	0	10	311	0	0	321	0	0	5	0	5	0	369	0	0	369	695
% Passenger Vehicles	0	0	0	0	0	100	94.2	0	0	94.4	0	0	100	0	100	0	93.2	0	0	92.9	93.7
Heavy Vehicles	0	0	0	0	0	0	19	0	0	19	0	0	0	0	0	0	27	1	0	28	47
% Heavy Vehicles	0	0	0	0	0	0	5.8	0	0	5.6	0	0	0	0	0	0	6.8	100	0	7.1	6.3



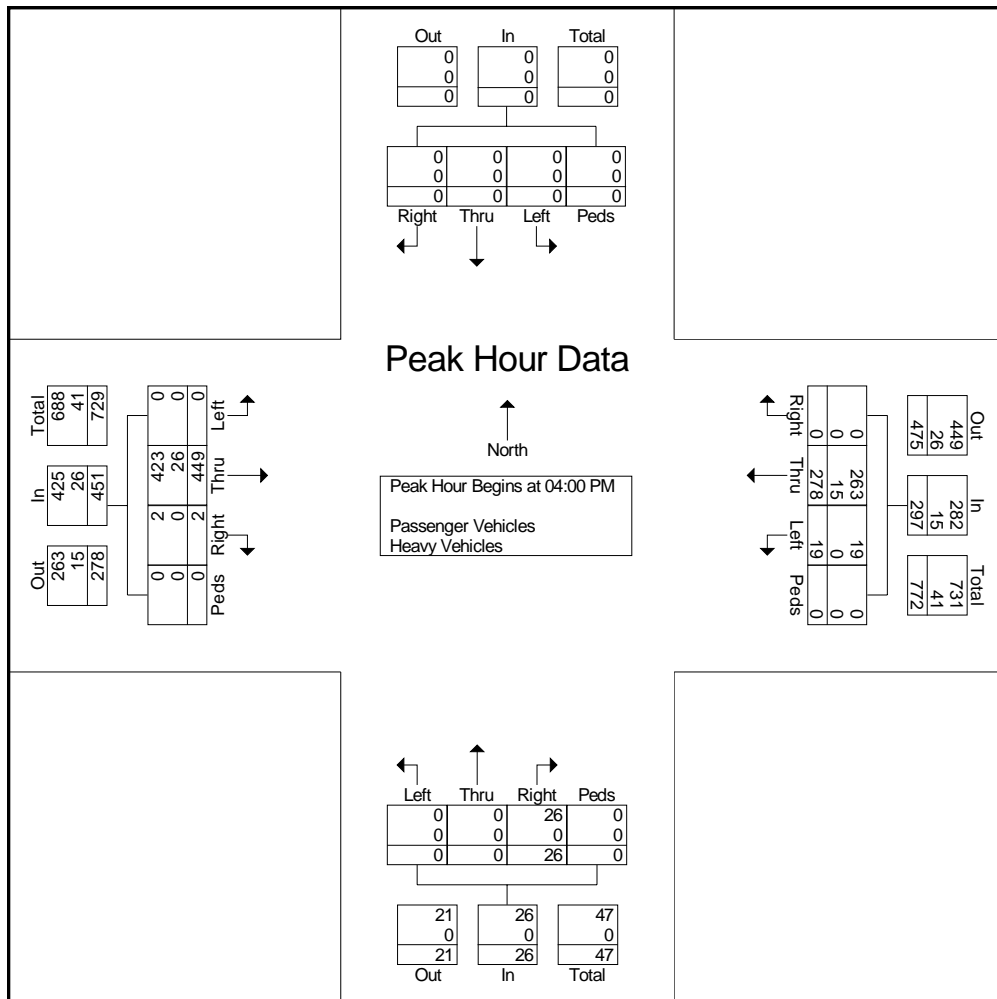
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Armory Drive  
E/W Street: E Commerce Street  
Counted by: City of Lewisburg

File Name : Lewisburg-C  
Site Code : 00000022  
Start Date : 4/9/2015  
Page No : 4

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 04:00 PM																						
04:00 PM	0	0	0	0	0	5	73	0	0	78	0	0	7	0	7	0	136	1	0	137	222	
04:15 PM	0	0	0	0	0	4	72	0	0	76	0	0	6	0	6	0	95	0	0	95	177	
04:30 PM	0	0	0	0	0	5	66	0	0	71	0	0	9	0	9	0	123	1	0	124	204	
04:45 PM	0	0	0	0	0	5	67	0	0	72	0	0	4	0	4	0	95	0	0	95	171	
Total Volume	0	0	0	0	0	19	278	0	0	297	0	0	26	0	26	0	449	2	0	451	774	
% App. Total	0	0	0	0	0	6.4	93.6	0	0		0	0	100	0		0	99.6	0.4	0			
PHF	.000	.000	.000	.000	.000	.950	.952	.000	.000	.952	.000	.000	.722	.000	.722	.000	.825	.500	.000	.823	.872	
Passenger Vehicles	0	0	0	0	0	19	263	0	0	282	0	0	26	0	26	0	423	2	0	425	733	
% Passenger Vehicles	0	0	0	0	0	100	94.6	0	0	94.9	0	0	100	0	100	0	94.2	100	0	94.7	94.7	
Heavy Vehicles	0	0	0	0	0	0	15	0	0	15	0	0	0	0	0	0	26	0	0	26	41	
% Heavy Vehicles	0	0	0	0	0	0	5.4	0	0	5.1	0	0	0	0	0	0	5.8	0	0	5.8	5.3	



# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Ostella Rd / Springplace Rd  
E/W Street: S Ellington Parkway

File Name : Lewisburg-D  
Site Code : 00000023  
Start Date : 4/9/2015  
Page No : 1

Counted by: City of Lewisburg

## Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:00 AM	2	1	4	0	7	7	44	1	0	52	3	4	23	0	30	0	77	2	0	79	168
06:15 AM	1	0	2	0	3	5	53	4	0	62	30	13	37	0	80	2	72	3	0	77	222
06:30 AM	0	1	2	0	3	5	44	1	0	50	6	6	22	0	34	2	74	1	0	77	164
06:45 AM	1	3	3	0	7	5	46	6	0	57	1	5	18	0	24	4	70	1	0	75	163
<b>Total</b>	<b>4</b>	<b>5</b>	<b>11</b>	<b>0</b>	<b>20</b>	<b>22</b>	<b>187</b>	<b>12</b>	<b>0</b>	<b>221</b>	<b>40</b>	<b>28</b>	<b>100</b>	<b>0</b>	<b>168</b>	<b>8</b>	<b>293</b>	<b>7</b>	<b>0</b>	<b>308</b>	<b>717</b>
07:00 AM	1	1	1	0	3	6	45	4	0	55	0	1	10	0	11	5	58	0	0	63	132
07:15 AM	0	1	2	0	3	4	39	2	0	45	1	2	6	0	9	3	45	3	0	51	108
07:30 AM	2	3	0	0	5	7	65	1	0	73	3	4	8	0	15	0	39	0	0	39	132
07:45 AM	0	1	4	0	5	4	33	1	0	38	0	2	9	0	11	2	40	2	0	44	98
<b>Total</b>	<b>3</b>	<b>6</b>	<b>7</b>	<b>0</b>	<b>16</b>	<b>21</b>	<b>182</b>	<b>8</b>	<b>0</b>	<b>211</b>	<b>4</b>	<b>9</b>	<b>33</b>	<b>0</b>	<b>46</b>	<b>10</b>	<b>182</b>	<b>5</b>	<b>0</b>	<b>197</b>	<b>470</b>
*** BREAK ***																					
10:00 AM	1	0	3	0	4	6	37	3	0	46	1	1	4	0	6	2	57	0	0	59	115
10:15 AM	4	0	2	0	6	6	52	4	0	62	3	2	11	0	16	1	52	0	0	53	137
10:30 AM	1	3	2	0	6	17	61	1	0	79	2	0	7	0	9	2	57	4	0	63	157
10:45 AM	2	0	1	0	3	4	73	2	0	79	2	1	6	0	9	6	41	0	0	47	138
<b>Total</b>	<b>8</b>	<b>3</b>	<b>8</b>	<b>0</b>	<b>19</b>	<b>33</b>	<b>223</b>	<b>10</b>	<b>0</b>	<b>266</b>	<b>8</b>	<b>4</b>	<b>28</b>	<b>0</b>	<b>40</b>	<b>11</b>	<b>207</b>	<b>4</b>	<b>0</b>	<b>222</b>	<b>547</b>
11:00 AM	3	0	6	0	9	6	61	4	0	71	1	1	6	0	8	1	60	1	0	62	150
11:15 AM	4	1	2	0	7	5	57	3	0	65	0	2	6	0	8	2	58	0	0	60	140
11:30 AM	2	1	2	0	5	11	52	0	0	63	2	0	13	0	15	1	62	1	0	64	147
11:45 AM	1	2	5	0	8	14	61	5	0	80	0	0	7	0	7	3	48	3	0	54	149
<b>Total</b>	<b>10</b>	<b>4</b>	<b>15</b>	<b>0</b>	<b>29</b>	<b>36</b>	<b>231</b>	<b>12</b>	<b>0</b>	<b>279</b>	<b>3</b>	<b>3</b>	<b>32</b>	<b>0</b>	<b>38</b>	<b>7</b>	<b>228</b>	<b>5</b>	<b>0</b>	<b>240</b>	<b>586</b>
*** BREAK ***																					
03:00 PM	4	3	3	0	10	18	94	8	0	120	6	2	8	0	16	2	55	7	0	64	210
03:15 PM	3	2	7	0	12	13	103	15	0	131	5	5	11	0	21	11	47	3	0	61	225
03:30 PM	5	4	7	0	16	18	111	30	0	159	7	3	6	0	16	15	54	3	0	72	263
03:45 PM	6	1	2	0	9	10	95	36	0	141	2	4	9	0	15	17	52	5	0	74	239
<b>Total</b>	<b>18</b>	<b>10</b>	<b>19</b>	<b>0</b>	<b>47</b>	<b>59</b>	<b>403</b>	<b>89</b>	<b>0</b>	<b>551</b>	<b>20</b>	<b>14</b>	<b>34</b>	<b>0</b>	<b>68</b>	<b>45</b>	<b>208</b>	<b>18</b>	<b>0</b>	<b>271</b>	<b>937</b>
04:00 PM	10	3	2	0	15	13	84	33	0	130	2	3	14	0	19	12	58	1	0	71	235
04:15 PM	6	3	6	0	15	15	79	46	0	140	2	4	8	0	14	18	50	1	0	69	238
04:30 PM	12	0	6	0	18	13	62	44	0	119	3	1	3	0	7	15	39	4	0	58	202
04:45 PM	7	2	8	0	17	10	63	34	0	107	1	4	10	0	15	14	40	5	0	59	198
<b>Total</b>	<b>35</b>	<b>8</b>	<b>22</b>	<b>0</b>	<b>65</b>	<b>51</b>	<b>288</b>	<b>157</b>	<b>0</b>	<b>496</b>	<b>8</b>	<b>12</b>	<b>35</b>	<b>0</b>	<b>55</b>	<b>59</b>	<b>187</b>	<b>11</b>	<b>0</b>	<b>257</b>	<b>873</b>
<b>Grand Total</b>	<b>78</b>	<b>36</b>	<b>82</b>	<b>0</b>	<b>196</b>	<b>222</b>	<b>1514</b>	<b>288</b>	<b>0</b>	<b>2024</b>	<b>83</b>	<b>70</b>	<b>262</b>	<b>0</b>	<b>415</b>	<b>140</b>	<b>1305</b>	<b>50</b>	<b>0</b>	<b>1495</b>	<b>4130</b>
<b>Apprch %</b>	<b>39.8</b>	<b>18.4</b>	<b>41.8</b>	<b>0</b>		<b>11</b>	<b>74.8</b>	<b>14.2</b>	<b>0</b>		<b>20</b>	<b>16.9</b>	<b>63.1</b>	<b>0</b>		<b>9.4</b>	<b>87.3</b>	<b>3.3</b>	<b>0</b>		
<b>Total %</b>	<b>1.9</b>	<b>0.9</b>	<b>2</b>	<b>0</b>	<b>4.7</b>	<b>5.4</b>	<b>36.7</b>	<b>7</b>	<b>0</b>	<b>49</b>	<b>2</b>	<b>1.7</b>	<b>6.3</b>	<b>0</b>	<b>10</b>	<b>3.4</b>	<b>31.6</b>	<b>1.2</b>	<b>0</b>	<b>36.2</b>	
Passenger Vehicles																					
% Passenger Vehicles	<b>97.4</b>	<b>100</b>	<b>98.8</b>	<b>0</b>	<b>98.5</b>	<b>95</b>	<b>95.4</b>	<b>100</b>	<b>0</b>	<b>96</b>	<b>98.8</b>	<b>100</b>	<b>97.7</b>	<b>0</b>	<b>98.3</b>	<b>97.9</b>	<b>95.5</b>	<b>96</b>	<b>0</b>	<b>95.7</b>	<b>96.3</b>
Heavy Vehicles	<b>2</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>11</b>	<b>69</b>	<b>0</b>	<b>0</b>	<b>80</b>	<b>1</b>	<b>0</b>	<b>6</b>	<b>0</b>	<b>7</b>	<b>3</b>	<b>59</b>	<b>2</b>	<b>0</b>	<b>64</b>	<b>154</b>
% Heavy Vehicles	<b>2.6</b>	<b>0</b>	<b>1.2</b>	<b>0</b>	<b>1.5</b>	<b>5</b>	<b>4.6</b>	<b>0</b>	<b>0</b>	<b>4</b>	<b>1.2</b>	<b>0</b>	<b>2.3</b>	<b>0</b>	<b>1.7</b>	<b>2.1</b>	<b>4.5</b>	<b>4</b>	<b>0</b>	<b>4.3</b>	<b>3.7</b>

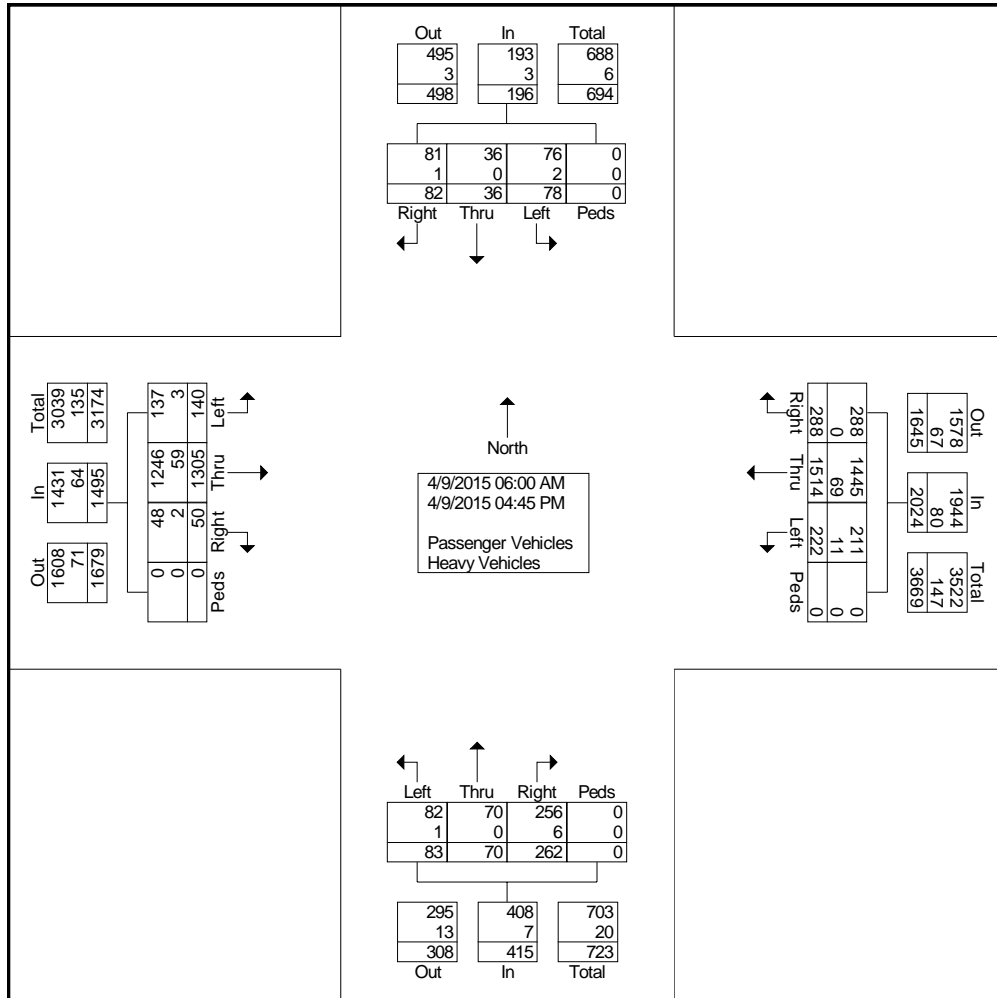
# Signal Timing Optimization Study

Lewisburg, Tennessee  
 Kimley-Horn Project: 118000037

N/S Street: Ostella Rd / Springplace Rd  
 E/W Street: S Ellington Parkway

File Name : Lewisburg-D  
 Site Code : 00000023  
 Start Date : 4/9/2015  
 Page No : 2

Counted by: City of Lewisburg



# Signal Timing Optimization Study

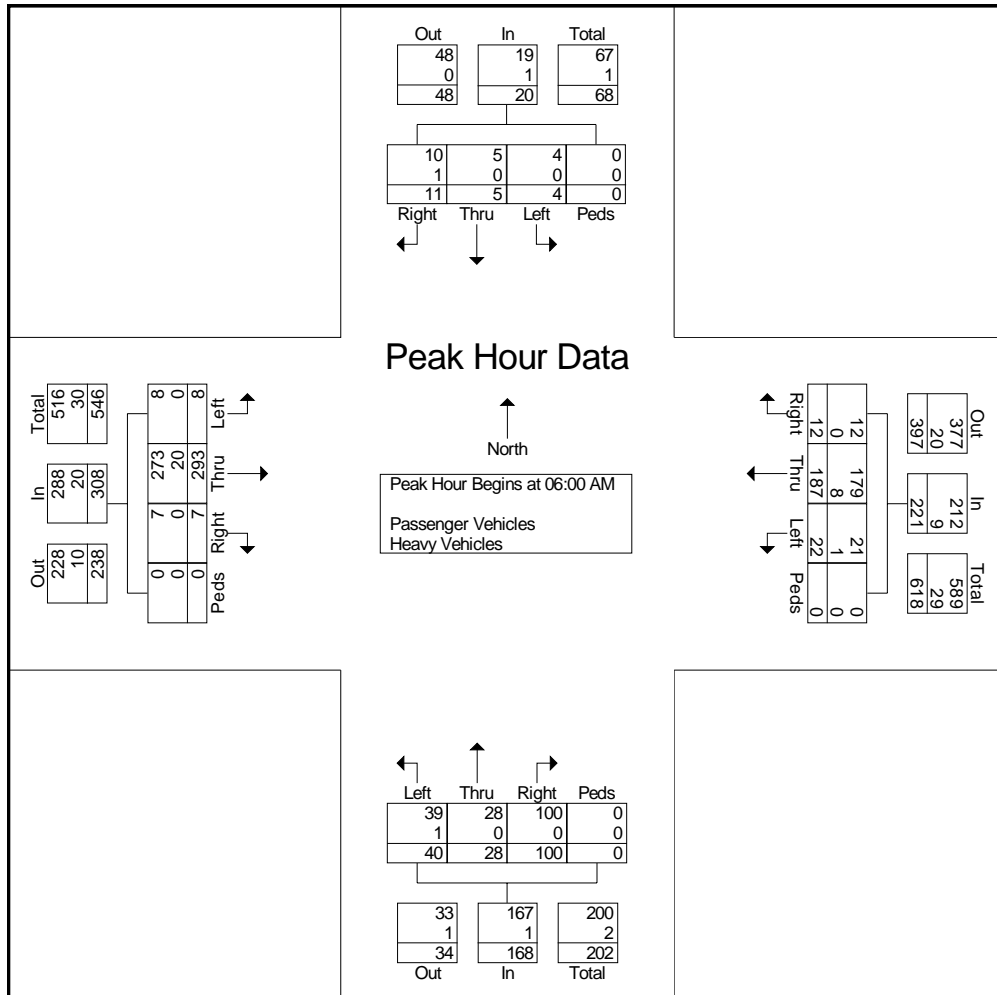
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Ostella Rd / Springplace Rd  
E/W Street: S Ellington Parkway

File Name : Lewisburg-D  
Site Code : 00000023  
Start Date : 4/9/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 AM																					
06:00 AM	2	1	4	0	7	7	44	1	0	52	3	4	23	0	30	0	77	2	0	79	168
06:15 AM	1	0	2	0	3	5	53	4	0	62	30	13	37	0	80	2	72	3	0	77	222
06:30 AM	0	1	2	0	3	5	44	1	0	50	6	6	22	0	34	2	74	1	0	77	164
06:45 AM	1	3	3	0	7	5	46	6	0	57	1	5	18	0	24	4	70	1	0	75	163
Total Volume	4	5	11	0	20	22	187	12	0	221	40	28	100	0	168	8	293	7	0	308	717
% App. Total	20	25	55	0		10	84.6	5.4	0		23.8	16.7	59.5	0		2.6	95.1	2.3	0		
PHF	.500	.417	.688	.000	.714	.786	.882	.500	.000	.891	.333	.538	.676	.000	.525	.500	.951	.583	.000	.975	.807
Passenger Vehicles	4	5	10	0	19	21	179	12	0	212	39	28	100	0	167	8	273	7	0	288	686
% Passenger Vehicles	100	100	90.9	0	95.0	95.5	95.7	100	0	95.9	97.5	100	100	0	99.4	100	93.2	100	0	93.5	95.7
Heavy Vehicles	0	0	1	0	1	1	8	0	0	9	1	0	0	0	1	0	20	0	0	20	31
% Heavy Vehicles	0	0	9.1	0	5.0	4.5	4.3	0	0	4.1	2.5	0	0	0.6	0	6.8	0	0	0	6.5	4.3





# Signal Timing Optimization Study

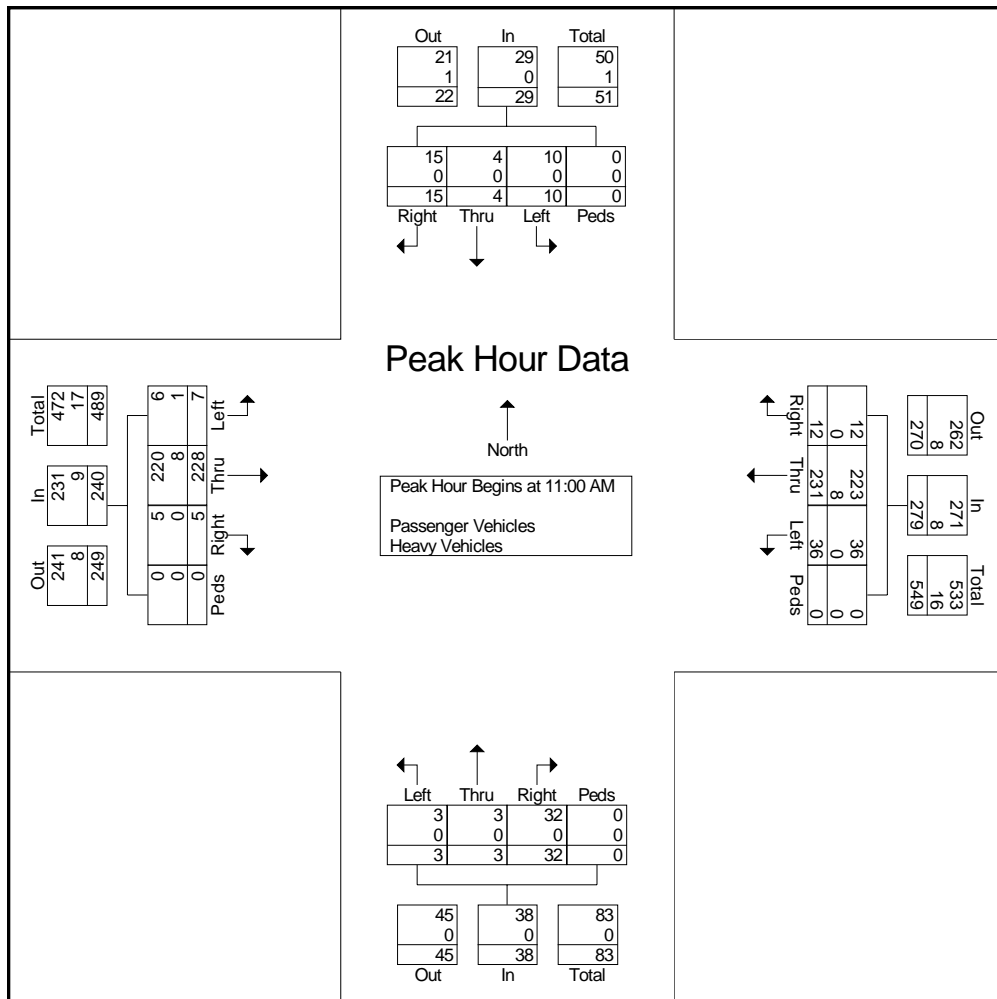
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Ostella Rd / Springplace Rd  
E/W Street: S Ellington Parkway

File Name : Lewisburg-D  
Site Code : 00000023  
Start Date : 4/9/2015  
Page No : 5

Counted by: City of Lewisburg

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 10:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	3	0	6	0	9	6	61	4	0	71	1	1	6	0	8	1	60	1	0	62	150
11:15 AM	4	1	2	0	7	5	57	3	0	65	0	2	6	0	8	2	58	0	0	60	140
11:30 AM	2	1	2	0	5	11	52	0	0	63	2	0	13	0	15	1	62	1	0	64	147
11:45 AM	1	2	5	0	8	14	61	5	0	80	0	0	7	0	7	3	48	3	0	54	149
Total Volume	10	4	15	0	29	36	231	12	0	279	3	3	32	0	38	7	228	5	0	240	586
% App. Total	34.5	13.8	51.7	0		12.9	82.8	4.3	0		7.9	7.9	84.2	0		2.9	95	2.1	0		
PHF	.625	.500	.625	.000	.806	.643	.947	.600	.000	.872	.375	.375	.615	.000	.633	.583	.919	.417	.000	.938	.977
Passenger Vehicles	10	4	15	0	29	36	223	12	0	271	3	3	32	0	38	6	220	5	0	231	569
% Passenger Vehicles	100	100	100	0	100	100	96.5	100	0	97.1	100	100	100	0	100	85.7	96.5	100	0	96.3	97.1
Heavy Vehicles	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	1	8	0	0	9	17
% Heavy Vehicles	0	0	0	0	0	0	3.5	0	0	2.9	0	0	0	0	0	14.3	3.5	0	0	3.8	2.9



# Signal Timing Optimization Study

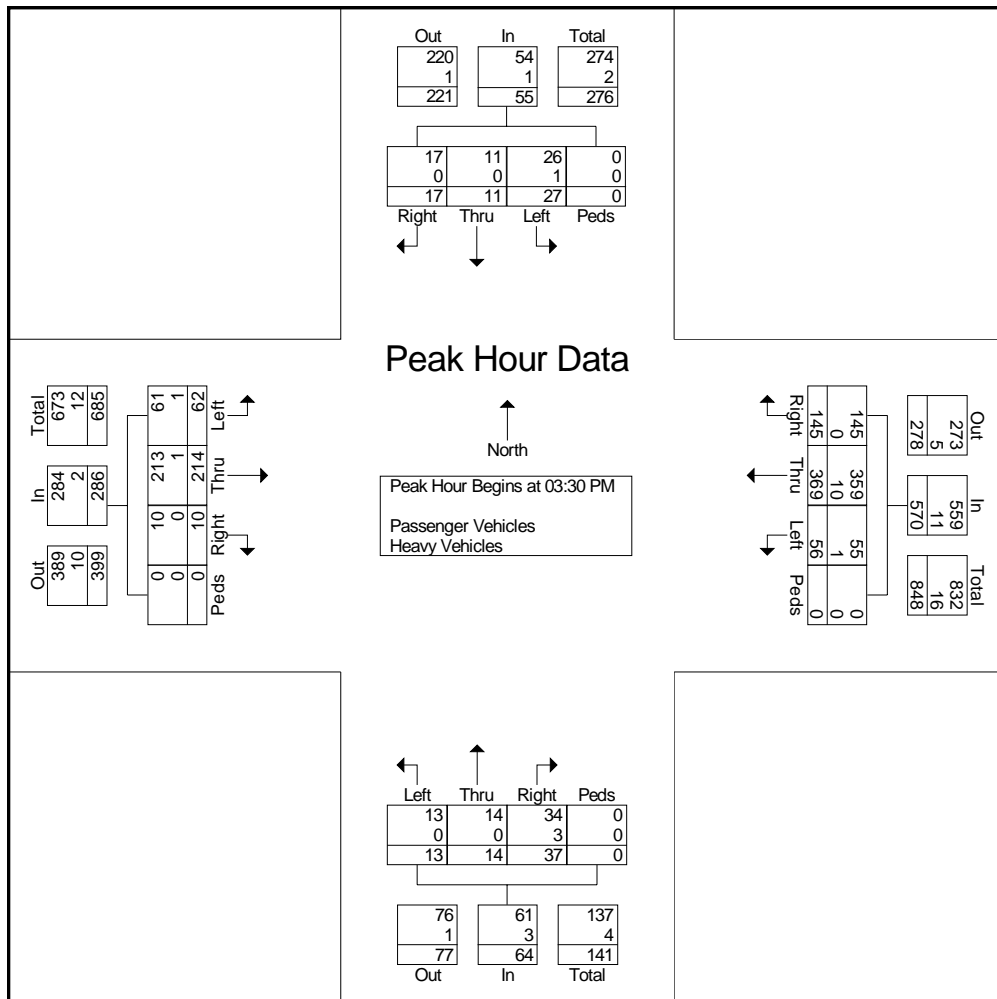
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Ostella Rd / Springplace Rd  
E/W Street: S Ellington Parkway

File Name : Lewisburg-D  
Site Code : 00000023  
Start Date : 4/9/2015  
Page No : 6

Counted by: City of Lewisburg

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	5	4	7	0	16	18	111	30	0	159	7	3	6	0	16	15	54	3	0	72	263
03:45 PM	6	1	2	0	9	10	95	36	0	141	2	4	9	0	15	17	52	5	0	74	239
04:00 PM	10	3	2	0	15	13	84	33	0	130	2	3	14	0	19	12	58	1	0	71	235
04:15 PM	6	3	6	0	15	15	79	46	0	140	2	4	8	0	14	18	50	1	0	69	238
Total Volume	27	11	17	0	55	56	369	145	0	570	13	14	37	0	64	62	214	10	0	286	975
% App. Total	49.1	20	30.9	0		9.8	64.7	25.4	0		20.3	21.9	57.8	0		21.7	74.8	3.5	0		
PHF	.675	.688	.607	.000	.859	.778	.831	.788	.000	.896	.464	.875	.661	.000	.842	.861	.922	.500	.000	.966	.927
Passenger Vehicles	26	11	17	0	54	55	359	145	0	559	13	14	34	0	61	61	213	10	0	284	958
% Passenger Vehicles	96.3	100	100	0	98.2	98.2	97.3	100	0	98.1	100	100	91.9	0	95.3	98.4	99.5	100	0	99.3	98.3
Heavy Vehicles	1	0	0	0	1	1	10	0	0	11	0	0	3	0	3	1	1	0	0	2	17
% Heavy Vehicles	3.7	0	0	0	1.8	1.8	2.7	0	0	1.9	0	0	8.1	0	4.7	1.6	0.5	0	0	0.7	1.7



# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N Church Street  
E/W Street: Franklin Avenue

File Name : Lewisburg-E  
Site Code : 00000024  
Start Date : 4/15/2015  
Page No : 1

Counted by: City of Lewisburg

## Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:00 AM	1	0	2	0	3	1	7	2	1	11	1	0	0	0	1	1	15	0	0	16	31
06:15 AM	6	0	2	0	8	1	9	2	0	12	0	0	1	0	1	0	11	0	0	11	32
06:30 AM	1	0	1	0	2	2	16	2	0	20	1	0	2	0	3	0	18	3	0	21	46
06:45 AM	5	0	0	0	5	0	12	3	0	15	1	0	0	0	1	0	7	1	0	8	29
<b>Total</b>	<b>13</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>18</b>	<b>4</b>	<b>44</b>	<b>9</b>	<b>1</b>	<b>58</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>6</b>	<b>1</b>	<b>51</b>	<b>4</b>	<b>0</b>	<b>56</b>	<b>138</b>
07:00 AM	3	0	0	0	3	4	10	4	0	18	1	0	4	0	5	0	5	0	0	5	31
07:15 AM	2	0	1	0	3	0	4	2	0	6	1	1	0	0	2	0	13	1	0	14	25
07:30 AM	1	1	1	0	3	0	11	5	0	16	2	1	1	0	4	0	7	1	0	8	31
07:45 AM	2	0	1	0	3	1	7	2	0	10	1	0	0	0	1	2	3	2	0	7	21
<b>Total</b>	<b>8</b>	<b>1</b>	<b>3</b>	<b>0</b>	<b>12</b>	<b>5</b>	<b>32</b>	<b>13</b>	<b>0</b>	<b>50</b>	<b>5</b>	<b>2</b>	<b>5</b>	<b>0</b>	<b>12</b>	<b>2</b>	<b>28</b>	<b>4</b>	<b>0</b>	<b>34</b>	<b>108</b>
*** BREAK ***																					
10:00 AM	1	0	2	0	3	1	6	1	0	8	2	1	4	0	7	0	8	0	0	8	26
10:15 AM	2	2	2	0	6	2	8	7	0	17	1	0	2	0	3	1	6	1	0	8	34
10:30 AM	4	1	0	0	5	3	8	1	0	12	3	0	0	0	3	0	7	2	0	9	29
10:45 AM	3	1	0	0	4	0	5	3	0	8	2	1	2	0	5	1	15	1	0	17	34
<b>Total</b>	<b>10</b>	<b>4</b>	<b>4</b>	<b>0</b>	<b>18</b>	<b>6</b>	<b>27</b>	<b>12</b>	<b>0</b>	<b>45</b>	<b>8</b>	<b>2</b>	<b>8</b>	<b>0</b>	<b>18</b>	<b>2</b>	<b>36</b>	<b>4</b>	<b>0</b>	<b>42</b>	<b>123</b>
11:00 AM	2	1	1	0	4	1	11	3	0	15	3	0	0	0	3	1	7	0	0	8	30
11:15 AM	2	0	0	0	2	1	10	7	0	18	3	3	4	0	10	1	11	2	0	14	44
11:30 AM	4	1	0	0	5	2	15	3	0	20	1	0	1	0	2	0	11	0	0	11	38
11:45 AM	4	1	3	0	8	1	7	3	0	11	0	1	4	0	5	0	11	3	0	14	38
<b>Total</b>	<b>12</b>	<b>3</b>	<b>4</b>	<b>0</b>	<b>19</b>	<b>5</b>	<b>43</b>	<b>16</b>	<b>0</b>	<b>64</b>	<b>7</b>	<b>4</b>	<b>9</b>	<b>0</b>	<b>20</b>	<b>2</b>	<b>40</b>	<b>5</b>	<b>0</b>	<b>47</b>	<b>150</b>
*** BREAK ***																					
03:00 PM	5	1	2	0	8	3	20	3	0	26	2	0	0	0	2	1	9	1	0	11	47
03:15 PM	4	0	1	0	5	1	18	3	0	22	1	0	4	0	5	3	12	3	0	18	50
03:30 PM	9	1	1	0	11	3	18	2	0	23	2	0	3	0	5	0	15	0	0	15	54
03:45 PM	5	0	2	0	7	2	12	7	0	21	3	3	3	0	9	1	9	6	0	16	53
<b>Total</b>	<b>23</b>	<b>2</b>	<b>6</b>	<b>0</b>	<b>31</b>	<b>9</b>	<b>68</b>	<b>15</b>	<b>0</b>	<b>92</b>	<b>8</b>	<b>3</b>	<b>10</b>	<b>0</b>	<b>21</b>	<b>5</b>	<b>45</b>	<b>10</b>	<b>0</b>	<b>60</b>	<b>204</b>
04:00 PM	4	1	2	0	7	1	8	6	0	15	2	1	3	0	6	0	3	2	0	5	33
04:15 PM	4	0	1	0	5	1	7	3	0	11	4	0	1	0	5	1	16	3	0	20	41
04:30 PM	5	0	1	0	6	4	16	7	0	27	0	1	4	0	5	2	10	0	0	12	50
04:45 PM	2	1	5	0	8	1	10	6	0	17	3	0	0	0	3	0	8	2	0	10	38
<b>Total</b>	<b>15</b>	<b>2</b>	<b>9</b>	<b>0</b>	<b>26</b>	<b>7</b>	<b>41</b>	<b>22</b>	<b>0</b>	<b>70</b>	<b>9</b>	<b>2</b>	<b>8</b>	<b>0</b>	<b>19</b>	<b>3</b>	<b>37</b>	<b>7</b>	<b>0</b>	<b>47</b>	<b>162</b>
<b>Grand Total</b>	<b>81</b>	<b>12</b>	<b>31</b>	<b>0</b>	<b>124</b>	<b>36</b>	<b>255</b>	<b>87</b>	<b>1</b>	<b>379</b>	<b>40</b>	<b>13</b>	<b>43</b>	<b>0</b>	<b>96</b>	<b>15</b>	<b>237</b>	<b>34</b>	<b>0</b>	<b>286</b>	<b>885</b>
Apprch %	65.3	9.7	25	0		9.5	67.3	23	0.3		41.7	13.5	44.8	0		5.2	82.9	11.9	0		
Total %	9.2	1.4	3.5	0	14	4.1	28.8	9.8	0.1	42.8	4.5	1.5	4.9	0	10.8	1.7	26.8	3.8	0	32.3	
Passenger Vehicles	79	12	30	0	121	36	252	85	0	373	40	13	43	0	96	14	234	34	0	282	872
% Passenger Vehicles	97.5	100	96.8	0	97.6	100	98.8	97.7	0	98.4	100	100	100	0	100	93.3	98.7	100	0	98.6	98.5
Heavy Vehicles	2	0	1	0	3	0	3	2	1	6	0	0	0	0	0	1	3	0	0	4	13
% Heavy Vehicles	2.5	0	3.2	0	2.4	0	1.2	2.3	100	1.6	0	0	0	0	0	6.7	1.3	0	0	1.4	1.5

# Signal Timing Optimization Study

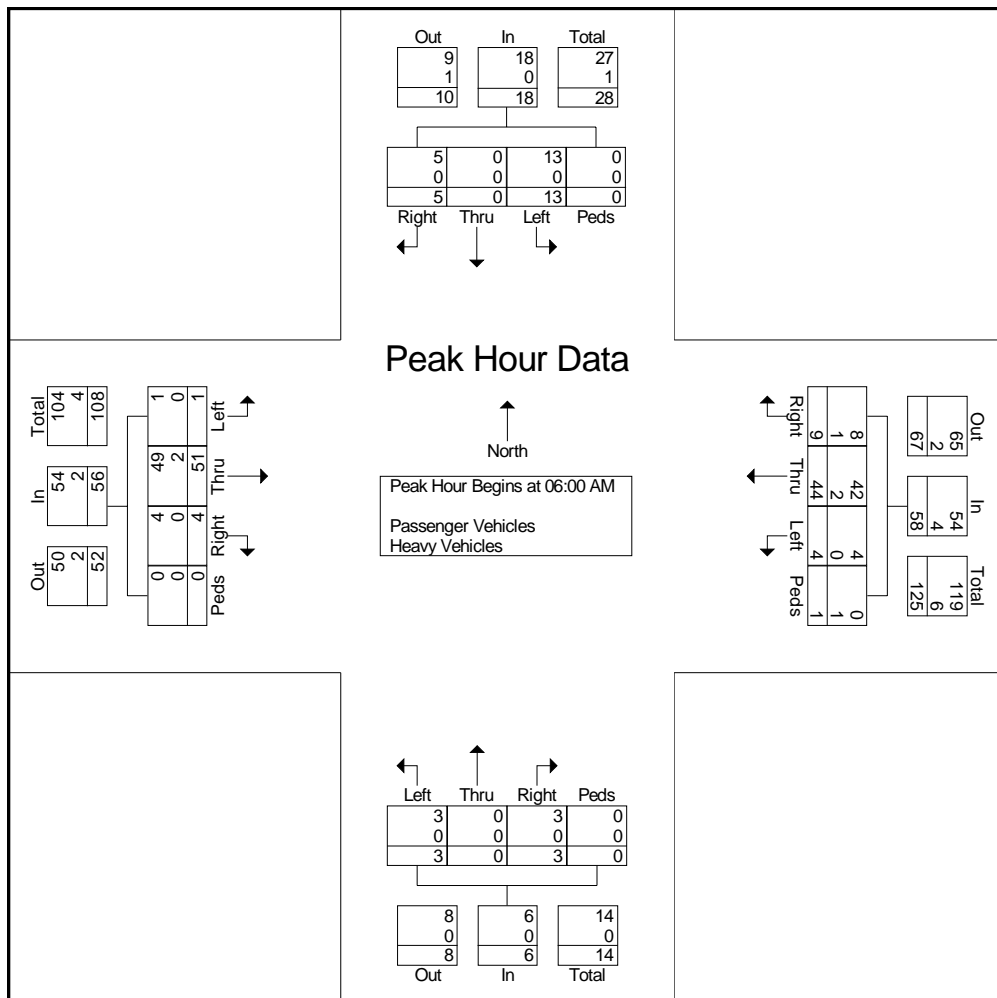
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N Church Street  
E/W Street: Franklin Avenue

File Name : Lewisburg-E  
Site Code : 00000024  
Start Date : 4/15/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:00 AM to 07:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:00 AM																					
06:00 AM	1	0	2	0	3	1	7	2	1	11	1	0	0	0	1	1	15	0	0	16	31
06:15 AM	6	0	2	0	8	1	9	2	0	12	0	0	1	0	1	0	11	0	0	11	32
06:30 AM	1	0	1	0	2	2	16	2	0	20	1	0	2	0	3	0	18	3	0	21	46
06:45 AM	5	0	0	0	5	0	12	3	0	15	1	0	0	0	1	0	7	1	0	8	29
Total Volume	13	0	5	0	18	4	44	9	1	58	3	0	3	0	6	1	51	4	0	56	138
% App. Total	72.2	0	27.8	0		6.9	75.9	15.5	1.7		50	0	50	0		1.8	91.1	7.1	0		
PHF	.542	.000	.625	.000	.563	.500	.688	.750	.250	.725	.750	.000	.375	.000	.500	.250	.708	.333	.000	.667	.750
Passenger Vehicles	13	0	5	0	18	4	42	8	0	54	3	0	3	0	6	1	49	4	0	54	132
% Passenger Vehicles	100	0	100	0	100	100	95.5	88.9	0	93.1	100	0	100	0	100	100	96.1	100	0	96.4	95.7
Heavy Vehicles	0	0	0	0	0	0	2	1	1	4	0	0	0	0	0	0	2	0	0	2	6
% Heavy Vehicles	0	0	0	0	0	0	4.5	11.1	100	6.9	0	0	0	0	0	0	3.9	0	0	3.6	4.3



# Signal Timing Optimization Study

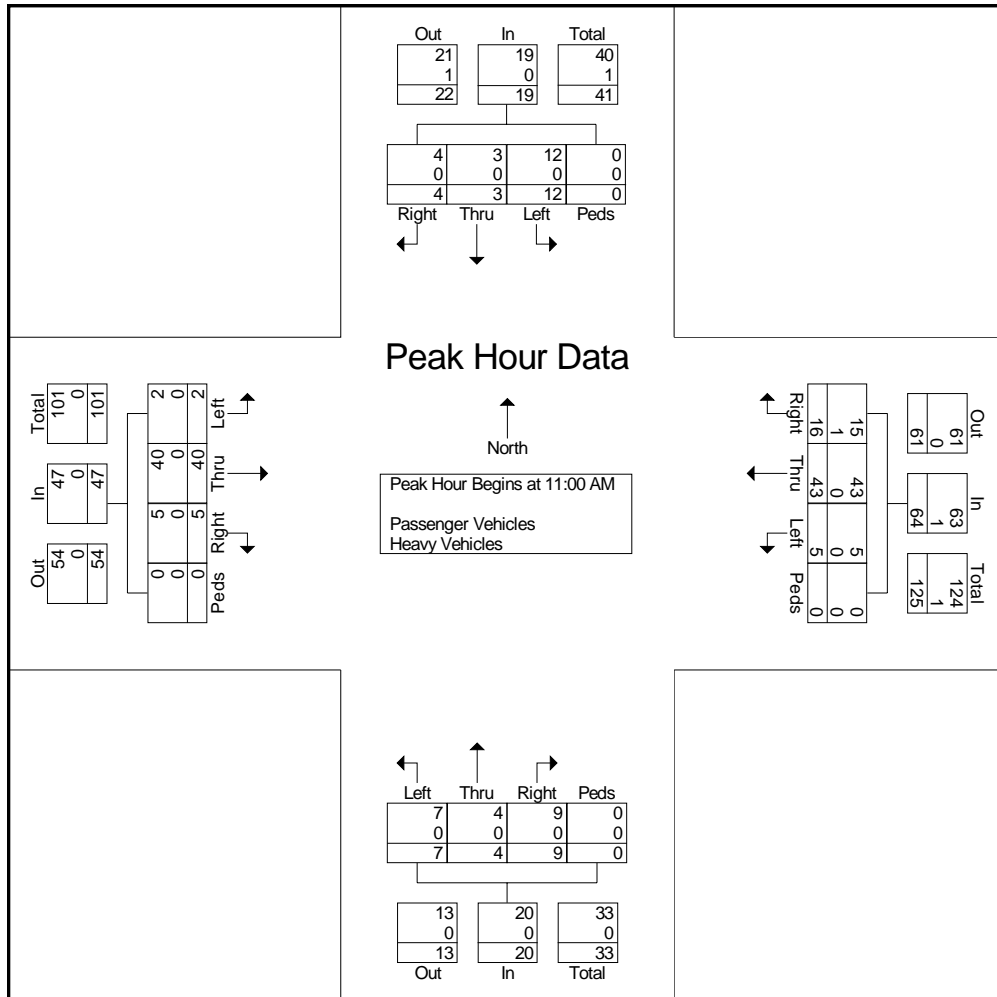
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N Church Street  
E/W Street: Franklin Avenue

File Name : Lewisburg-E  
Site Code : 00000024  
Start Date : 4/15/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 10:00 AM to 11:45 AM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 11:00 AM																						
11:00 AM	2	1	1	0	4	1	11	3	0	15	3	0	0	0	3	1	7	0	0	8	30	
11:15 AM	2	0	0	0	2	1	10	7	0	18	3	3	4	0	10	1	11	2	0	14	44	
11:30 AM	4	1	0	0	5	2	15	3	0	20	1	0	1	0	2	0	11	0	0	11	38	
11:45 AM	4	1	3	0	8	1	7	3	0	11	0	1	4	0	5	0	11	3	0	14	38	
Total Volume	12	3	4	0	19	5	43	16	0	64	7	4	9	0	20	2	40	5	0	47	150	
% App. Total	63.2	15.8	21.1	0		7.8	67.2	25	0		35	20	45	0		4.3	85.1	10.6	0			
PHF	.750	.750	.333	.000	.594	.625	.717	.571	.000	.800	.583	.333	.563	.000	.500	.500	.909	.417	.000	.839	.852	
Passenger Vehicles	12	3	4	0	19	5	43	15	0	63	7	4	9	0	20	2	40	5	0	47	149	
% Passenger Vehicles	100	100	100	0	100	100	100	93.8	0	98.4	100	100	100	0	100	100	100	100	0	100	99.3	
Heavy Vehicles	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	0	0	1	
% Heavy Vehicles	0	0	0	0	0	0	0	6.3	0	1.6	0	0	0	0	0	0	0	0	0	0	0.7	



# Signal Timing Optimization Study

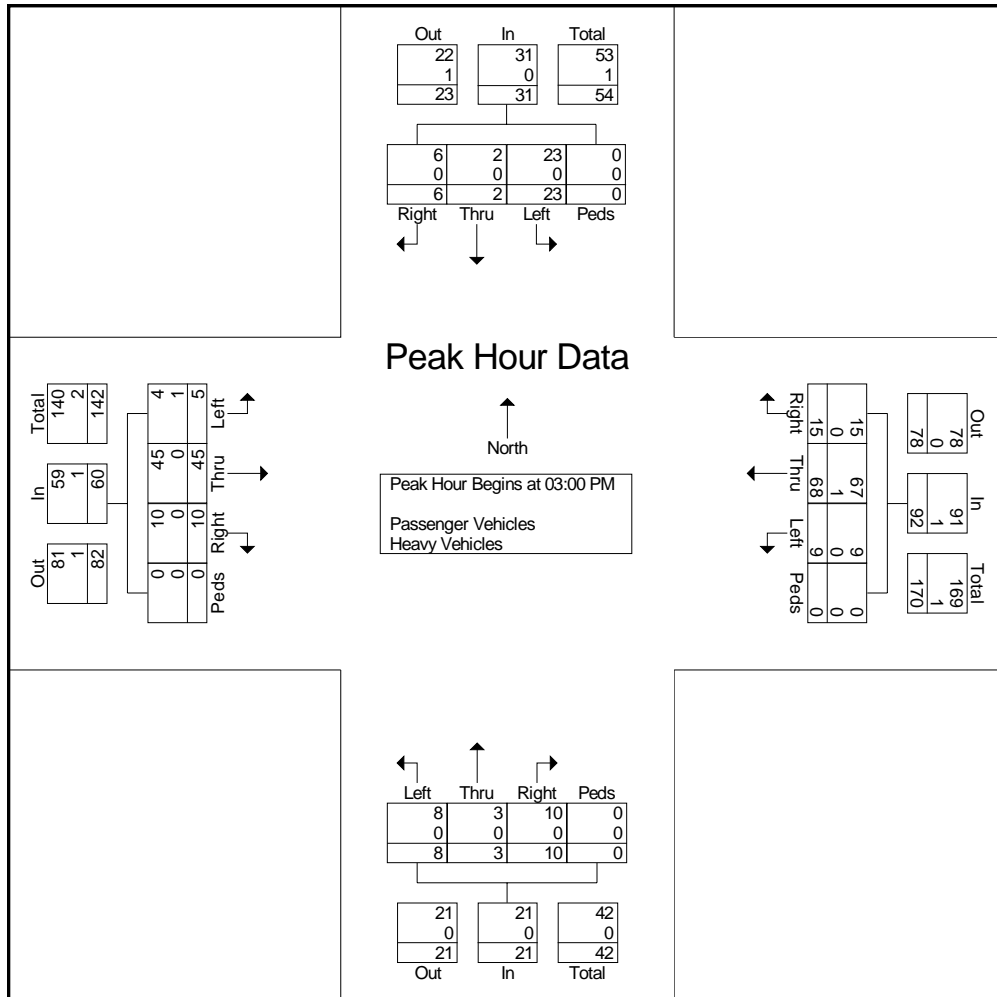
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N Church Street  
E/W Street: Franklin Avenue

File Name : Lewisburg-E  
Site Code : 00000024  
Start Date : 4/15/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Northbound					Eastbound					Southbound					Westbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 03:00 PM to 04:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:00 PM																					
03:00 PM	5	1	2	0	8	3	20	3	0	26	2	0	0	0	2	1	9	1	0	11	47
03:15 PM	4	0	1	0	5	1	18	3	0	22	1	0	4	0	5	3	12	3	0	18	50
03:30 PM	9	1	1	0	11	3	18	2	0	23	2	0	3	0	5	0	15	0	0	15	54
03:45 PM	5	0	2	0	7	2	12	7	0	21	3	3	3	0	9	1	9	6	0	16	53
Total Volume	23	2	6	0	31	9	68	15	0	92	8	3	10	0	21	5	45	10	0	60	204
% App. Total	74.2	6.5	19.4	0		9.8	73.9	16.3	0		38.1	14.3	47.6	0		8.3	75	16.7	0		
PHF	.639	.500	.750	.000	.705	.750	.850	.536	.000	.885	.667	.250	.625	.000	.583	.417	.750	.417	.000	.833	.944
Passenger Vehicles	23	2	6	0	31	9	67	15	0	91	8	3	10	0	21	4	45	10	0	59	202
% Passenger Vehicles	100	100	100	0	100	100	98.5	100	0	98.9	100	100	100	0	100	80.0	100	100	0	98.3	99.0
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	2
% Heavy Vehicles	0	0	0	0	0	0	1.5	0	0	1.1	0	0	0	0	0	20.0	0	0	0	1.7	1.0



# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N First Avenue  
E/W Street: between Bates St & Adams St  
Counted by: City of Lewisburg

File Name : Lewisburg-F  
Site Code : 0000025  
Start Date : 4/14/2015  
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	20	0	0	20	25
06:30 AM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	29	0	0	29	33
*** BREAK ***																					
Total	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	49	0	0	49	58
07:00 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	35	0	0	35	41
07:15 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	18	0	0	18	29
07:30 AM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	17	0	0	17	29
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	0	1	20	0	21	22
Total	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	1	90	0	0	91	121
08:00 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	18	0	0	18	26
*** BREAK ***																					
Total	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	18	0	0	18	26
*** BREAK ***																					
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	22	0	0	23	23
10:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	40	0	0	40	45
10:45 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	1	26	0	0	27	35
Total	0	0	0	0	0	0	13	0	0	13	0	0	0	0	0	2	88	0	0	90	103
11:00 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	34	0	0	34	43
11:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	1	26	1	0	28	33
11:30 AM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	38	1	0	39	41
11:45 AM	1	0	0	0	1	0	9	0	0	9	0	0	1	0	1	1	22	1	0	24	35
Total	1	0	0	0	1	0	25	0	0	25	0	0	1	0	1	2	120	3	0	125	152
12:00 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	2	24	0	0	26	32
*** BREAK ***																					
Total	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	2	24	0	0	26	32
*** BREAK ***																					
03:30 PM	1	0	3	0	4	0	5	0	0	5	0	0	0	0	0	0	19	0	0	19	28
03:45 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	30	0	0	30	39
Total	1	0	3	0	4	0	14	0	0	14	0	0	0	0	0	0	49	0	0	49	67
04:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	22	0	0	22	26
04:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	1	32	0	0	33	38
04:30 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	24	0	0	24	31
04:45 PM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	27	0	0	27	33
Total	0	0	0	0	0	0	22	0	0	22	0	0	0	0	0	1	105	0	0	106	128
05:00 PM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	0	24	0	0	24	32
05:15 PM	0	0	0	0	0	0	2	0	0	2	0	0	0	0	0	1	20	1	0	22	24
Grand Total	2	0	3	0	5	0	137	0	0	137	0	0	1	0	1	9	587	4	0	600	743
Apprch %	40	0	60	0		0	100	0	0		0	0	100	0		1.5	97.8	0.7	0		
Total %	0.3	0	0.4	0	0.7	0	18.4	0	0	18.4	0	0	0.1	0	0.1	1.2	79	0.5	0	80.8	
Passenger Vehicles	2	0	3	0	5	0	137	0	0	137	0	0	1	0	1	9	582	4	0	595	738
% Passenger Vehicles	100	0	100	0	100	0	100	0	0	100	0	0	100	0	100	100	99.1	100	0	99.2	99.3
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.9	0	0	0.8	0.7

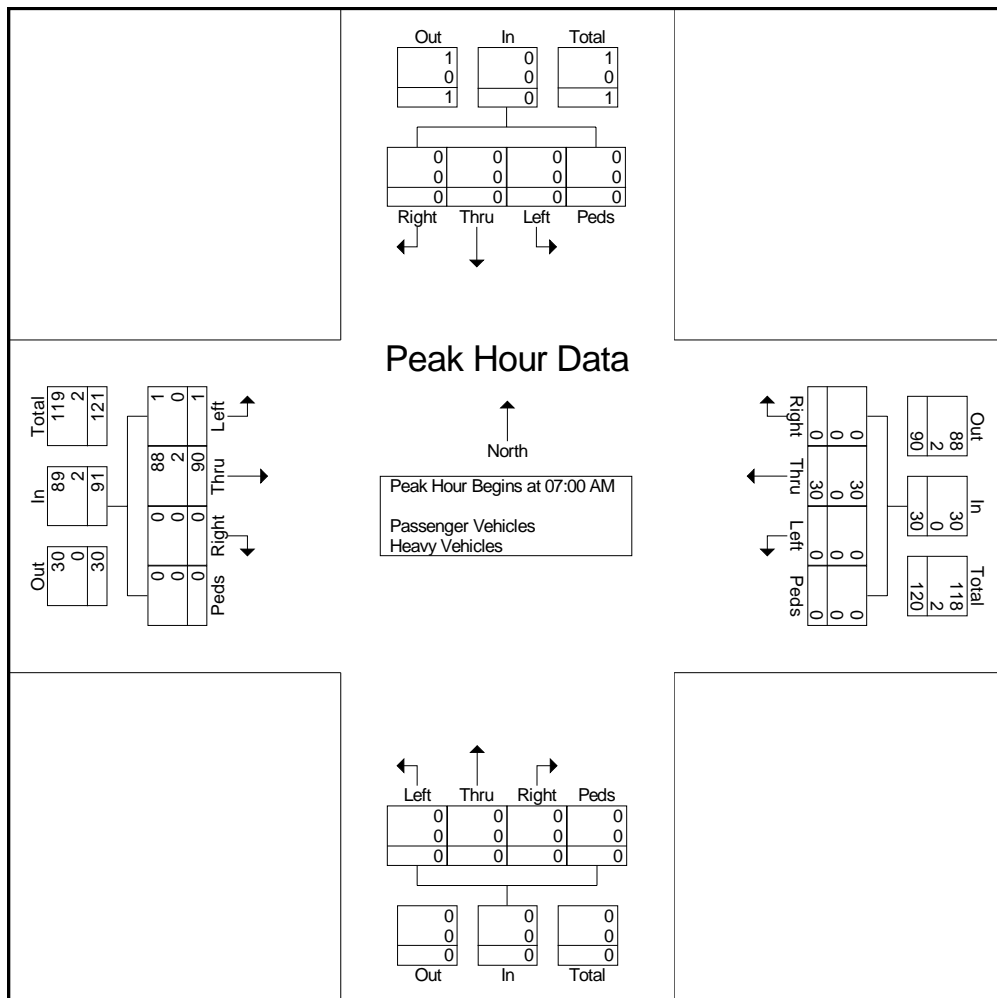
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N First Avenue  
E/W Street: between Bates St & Adams St  
Counted by: City of Lewisburg

File Name : Lewisburg-F  
Site Code : 00000025  
Start Date : 4/14/2015  
Page No : 2

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:00 AM																					
07:00 AM	0	0	0	0	0	0	6	0	0	6	0	0	0	0	0	0	35	0	0	35	41
07:15 AM	0	0	0	0	0	0	11	0	0	11	0	0	0	0	0	0	18	0	0	18	29
07:30 AM	0	0	0	0	0	0	12	0	0	12	0	0	0	0	0	0	17	0	0	17	29
07:45 AM	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	1	20	0	0	21	22
Total Volume	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	1	90	0	0	91	121
% App. Total	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	1.1	98.9	0	0	100	
PHF	.000	.000	.000	.000	.000	.000	.625	.000	.000	.625	.000	.000	.000	.000	.000	.250	.643	.000	.000	.650	.738
Passenger Vehicles	0	0	0	0	0	0	30	0	0	30	0	0	0	0	0	1	88	0	0	89	119
% Passenger Vehicles	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	100	97.8	0	0	97.8	98.3
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2.2	0	0	2.2	1.7





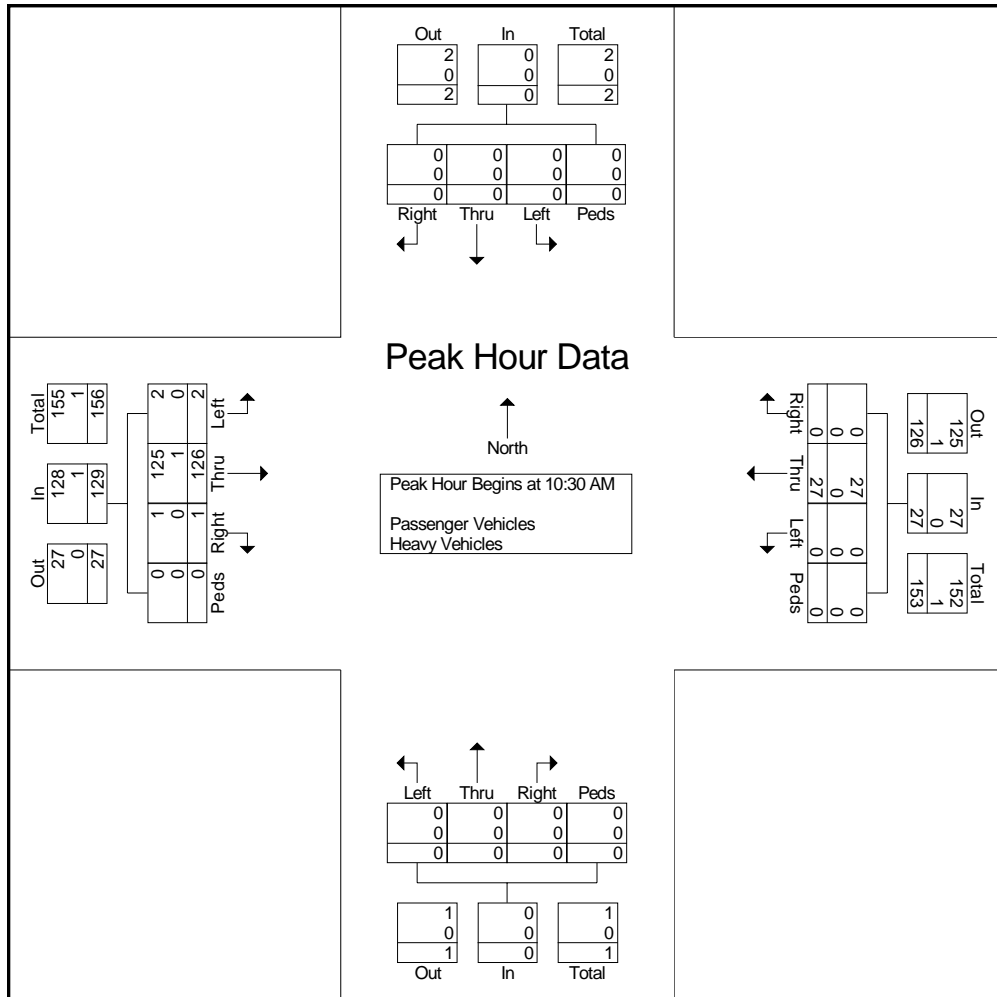
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N First Avenue  
E/W Street: between Bates St & Adams St  
Counted by: City of Lewisburg

File Name : Lewisburg-F  
Site Code : 0000025  
Start Date : 4/14/2015  
Page No : 3

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total	
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total		
Peak Hour Analysis From 10:15 AM to 12:00 PM - Peak 1 of 1																						
Peak Hour for Entire Intersection Begins at 10:30 AM																						
10:30 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	0	40	0	0	40	45	
10:45 AM	0	0	0	0	0	0	8	0	0	8	0	0	0	0	0	1	26	0	0	27	35	
11:00 AM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	34	0	0	34	43	
11:15 AM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	1	26	1	0	28	33	
Total Volume	0	0	0	0	0	0	27	0	0	27	0	0	0	0	0	2	126	1	0	129	156	
% App. Total	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	1.6	97.7	0.8	0	100	100	
PHF	.000	.000	.000	.000	.000	.000	.750	.000	.000	.750	.000	.000	.000	.000	.000	.500	.788	.250	.000	.806	.867	
Passenger Vehicles	0	0	0	0	0	0	27	0	0	27	0	0	0	0	0	2	125	1	0	128	155	
% Passenger Vehicles	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	100	99.2	100	0	99.2	99.4	
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.8	0	0	0.8	0.6	



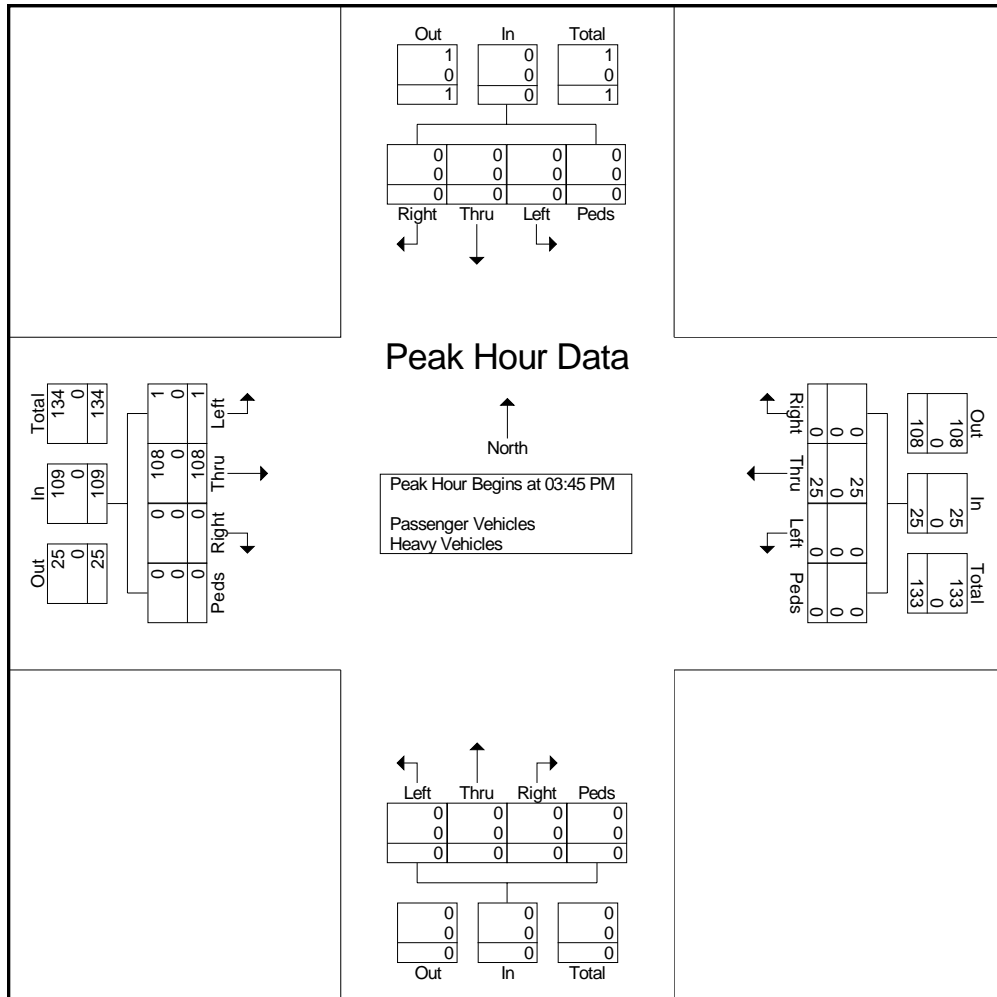
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: N First Avenue  
E/W Street: between Bates St & Adams St  
Counted by: City of Lewisburg

File Name : Lewisburg-F  
Site Code : 0000025  
Start Date : 4/14/2015  
Page No : 4

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 03:30 PM to 05:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:45 PM																					
03:45 PM	0	0	0	0	0	0	9	0	0	9	0	0	0	0	0	0	30	0	0	30	39
04:00 PM	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	22	0	0	22	26
04:15 PM	0	0	0	0	0	0	5	0	0	5	0	0	0	0	0	1	32	0	0	33	38
04:30 PM	0	0	0	0	0	0	7	0	0	7	0	0	0	0	0	0	24	0	0	24	31
Total Volume	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	1	108	0	0	109	134
% App. Total	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	0.9	99.1	0	0	100	100
PHF	.000	.000	.000	.000	.000	.000	.694	.000	.000	.694	.000	.000	.000	.000	.000	.250	.844	.000	.000	.826	.859
Passenger Vehicles	0	0	0	0	0	0	25	0	0	25	0	0	0	0	0	1	108	0	0	109	134
% Passenger Vehicles	0	0	0	0	0	0	100	0	0	100	0	0	0	0	0	100	100	0	0	100	100
Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Heavy Vehicles	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0





Lewisburg, TN  
Classified Turn Movement Count

Site 5 of 9  
ALT-31 South Ellington Parkway  
ALT-31 Cornerstone Parkway  
US-31A 2nd Avenue



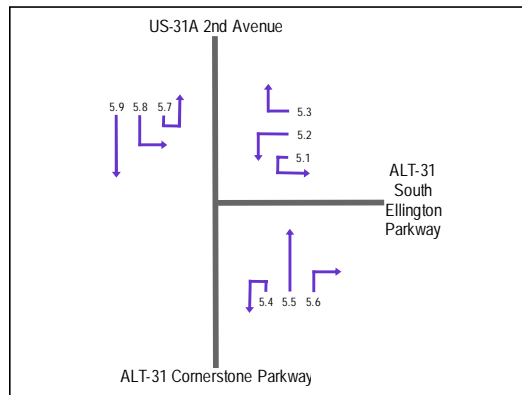
1600 - 1700 (Weekday 12h Peak Hour)

TIME	Westbound ALT-31 South Ellington Parkway					Northbound ALT-31 Cornerstone Parkway					Southbound US-31A 2nd Avenue					Int Total
	U-Turn	Left	Right	Peds	App Total	U-Turn	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Peds	App Total	
	5.1	5.2	5.3	-	87	5.4	5.5	5.6	-	42	5.7	5.8	5.9	-	46	
1600 - 1615	0	60	27	-	87	0	18	35	-	53	0	18	28	-	46	186
1615 - 1630	0	55	24	-	79	0	18	24	-	42	0	24	41	-	65	186
1630 - 1645	0	67	17	-	84	0	22	28	-	50	0	20	32	-	52	186
1645 - 1700	0	57	22	-	79	0	10	24	-	34	0	21	32	-	53	166
Hourly Total	0	239	90	-	329	0	68	111	-	179	0	83	133	-	216	724
Grand Total	0	239	90	-	329	0	68	111	-	179	0	83	133	-	216	724
App Percentage	0.00	72.64	27.36	-		0.00	37.99	62.01	-		0.00	38.43	61.57	-		
Int Percentage	0.00	33.01	12.43	-	45.44	0.00	9.39	15.33	-	24.72	0.00	11.46	18.37	-	29.83	
Cars	0	234	88	-	322	0	67	104	-	171	0	82	131	-	213	706
Trucks	0	5	2	-	7	0	1	7	-	8	0	1	2	-	3	18
Cars (%)	0.00	97.91	97.78	-	97.87	0.00	98.53	93.69	-	95.53	0.00	98.80	98.50	-	98.61	97.51
Trucks (%)	0.00	2.09	2.22	-	2.13	0.00	1.47	6.31	-	4.47	0.00	1.20	1.50	-	1.39	2.49
PHF	0.000	0.892	0.833	-	0.945	0.000	0.773	0.793	-	0.844	0.000	0.865	0.811	-	0.831	0.973

(Southbound) US-31A 2nd Avenue

In	Out	Total
216	158	374

Peds	Thru	Left	U-Turn
-	133	83	0



(Westbound) ALT-31 South Ellington Parkway

Peds	-	In	329
Right	90	Out	194
Left	239	Total	523
U-Turn	0		

(Northbound) ALT-31 Cornerstone Parkway

U-Turn	Thru	Right	Peds
0	68	111	-

Out	In	Total
372	179	551

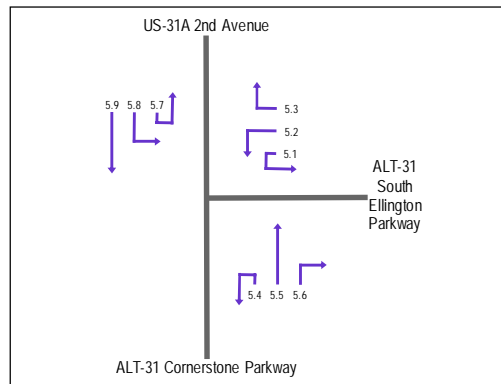
0700 - 0800 (Weekday AM Peak Hour)

TIME	Westbound ALT-31 South Ellington Parkway					Northbound ALT-31 Cornerstone Parkway					Southbound US-31A 2nd Avenue					Int Total
	U-Turn	Left	Right	Peds	App Total	U-Turn	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Peds	App Total	
	5.1	5.2	5.3	-	58	5.4	5.5	5.6	-	92	5.7	5.8	5.9	-	96	
0700 - 0715	0	46	12	-	58	0	45	50	-	95	0	4	27	-	31	184
0715 - 0730	0	47	21	-	68	0	51	41	-	92	0	17	42	-	59	219
0730 - 0745	0	20	11	-	31	0	48	49	-	97	0	15	13	-	28	156
0745 - 0800	0	15	14	-	29	0	44	52	-	96	0	18	16	-	34	159
Hourly Total	0	128	58	-	186	0	188	192	-	380	0	54	98	-	152	718
Grand Total	0	128	58	-	186	0	188	192	-	380	0	54	98	-	152	718
App Percentage	0.00	68.82	31.18	-		0.00	49.47	50.53	-		0.00	35.53	64.47	-		
Int Percentage	0.00	17.83	8.08	-	25.91	0.00	26.18	26.74	-	52.92	0.00	7.52	13.65	-	21.17	
Cars	0	124	58	-	182	0	186	185	-	371	0	53	94	-	147	700
Trucks	0	4	0	-	4	0	2	7	-	9	0	1	4	-	5	18
Cars (%)	0.00	96.88	100.00	-	97.85	0.00	98.94	96.35	-	97.63	0.00	98.15	95.92	-	96.71	97.49
Trucks (%)	0.00	3.13	0.00	-	2.15	0.00	1.06	3.65	-	2.37	0.00	1.85	4.08	-	3.29	2.51
PHF	0.000	0.681	0.690	-	0.684	0.000	0.922	0.923	-	0.979	0.000	0.750	0.583	-	0.644	0.820

(Southbound) US-31A 2nd Avenue

In	Out	Total
152	246	398

Peds	Thru	Left	U-Turn
-	98	54	0



(Westbound) ALT-31 South Ellington Parkway

Peds	-
Right	58
Left	128
U-Turn	0

In	186
Out	246
Total	432

(Northbound) ALT-31 Cornerstone Parkway

U-Turn	Thru	Right	Peds
0	188	192	-

Out	In	Total
226	380	606

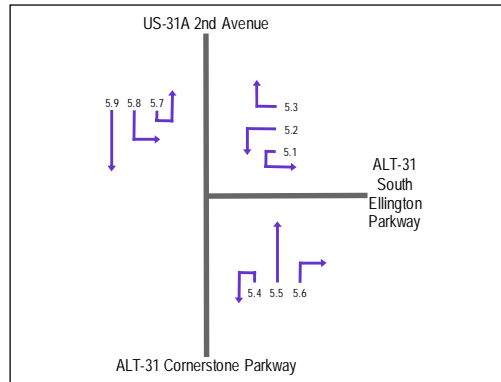
1145 - 1245 (Weekday Inter Peak Hour)

TIME	Westbound ALT-31 South Ellington Parkway					Northbound ALT-31 Cornerstone Parkway					Southbound US-31A 2nd Avenue					Int Total
	U-Turn 5.1	Left 5.2	Right 5.3	Peds	App Total	U-Turn 5.4	Thru 5.5	Right 5.6	Peds	App Total	U-Turn 5.7	Left 5.8	Thru 5.9	Peds	App Total	
	1145 - 1200	0	20	11	-	31	0	20	33	-	53	0	10	10	-	
1200 - 1215	0	25	21	-	46	0	15	25	-	40	0	11	22	-	33	119
1215 - 1230	0	23	12	-	35	0	16	22	-	38	0	14	18	-	32	105
1230 - 1245	0	25	14	-	39	0	16	25	-	41	0	13	20	-	33	113
Hourly Total	0	93	58	-	151	0	67	105	-	172	0	48	70	-	118	441
Grand Total	0	93	58	-	151	0	67	105	-	172	0	48	70	-	118	441
App Percentage	0.00	61.59	38.41	-		0.00	38.95	61.05	-		0.00	40.68	59.32	-		
Int Percentage	0.00	21.09	13.15	-	34.24	0.00	15.19	23.81	-	39.00	0.00	10.88	15.87	-	26.76	
Cars	0	85	58	-	143	0	67	93	-	160	0	47	69	-	116	419
Trucks	0	8	0	-	8	0	0	12	-	12	0	1	1	-	2	22
Cars (%)	0.00	91.40	100.00	-	94.70	0.00	100.00	88.57	-	93.02	0.00	97.92	98.57	-	98.31	95.01
Trucks (%)	0.00	8.60	0.00	-	5.30	0.00	0.00	11.43	-	6.98	0.00	2.08	1.43	-	1.69	4.99
PHF	0.000	0.930	0.690	-	0.821	0.000	0.838	0.795	-	0.811	0.000	0.857	0.795	-	0.894	0.926

(Southbound) US-31A 2nd Avenue

In	Out	Total
118	125	243

Peds	Thru	Left	U-Turn
-	70	48	0



(Westbound) ALT-31 South Ellington Parkway

Peds	-
Right	58
Left	93
U-Turn	0

In	151
Out	153
Total	304

(Northbound) ALT-31 Cornerstone Parkway

U-Turn	Thru	Right	Peds
0	67	105	-

Out	In	Total
163	172	335

Lewisburg, TN  
Classified Turn Movement Count

Site 5 of 9  
ALT-31 South Ellington Parkway  
ALT-31 Cornerstone Parkway  
US-31A 2nd Avenue



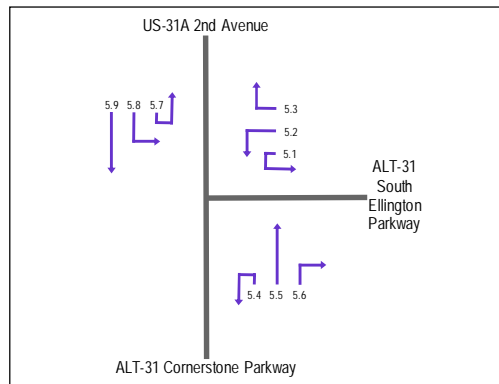
1600 - 1700 (Weekday PM Peak Hour)

TIME	Westbound ALT-31 South Ellington Parkway					Northbound ALT-31 Cornerstone Parkway					Southbound US-31A 2nd Avenue					Int Total
	U-Turn	Left	Right	Peds	App Total	U-Turn	Thru	Right	Peds	App Total	U-Turn	Left	Thru	Peds	App Total	
	5.1	5.2	5.3	-	87	5.4	5.5	5.6	-	42	5.7	5.8	5.9	-	46	
1600 - 1615	0	60	27	-	87	0	18	35	-	53	0	18	28	-	46	186
1615 - 1630	0	55	24	-	79	0	18	24	-	42	0	24	41	-	65	186
1630 - 1645	0	67	17	-	84	0	22	28	-	50	0	20	32	-	52	186
1645 - 1700	0	57	22	-	79	0	10	24	-	34	0	21	32	-	53	166
Hourly Total	0	239	90	-	329	0	68	111	-	179	0	83	133	-	216	724
Grand Total	0	239	90	-	329	0	68	111	-	179	0	83	133	-	216	724
App Percentage	0.00	72.64	27.36	-		0.00	37.99	62.01	-		0.00	38.43	61.57	-		
Int Percentage	0.00	33.01	12.43	-	45.44	0.00	9.39	15.33	-	24.72	0.00	11.46	18.37	-	29.83	
Cars	0	234	88	-	322	0	67	104	-	171	0	82	131	-	213	706
Trucks	0	5	2	-	7	0	1	7	-	8	0	1	2	-	3	18
Cars (%)	0.00	97.91	97.78	-	97.87	0.00	98.53	93.69	-	95.53	0.00	98.80	98.50	-	98.61	97.51
Trucks (%)	0.00	2.09	2.22	-	2.13	0.00	1.47	6.31	-	4.47	0.00	1.20	1.50	-	1.39	2.49
PHF	0.000	0.892	0.833	-	0.945	0.000	0.773	0.793	-	0.844	0.000	0.865	0.811	-	0.831	0.973

(Southbound) US-31A 2nd Avenue

In	Out	Total
216	158	374

Peds	Thru	Left	U-Turn
-	133	83	0



(Westbound) ALT-31 South Ellington Parkway

Peds	-	In	329
Right	90	Out	194
Left	239	Total	523
U-Turn	0		

(Northbound) ALT-31 Cornerstone Parkway

U-Turn	Thru	Right	Peds
0	68	111	-

Out	In	Total
372	179	551





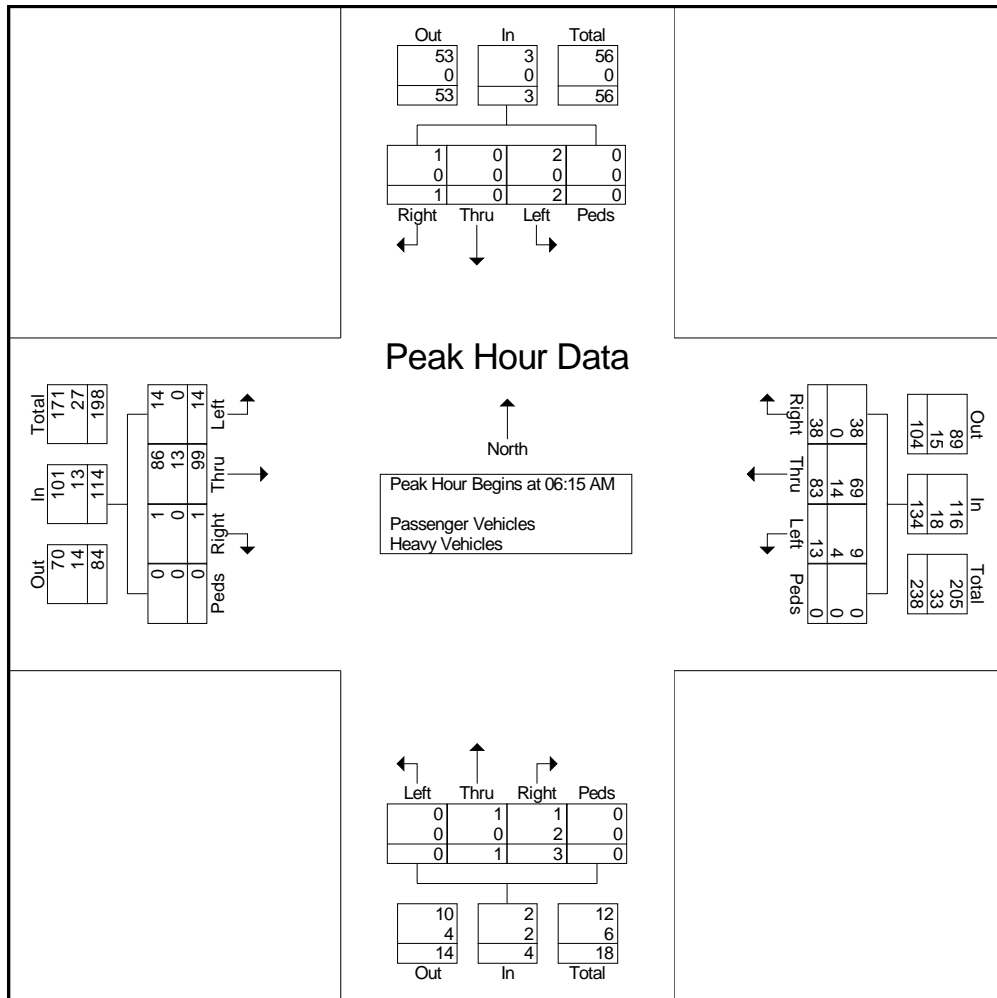
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Heil Quaker Avenue  
E/W Street: International Products Entra  
Counted by: City of Lewisburg

File Name : Lewisburg-H  
Site Code : 00000027  
Start Date : 4/16/2015  
Page No : 2

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:15 AM																					
06:15 AM	0	0	0	0	0	1	22	5	0	28	0	0	1	0	1	3	26	0	0	29	58
06:30 AM	1	0	0	0	1	4	18	11	0	33	0	0	1	0	1	1	25	0	0	26	61
06:45 AM	0	0	0	0	0	5	23	14	0	42	0	0	0	0	0	4	27	0	0	31	73
07:00 AM	1	0	1	0	2	3	20	8	0	31	0	1	1	0	2	6	21	1	0	28	63
Total Volume	2	0	1	0	3	13	83	38	0	134	0	1	3	0	4	14	99	1	0	114	255
% App. Total	66.7	0	33.3	0		9.7	61.9	28.4	0		0	25	75	0		12.3	86.8	0.9	0		
PHF	.500	.000	.250	.000	.375	.650	.902	.679	.000	.798	.000	.250	.750	.000	.500	.583	.917	.250	.000	.919	.873
Passenger Vehicles	2	0	1	0	3	9	69	38	0	116	0	1	1	0	2	14	86	1	0	101	222
% Passenger Vehicles	100	0	100	0	100	69.2	83.1	100	0	86.6	0	100	33.3	0	50.0	100	86.9	100	0	88.6	87.1
Heavy Vehicles	0	0	0	0	0	4	14	0	0	18	0	0	2	0	2	0	13	0	0	13	33
% Heavy Vehicles	0	0	0	0	0	30.8	16.9	0	0	13.4	0	0	66.7	0	50.0	0	13.1	0	0	11.4	12.9



# Signal Timing Optimization Study

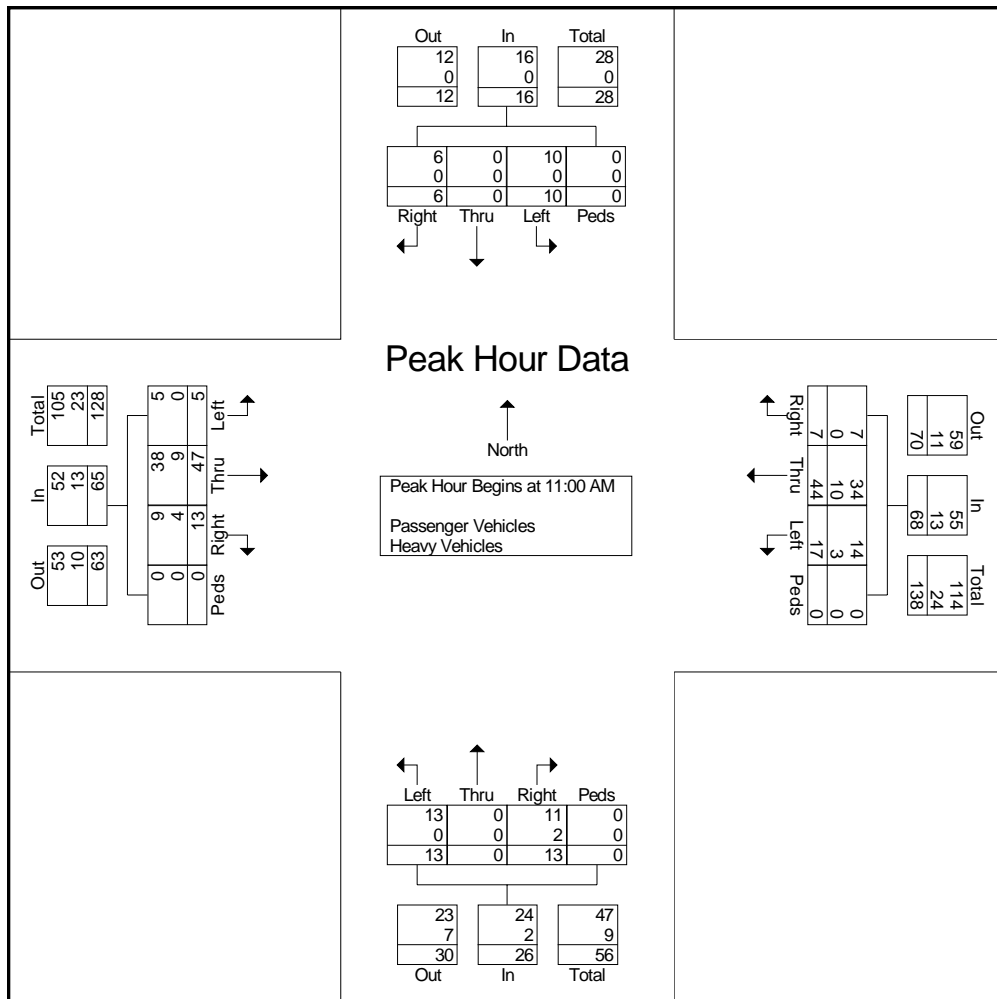
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Heil Quaker Avenue  
E/W Street: International Products Entra

File Name : Lewisburg-H  
Site Code : 00000027  
Start Date : 4/16/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 10:00 AM to 11:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 11:00 AM																					
11:00 AM	7	0	0	0	7	3	9	2	0	14	10	0	8	0	18	1	14	0	0	15	54
11:15 AM	0	0	4	0	4	6	15	3	0	24	0	0	3	0	3	1	8	3	0	12	43
11:30 AM	2	0	1	0	3	6	9	0	0	15	3	0	1	0	4	3	13	7	0	23	45
11:45 AM	1	0	1	0	2	2	11	2	0	15	0	0	1	0	1	0	12	3	0	15	33
Total Volume	10	0	6	0	16	17	44	7	0	68	13	0	13	0	26	5	47	13	0	65	175
% App. Total	62.5	0	37.5	0		25	64.7	10.3	0		50	0	50	0		7.7	72.3	20	0		
PHF	.357	.000	.375	.000	.571	.708	.733	.583	.000	.708	.325	.000	.406	.000	.361	.417	.839	.464	.000	.707	.810
Passenger Vehicles	10	0	6	0	16	14	34	7	0	55	13	0	11	0	24	5	38	9	0	52	147
% Passenger Vehicles	100	0	100	0	100	82.4	77.3	100	0	80.9	100	0	84.6	0	92.3	100	80.9	69.2	0	80.0	84.0
Heavy Vehicles	0	0	0	0	0	3	10	0	0	13	0	0	2	0	2	0	9	4	0	13	28
% Heavy Vehicles	0	0	0	0	0	17.6	22.7	0	0	19.1	0	0	15.4	0	7.7	0	19.1	30.8	0	20.0	16.0



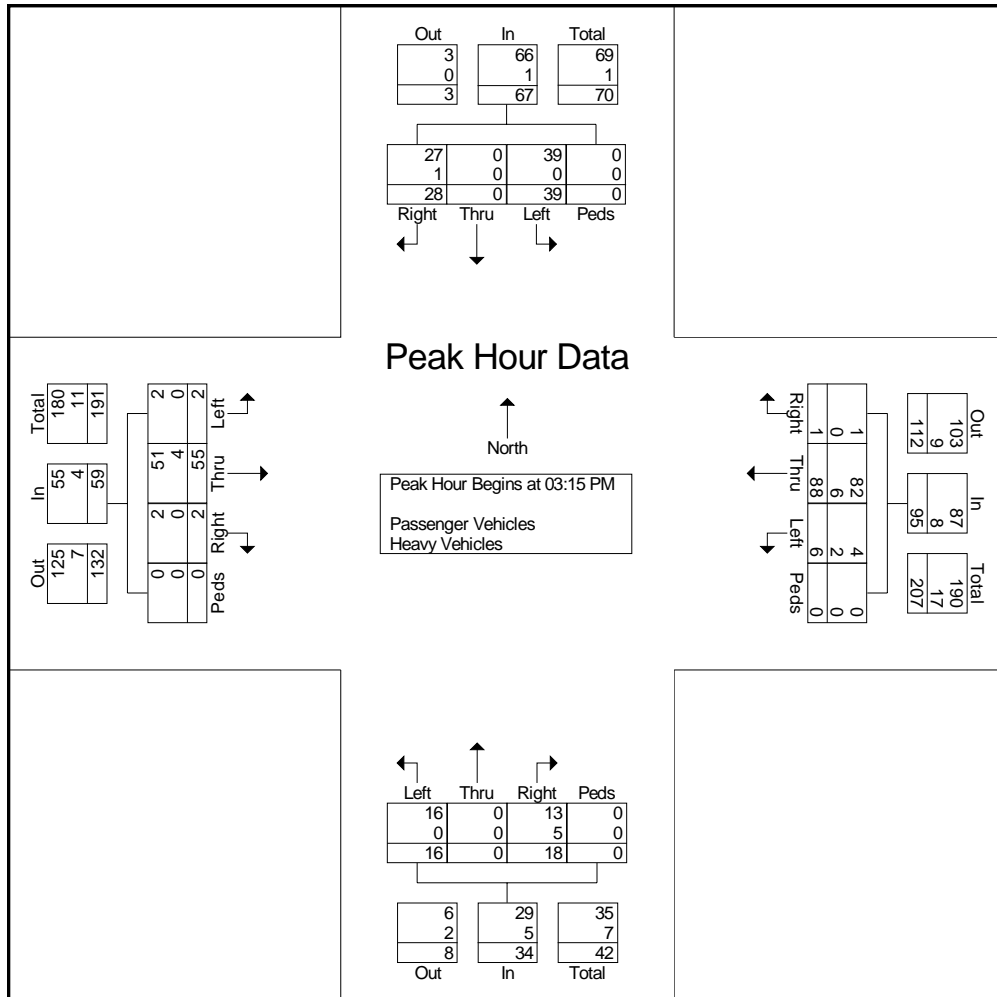
# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Heil Quaker Avenue  
E/W Street: International Products Entra  
Counted by: City of Lewisburg

File Name : Lewisburg-H  
Site Code : 00000027  
Start Date : 4/16/2015  
Page No : 4

Start Time	Eastbound					Southbound					Westbound					Northbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 03:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:15 PM																					
03:15 PM	21	0	16	0	37	0	15	0	0	15	0	0	0	0	0	0	10	0	0	10	62
03:30 PM	4	0	3	0	7	3	29	1	0	33	9	0	9	0	18	0	13	1	0	14	72
03:45 PM	12	0	7	0	19	1	29	0	0	30	7	0	6	0	13	2	14	1	0	17	79
04:00 PM	2	0	2	0	4	2	15	0	0	17	0	0	3	0	3	0	18	0	0	18	42
Total Volume	39	0	28	0	67	6	88	1	0	95	16	0	18	0	34	2	55	2	0	59	255
% App. Total	58.2	0	41.8	0		6.3	92.6	1.1	0		47.1	0	52.9	0		3.4	93.2	3.4	0		
PHF	.464	.000	.438	.000	.453	.500	.759	.250	.000	.720	.444	.000	.500	.000	.472	.250	.764	.500	.000	.819	.807
Passenger Vehicles	39	0	27	0	66	4	82	1	0	87	16	0	13	0	29	2	51	2	0	55	237
% Passenger Vehicles	100	0	96.4	0	98.5	66.7	93.2	100	0	91.6	100	0	72.2	0	85.3	100	92.7	100	0	93.2	92.9
Heavy Vehicles	0	0	1	0	1	2	6	0	0	8	0	0	5	0	5	0	4	0	0	4	18
% Heavy Vehicles	0	0	3.6	0	1.5	33.3	6.8	0	0	8.4	0	0	27.8	0	14.7	0	7.3	0	0	6.8	7.1



# Signal Timing Optimization Study

Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Nichirin Tennessee, Inc.  
E/W Street: Old Belfast Road

File Name : Lewisburg-28  
Site Code : 00000028  
Start Date : 4/21/2015  
Page No : 1

Counted by: City of Lewisburg

## Groups Printed- Passenger Vehicles - Heavy Vehicles

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
06:15 AM	3	0	4	0	7	1	5	4	0	10	0	3	0	0	3	2	6	0	0	8	28
06:30 AM	9	0	4	0	13	0	5	1	0	6	0	0	0	0	0	2	13	0	0	15	34
06:45 AM	5	0	2	0	7	0	3	4	0	7	0	0	0	0	0	7	8	0	0	15	29
<b>Total</b>	<b>17</b>	<b>0</b>	<b>10</b>	<b>0</b>	<b>27</b>	<b>1</b>	<b>13</b>	<b>9</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>11</b>	<b>27</b>	<b>0</b>	<b>0</b>	<b>38</b>	<b>91</b>
07:00 AM	0	0	4	0	4	0	2	1	0	3	0	0	0	0	0	13	6	0	0	19	26
07:15 AM	0	0	5	0	5	0	1	0	0	1	0	0	0	0	0	2	6	0	0	8	14
07:30 AM	0	0	5	0	5	1	3	0	0	4	0	0	0	0	0	2	4	0	0	6	15
07:45 AM	1	0	4	0	5	0	0	0	0	0	0	0	0	0	0	3	0	0	0	3	8
<b>Total</b>	<b>1</b>	<b>0</b>	<b>18</b>	<b>0</b>	<b>19</b>	<b>1</b>	<b>6</b>	<b>1</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>16</b>	<b>0</b>	<b>0</b>	<b>36</b>	<b>63</b>
08:00 AM	0	0	1	0	1	0	1	0	0	1	0	0	0	0	0	1	0	0	0	1	3
*** BREAK ***																					
<b>Total</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>1</b>	<b>3</b>
*** BREAK ***																					
10:15 AM	0	0	8	0	8	0	4	1	0	5	0	0	0	0	0	3	3	0	0	6	19
10:30 AM	1	0	6	0	7	0	3	2	0	5	0	0	0	0	0	14	4	0	0	18	30
10:45 AM	3	0	9	0	12	0	9	0	0	9	0	0	0	0	0	1	2	0	0	3	24
<b>Total</b>	<b>4</b>	<b>0</b>	<b>23</b>	<b>0</b>	<b>27</b>	<b>0</b>	<b>16</b>	<b>3</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>18</b>	<b>9</b>	<b>0</b>	<b>0</b>	<b>27</b>	<b>73</b>
11:00 AM	1	0	8	0	9	0	11	1	0	12	0	0	0	0	0	2	3	0	0	5	26
11:15 AM	2	0	24	0	26	0	10	1	0	11	0	0	0	0	0	9	6	0	0	15	52
11:30 AM	1	0	5	0	6	0	5	3	0	8	0	0	0	0	0	13	6	0	0	19	33
11:45 AM	0	0	2	0	2	0	9	0	0	9	0	0	0	0	0	7	3	0	0	10	21
<b>Total</b>	<b>4</b>	<b>0</b>	<b>39</b>	<b>0</b>	<b>43</b>	<b>0</b>	<b>35</b>	<b>5</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>31</b>	<b>18</b>	<b>0</b>	<b>0</b>	<b>49</b>	<b>132</b>
12:00 PM	4	0	5	0	9	0	3	2	0	5	0	0	0	0	0	7	3	0	0	10	24
12:15 PM	0	0	3	0	3	0	6	0	0	6	0	0	0	0	0	6	5	0	0	11	20
*** BREAK ***																					
<b>Total</b>	<b>4</b>	<b>0</b>	<b>8</b>	<b>0</b>	<b>12</b>	<b>0</b>	<b>9</b>	<b>2</b>	<b>0</b>	<b>11</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>21</b>	<b>44</b>
*** BREAK ***																					
03:15 PM	2	0	3	1	6	0	9	3	0	12	0	0	0	0	0	8	5	0	0	13	31
03:30 PM	1	0	5	0	6	0	12	2	0	14	0	0	0	0	0	1	4	0	0	5	25
03:45 PM	3	0	10	0	13	0	9	5	0	14	0	0	0	0	0	4	3	0	0	7	34
<b>Total</b>	<b>6</b>	<b>0</b>	<b>18</b>	<b>1</b>	<b>25</b>	<b>0</b>	<b>30</b>	<b>10</b>	<b>0</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>13</b>	<b>12</b>	<b>0</b>	<b>0</b>	<b>25</b>	<b>90</b>
04:00 PM	1	0	6	0	7	0	6	3	0	9	0	0	0	0	0	6	0	1	0	7	23
04:15 PM	2	0	3	0	5	0	11	8	0	19	0	0	0	0	0	8	1	0	0	9	33
04:30 PM	0	0	6	0	6	0	6	2	0	8	0	0	0	0	0	3	1	0	0	4	18
04:45 PM	2	0	4	0	6	0	3	3	0	6	0	0	0	0	0	3	1	0	0	4	16
<b>Total</b>	<b>5</b>	<b>0</b>	<b>19</b>	<b>0</b>	<b>24</b>	<b>0</b>	<b>26</b>	<b>16</b>	<b>0</b>	<b>42</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>3</b>	<b>1</b>	<b>0</b>	<b>24</b>	<b>90</b>
05:00 PM	1	0	1	0	2	0	4	1	0	5	0	0	0	0	0	2	1	0	0	3	10
<b>Grand Total</b>	<b>42</b>	<b>0</b>	<b>137</b>	<b>1</b>	<b>180</b>	<b>2</b>	<b>140</b>	<b>47</b>	<b>0</b>	<b>189</b>	<b>0</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>129</b>	<b>94</b>	<b>1</b>	<b>0</b>	<b>224</b>	<b>596</b>
Apprch %	23.3	0	76.1	0.6		1.1	74.1	24.9	0		0	100	0	0		57.6	42	0.4	0		
Total %	7	0	23	0.2	30.2	0.3	23.5	7.9	0	31.7	0	0.5	0	0	0.5	21.6	15.8	0.2	0	37.6	
Passenger Vehicles	40	0	130	1	171	2	132	44	0	178	0	3	0	0	3	123	88	1	0	212	564
% Passenger Vehicles	95.2	0	94.9	100	95	100	94.3	93.6	0	94.2	0	100	0	0	100	95.3	93.6	100	0	94.6	94.6
Heavy Vehicles	2	0	7	0	9	0	8	3	0	11	0	0	0	0	0	6	6	0	0	12	32
% Heavy Vehicles	4.8	0	5.1	0	5	0	5.7	6.4	0	5.8	0	0	0	0	0	4.7	6.4	0	0	5.4	5.4

# Signal Timing Optimization Study

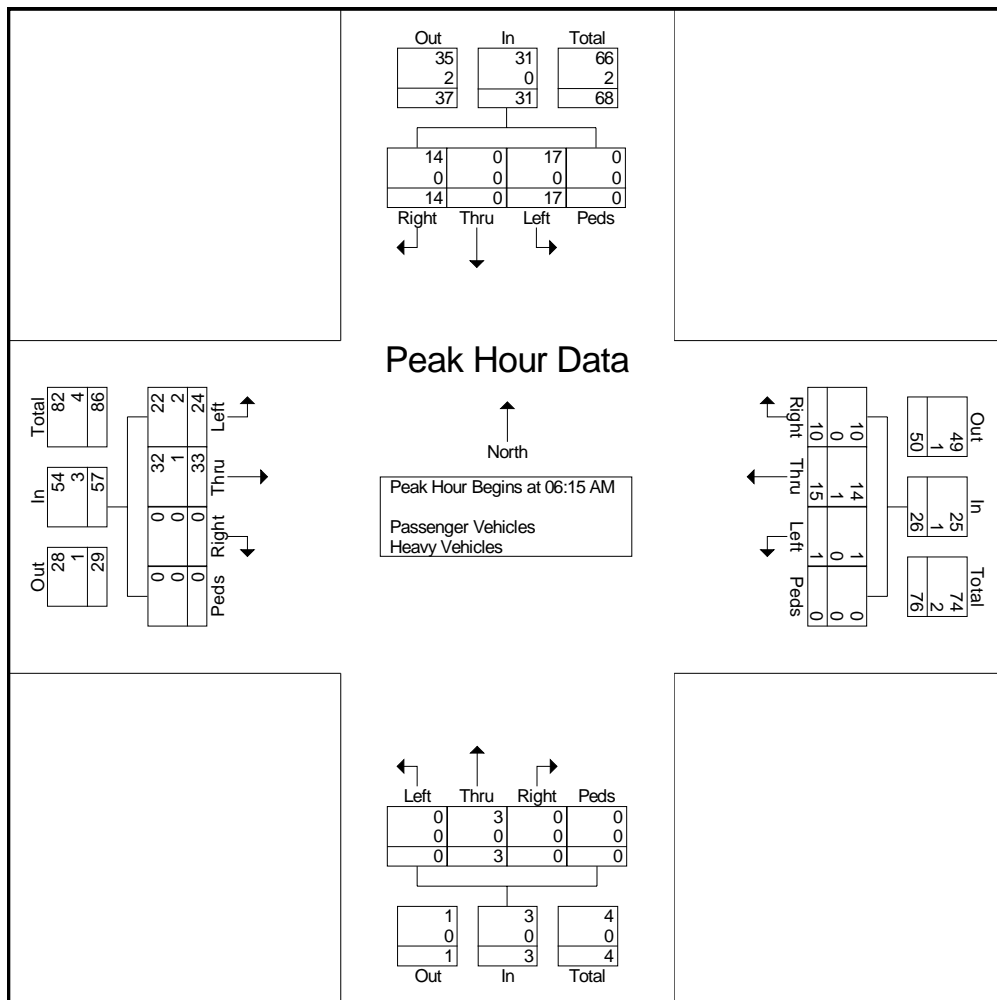
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Nichirin Tennessee, Inc.  
E/W Street: Old Belfast Road

File Name : Lewisburg-28  
Site Code : 00000028  
Start Date : 4/21/2015  
Page No : 2

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 06:15 AM to 08:00 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 06:15 AM																					
06:15 AM	3	0	4	0	7	1	5	4	0	10	0	3	0	0	3	2	6	0	0	8	28
06:30 AM	9	0	4	0	13	0	5	1	0	6	0	0	0	0	0	2	13	0	0	15	34
06:45 AM	5	0	2	0	7	0	3	4	0	7	0	0	0	0	0	7	8	0	0	15	29
07:00 AM	0	0	4	0	4	0	2	1	0	3	0	0	0	0	0	13	6	0	0	19	26
Total Volume	17	0	14	0	31	1	15	10	0	26	0	3	0	0	3	24	33	0	0	57	117
% App. Total	54.8	0	45.2	0		3.8	57.7	38.5	0		0	100	0	0		42.1	57.9	0	0		
PHF	.472	.000	.875	.000	.596	.250	.750	.625	.000	.650	.000	.250	.000	.000	.250	.462	.635	.000	.000	.750	.860
Passenger Vehicles	17	0	14	0	31	1	14	10	0	25	0	3	0	0	3	22	32	0	0	54	113
% Passenger Vehicles	100	0	100	0	100	100	93.3	100	0	96.2	0	100	0	0	100	91.7	97.0	0	0	94.7	96.6
Heavy Vehicles	0	0	0	0	0	0	1	0	0	1	0	0	0	0	0	2	1	0	0	3	4
% Heavy Vehicles	0	0	0	0	0	0	6.7	0	0	3.8	0	0	0	0	0	8.3	3.0	0	0	5.3	3.4



# Signal Timing Optimization Study

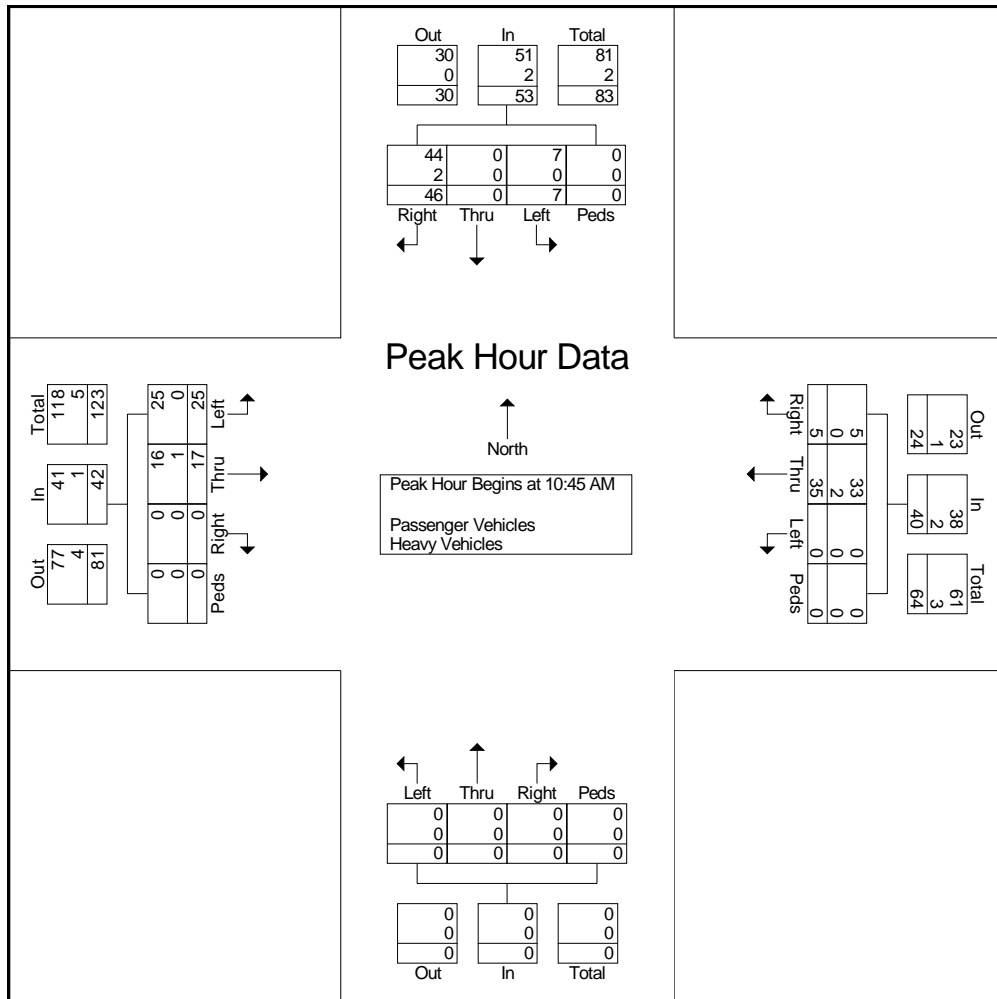
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Nichirin Tennessee, Inc.  
E/W Street: Old Belfast Road

File Name : Lewisburg-28  
Site Code : 0000028  
Start Date : 4/21/2015  
Page No : 3

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 10:15 AM to 12:15 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:45 AM																					
10:45 AM	3	0	9	0	12	0	9	0	0	9	0	0	0	0	0	1	2	0	0	3	24
11:00 AM	1	0	8	0	9	0	11	1	0	12	0	0	0	0	0	2	3	0	0	5	26
11:15 AM	2	0	24	0	26	0	10	1	0	11	0	0	0	0	0	9	6	0	0	15	52
11:30 AM	1	0	5	0	6	0	5	3	0	8	0	0	0	0	0	13	6	0	0	19	33
Total Volume	7	0	46	0	53	0	35	5	0	40	0	0	0	0	0	25	17	0	0	42	135
% App. Total	13.2	0	86.8	0		0	87.5	12.5	0		0	0	0	0		59.5	40.5	0	0		
PHF	.583	.000	.479	.000	.510	.000	.795	.417	.000	.833	.000	.000	.000	.000	.000	.481	.708	.000	.000	.553	.649
Passenger Vehicles	7	0	44	0	51	0	33	5	0	38	0	0	0	0	0	25	16	0	0	41	130
% Passenger Vehicles	100	0	95.7	0	96.2	0	94.3	100	0	95.0	0	0	0	0	0	100	94.1	0	0	97.6	96.3
Heavy Vehicles	0	0	2	0	2	0	2	0	0	2	0	0	0	0	0	0	1	0	0	1	5
% Heavy Vehicles	0	0	4.3	0	3.8	0	5.7	0	0	5.0	0	0	0	0	0	0	5.9	0	0	2.4	3.7



# Signal Timing Optimization Study

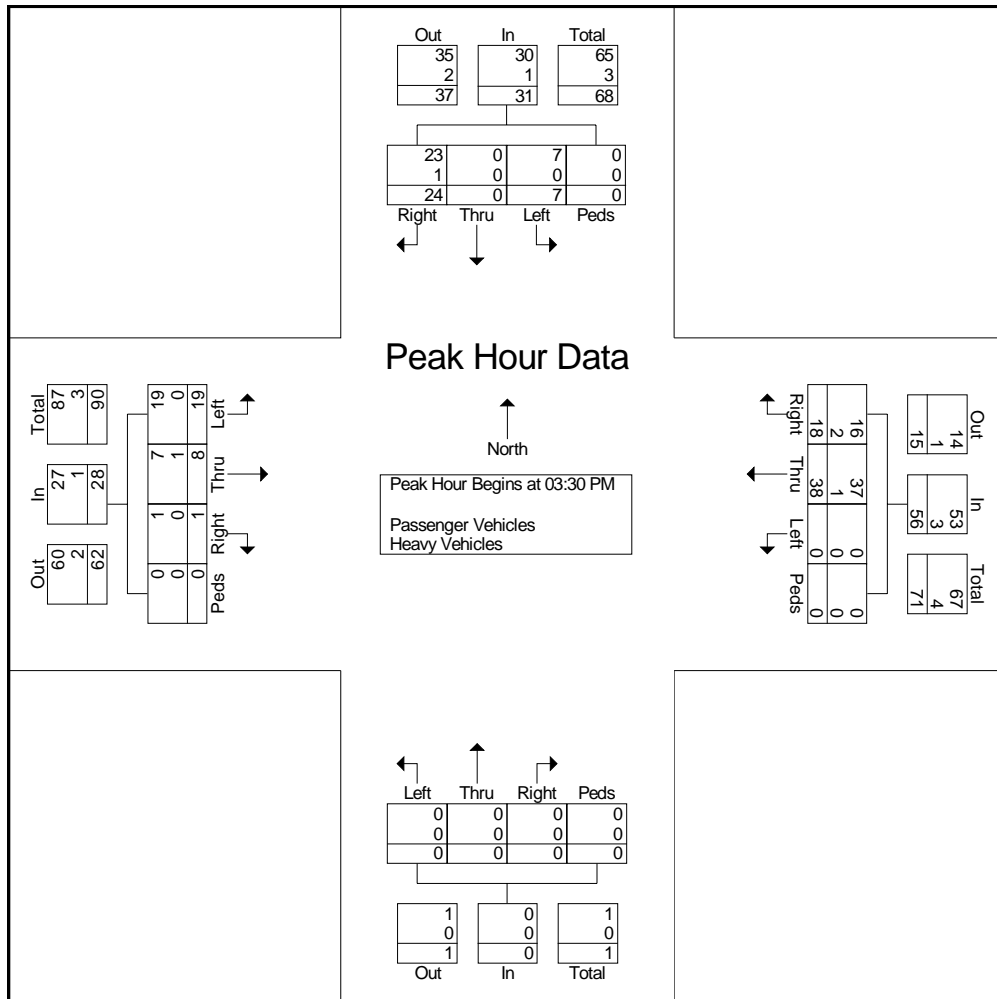
Lewisburg, Tennessee  
Kimley-Horn Project: 118000037

N/S Street: Nichirin Tennessee, Inc.  
E/W Street: Old Belfast Road

File Name : Lewisburg-28  
Site Code : 0000028  
Start Date : 4/21/2015  
Page No : 4

Counted by: City of Lewisburg

Start Time	Southbound					Westbound					Northbound					Eastbound					Int. Total
	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	
Peak Hour Analysis From 03:15 PM to 05:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 03:30 PM																					
03:30 PM	1	0	5	0	6	0	12	2	0	14	0	0	0	0	0	1	4	0	0	5	25
03:45 PM	3	0	10	0	13	0	9	5	0	14	0	0	0	0	0	4	3	0	0	7	34
04:00 PM	1	0	6	0	7	0	6	3	0	9	0	0	0	0	0	6	0	1	0	7	23
04:15 PM	2	0	3	0	5	0	11	8	0	19	0	0	0	0	0	8	1	0	0	9	33
Total Volume	7	0	24	0	31	0	38	18	0	56	0	0	0	0	0	19	8	1	0	28	115
% App. Total	22.6	0	77.4	0		0	67.9	32.1	0		0	0	0	0		67.9	28.6	3.6	0		
PHF	.583	.000	.600	.000	.596	.000	.792	.563	.000	.737	.000	.000	.000	.000	.000	.594	.500	.250	.000	.778	.846
Passenger Vehicles	7	0	23	0	30	0	37	16	0	53	0	0	0	0	0	19	7	1	0	27	110
% Passenger Vehicles	100	0	95.8	0	96.8	0	97.4	88.9	0	94.6	0	0	0	0	0	100	87.5	100	0	96.4	95.7
Heavy Vehicles	0	0	1	0	1	0	1	2	0	3	0	0	0	0	0	0	1	0	0	1	5
% Heavy Vehicles	0	0	4.2	0	3.2	0	2.6	11.1	0	5.4	0	0	0	0	0	0	12.5	0	0	3.6	4.3



## **Appendix B:**

### **Existing Conditions and Operational Analysis Memorandum**





## MEMORANDUM

To: Randall Dunn  
City of Lewisburg, Tennessee

From: Beth Ostrowski, PE  
Emily Harrison, EI  
Kimley-Horn and Associates, Inc.

Date: April 7, 2016

Subject: City of Lewisburg Community Transportation Planning Grant 2015  
**Existing Conditions and Operational Analysis**  
Kimley-Horn and Associates, Inc. Agreement Number: 45942  
PIN Number: 104685.10  
Kimley-Horn Project Number: 118000037

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### Introduction

Kimley-Horn was tasked with performing an evaluation of existing conditions and an operational analysis for 28 intersections within the City of Lewisburg. These intersections are generally located along North / South Ellington Parkway (SR 11 / 106 / 272), West / East Commerce Street (SR 373), and North 2<sup>nd</sup> Avenue / US-431 Business. Addressed in this memorandum are capacity analyses consistent with the *2000 Highway Capacity Manual*, existing and proposed signal phasing and sequencing, and additional identified operational improvements such as pavement marking changes, geometric improvements, and signal control equipment additions and / or upgrades for the City of Lewisburg to consider.

### Existing Measures of Effectiveness

The existing conditions of all 28 intersections were analyzed using *Synchro version 8*. *Synchro 8* provides capacity analysis consistent with the methodologies set forth in the *2000 Highway Capacity Manual (HCM)*. Turning movements counts used to compile the *Synchro* models was collected by the City of Lewisburg and Kimley-Horn's sub consultant, Marr Traffic, Inc. Lewisburg Electric System also provided existing signal timings and intersection geometry. The data collection process included preparing sketches that depict the existing laneage, pavement markings, phasing sequences, and operational characteristics of each intersection. Kimley-Horn staff observed traffic patterns, excessive queuing, and lane utilization during the three primary peak periods (AM, PM and Mid-day).

Level-of-service (LOS) is used to describe the operating characteristics of a road segment or intersection in relation to its capacity. LOS, per the *HCM*, is defined as a qualitative measure that describes the operational characteristics in a traffic stream, generally in terms of service measures such as speed and travel time, maneuverability, traffic interruptions, and comfort/convenience. The *HCM* describes six levels of service (LOS A through LOS F) with LOS A being the most ideal condition and LOS F being the least ideal condition. A LOS of D or better is generally the accepted minimum threshold for operating conditions in an urban area. **Table 1** summarizes the LOS, average vehicle delay, and volume-to-capacity ratio for the existing conditions for each of the 19 signalized intersections.

<b>Table 1</b> <b>Comparison of LOS, Average Delay (sec/veh), and</b> <b>Volume/Capacity Ratio (v/c) By Intersection</b>				
Intersection		AM Peak Hour	MD Peak Hour	PM Peak Hour
ID	Name	LOS (Avg. Delay) [V/C Ratio]	LOS (Avg. Delay) [V/C Ratio]	LOS (Avg. Delay) [V/C Ratio]
3	West Commerce Street (SR 373) at Heil Quaker Avenue	A (5.6) [0.33]	A (4.2) [0.18]	A (5.7) [0.30]
4	North Ellington Parkway (SR 106) at West Ellington Parkway (SR 417)	B (15.7) [0.77]	A (8.3) [0.38]	B (11.5) [0.59]
5	West Commerce Street (SR 373) at 8 <sup>th</sup> Avenue South	B (13.1) [0.41]	A (8.3) [0.23]	A (8.8) [0.36]
6	North Ellington Parkway (SR 106) at Franklin Road	B (12.2) [0.72]	A (6.6) [0.36]	A (8.5) [0.54]
7	West Commerce Street (SR 373) at 5 <sup>th</sup> Avenue	A (8.3) [0.20]	A (9.5) [0.37]	B (12.4) [0.36]
8	North Ellington Parkway (SR 106) at Walmart Entrance	A (5.1) [0.40]	B (10.8) [0.53]	B (12.8) [0.55]
9	West Commerce Street (SR 373) at North 3 <sup>rd</sup> Avenue / Franklin Road	A (9.0) [0.26]	A (8.7) [0.23]	A (8.8) [0.32]
10	North Ellington Parkway (SR 106) at North 5 <sup>th</sup> Avenue / Rock Crusher Road	B (15.2) [0.56]	C (20.9) [0.62]	C (24.6) [0.70]
11	East Commerce Street (SR 373) at Legion Avenue / Martin Avenue	A (5.7) [0.18]	A (6.2) [0.23]	A (6.7) [0.27]
12	North Ellington Parkway (SR 11 / 106 / 272) at Nashville Highway (SR 11)	C (31.5) [0.50]	C (32.6) [0.55]	D (37.1) [0.70]
13	East Commerce Street (SR 373) / Fayetteville Highway at Creekside Drive / Garrett Parkway	C (20.8) [0.46]	D (54.8) [0.52]	E (71.6) [0.83]
14	North Ellington Parkway (SR 11 / 106 / 272) at Finley Beech Road	B (11.7) [0.36]	C (22.7) [0.57]	C (22.6) [0.56]

<b>Table 1, Continued</b> <b>Comparison of LOS, Average Delay (sec/veh), and</b> <b>Volume/Capacity Ratio (v/c) By Intersection</b>				
Intersection		AM Peak Hour	MD Peak Hour	PM Peak Hour
ID	Name	LOS (Avg. Delay) [V/C Ratio]	LOS (Avg. Delay) [V/C Ratio]	LOS (Avg. Delay) [V/C Ratio]
15	West Ewing Street at US-31 Alt Business	B (10.9) [0.33]	B (10.3) [0.25]	B (10.6) [0.31]
16	East Commerce Street (SR 373) / Fayetteville Highway at Ellington Parkway (SR 11 / 106 / 272)	C (25.9) [0.31]	C (26.1) [0.34]	C (25.8) [0.32]
17	West Ewing Street at Franklin Road	A (9.2) [0.09]	A (8.6) [0.10]	A (8.8) [0.15]
18	South Ellington Parkway (SR 11) at Higgs Road	B (19.2) [0.20]	C (20.4) [0.18]	B (19.7) [0.23]
19	North 2 <sup>nd</sup> Avenue / US-431 Business at Water Street	A (6.8) [0.18]	A (7.4) [0.24]	A (7.9) [0.30]
21	North 2 <sup>nd</sup> Avenue / US-431 Business at College Street	B (10.1) [0.15]	B (11.0) [0.18]	A (8.8) [0.21]
23	Franklin Road (SR 50) at Heil Quaker Avenue at Dodson Drive	A (8.9) [0.31]	A (8.9) [0.17]	A (7.7) [0.26]

## Operational Analysis

An operational analysis was performed for each of the study intersections by studying the data collected. An analysis of the existing traffic flow patterns, LOS, delay, and v/c ratios for each intersection movement was performed to determine if any modifications to the intersection would enhance its operation. Deficiencies and recommended improvements in regards to the *Manual on Uniform Traffic Control Devices (MUTCD)*, 2009 Edition were noted. Identified operational deficiencies include possible geometric modifications, phasing changes, signal infrastructure improvements, and pavement marking / lane utilization changes. There are deficiencies that affect all or most of the intersections; these deficiencies are listed as general issues. **Table 2** itemizes each intersection and details recommended improvements.

### General Issues

- The following standards should be implemented at all or most of the study intersections, where applicable:
  - Signal backplates should be used on all signal faces for approaches where the posted or statutory speed limit or the 85<sup>th</sup>-percentile speed is 45 mph or higher.
  - Signal backplates should be considered for use on approaches with posted or statutory speed limits or the 85<sup>th</sup>-percentile speeds of less than 45 mph.
  - Install overhead street name signs at all signalized intersections.
  - The lettering for names of streets and highways on street name signs should be composed of a combination of lower-case letters with initial upper-case letters.
  - All curb ramps should be updated to meet current ADA standards.
  - Upgrade any incandescent signal heads with 12" LED signal heads.
  - Install pedestrian infrastructure (i.e. standard ADA ramps, crosswalks, pedestrian pushbuttons, pedestrian guidance signs, countdown pedestrian signal heads) where sidewalks exist.
- The following standards should be implemented at all study intersections near the downtown Lewisburg area:
  - On-street parking style should be consistent.
  - On-street parking should be restricted within 30 feet of an intersection. NO PARKING ANY TIME (R7-1) signs should be installed at each intersection approach where on-street parking is permissible.

<b>Table 2 Operational Analysis Summary</b>	
<b>Intersection</b>	<b>Comments</b>
- Recommended Improvement	
<b>3 West Commerce Street (SR 373) at Heil Quaker Avenue</b>	
- Eradicate pavement markings within the intersection.	
- Relocate signal cabinet closer to traffic signal.	
- Signalize the northbound driveway approach (Century 21)	
- Install approximately 50' of double solid yellow line (DSYL) pavement marking on the southbound approach.	
- Install southbound stop bar.	
<b>4 North Ellington Parkway (SR 106) at West Ellington Parkway (417)</b>	
- Install new cabinet and signal controller for exclusive use for this traffic signal.	
- Refresh westbound left-turn pavement arrows.	
- Eradicate second northbound stop bar.	
<b>5 West Commerce Street (SR 373) at 8<sup>th</sup> Avenue South</b>	
- Install approximately 50' of DSYL pavement marking on the southbound approach.	
- Install southbound stop bar.	
- Implement access management in the northeast quadrant and in the northwest quadrant.	
- Consider traffic signal span rebuild.	Existing span configuration may create driver confusion.
<b>6 North Ellington Parkway (SR 106) at Franklin Road</b>	
- Install new cabinet and signal controller for exclusive use for this traffic signal.	
- Refresh northbound stop bar, DSYL pavement marking, single solid white line (SSWL) pavement marking, and directional arrows.	
- Install two-directional large arrow sign (W1-7) across from the northbound approach.	
- Replace missing signal head lens hoods for eastbound approach.	
- Refresh eastbound and westbound stop bars.	

<b>Table 2 (continued)</b>	
<b>Operational Analysis Summary</b>	
<b>Intersection</b>	<b>Comments</b>
<ul style="list-style-type: none"> <li>- Recommended Improvement</li> </ul>	
<p><b>7 West Commerce Street (SR 373) at 5<sup>th</sup> Avenue</b></p> <ul style="list-style-type: none"> <li>- Eradicate eastbound and westbound stop bars. Install new eastbound and westbound stop bars so that each stop bar is located at least 40' in advance of the signal heads.</li> </ul>	<p>The MUTCD states that stop bars should be located at least 40' in advance of the nearest signal head.</p>
<ul style="list-style-type: none"> <li>- Consider traffic signal rebuild to provide nearside and farside eastbound and westbound signal heads.</li> </ul>	<p>Intersection will be approximately 190' wide after relocation of eastbound and westbound stop bars.</p>
<ul style="list-style-type: none"> <li>- Eradicate pavement markings within the intersection.</li> </ul>	
<ul style="list-style-type: none"> <li>- Install missing sidewalk link north of intersection.</li> </ul>	
<ul style="list-style-type: none"> <li>- Install approximately 50' of DSYL pavement marking on the northbound approach and on the southbound approach.</li> </ul>	
<ul style="list-style-type: none"> <li>- Install northbound and southbound stop bars.</li> </ul>	
<ul style="list-style-type: none"> <li>- Implement access management in the southwest quadrant (eliminate retail access along West Commerce Street and create a driveway along 5<sup>th</sup> Avenue) and in the southeast quadrant (eliminate retail access along West Commerce Street).</li> </ul>	
<p><b>8 North Ellington Parkway (SR 106) at Walmart Entrance</b></p> <ul style="list-style-type: none"> <li>- Repair guardrail in the northwest quadrant.</li> </ul>	
<ul style="list-style-type: none"> <li>- Replace westbound LEFT TURN YIELD ON GREEN BALL (R10-12) sign with standard size R10-12 sign.</li> </ul>	
<ul style="list-style-type: none"> <li>- Refresh southbound left-turn pavement arrow.</li> </ul>	
<ul style="list-style-type: none"> <li>- Refresh northbound right-turn pavement arrow.</li> </ul>	
<ul style="list-style-type: none"> <li>- Install hatching within the existing northbound two-way left-turn lane approximately 250' to the south.</li> </ul>	
<p><b>9 West Commerce Street (SR 373) at North 3<sup>rd</sup> Avenue / Franklin Road</b></p> <ul style="list-style-type: none"> <li>- Install approximately 50' of DSYL pavement marking on the northbound approach and on the southbound approach.</li> </ul>	
<ul style="list-style-type: none"> <li>- Extend northbound and southbound stop bars to edge of pavement.</li> </ul>	
<ul style="list-style-type: none"> <li>- Remove southbound approach hatched triangle.</li> </ul>	

<b>Table 2 (continued) Operational Analysis Summary</b>	
<b>Intersection</b>	<b>Comments</b>
- Recommended Improvement	
<b>10 North Ellington Parkway (SR 106) at North 5<sup>th</sup> Avenue / Rock Crusher Road</b>	
- Refresh northbound stop bar and DSYL pavement marking.	
- Refresh southbound stop bar.	
- Install approximately 50' of DSYL pavement marking on the southbound approach.	
- Implement access management in the southeast quadrant (create a driveway along North 5 <sup>th</sup> Avenue) and in the southwest quadrant (eliminate restaurant driveway along North Ellington Parkway located at eastbound intersection approach).	
- Install eastbound and westbound overhead LEFT TURN YIELD ON GREEN BALL (R10-12) sign.	
- Replace eastbound and westbound DO NOT BLOCK INTERSECTION (R10-7) sign with standard size R10-7 sign.	
- Consider installation of pedestrian infrastructure.	
- Repair pavement in northeast corner.	
- Relocate northbound right-turn YIELD (R1-2) sign closer to pavement and install yield line.	
- Refresh northbound right-turn channelizing island pavement markings.	
<b>11 East Commerce Street (SR 50) at Legion Avenue / Martin Avenue</b>	
- Install approximately 50' of DSYL pavement marking on the northbound approach and on the southbound approach.	
- Implement access management in the northeast quadrant, in the southwest quadrant, and in the southeast quadrant.	
- Option 1:	
- Remove traffic signal.	Traffic signal is not warranted.
- Eradicate eastbound and westbound stop bars.	
- Install northbound and southbound STOP (R1-1) signs.	
- Option 2:	
- Upgrade all signal heads to 12" signal heads.	
<b>12 North Ellington Parkway (SR 11 / 106 / 272) at Nashville Highway (SR 11)</b>	
- Install overhead LEFT TURN YIELD ON GREEN BALL (R10-12) sign for all approaches.	

<b>Table 2 (continued) Operational Analysis Summary</b>	
<b>Intersection</b>	<b>Comments</b>
- Recommended Improvement	
- Install eastbound, westbound, and southbound right-turn yield lines.	
<b>13 East Commerce Street (SR 50) / Fayetteville Highway at Ellington Parkway (SR 11 / 106 / 272)</b>	Existing stop bar is within the intersection.
- Eradicate westbound stop bar and install stop bar approximately 30' east.	
- Install approximately 25 of DSYL pavement marking on the southbound approach from the stop bar to the raised median.	
- Remove northbound right-turn yield sign.	
- Install eastbound LANE ENDS MERGE LEFT (W9-2) sign past the intersection.	
<b>14 North Ellington Parkway (SR 11 / 106 / 272) at Finley Beech Road</b>	
- Refresh crosswalk across westbound approach.	
- Replace all LEFT TURN YIELD ON GREEN BALL (R10-12) signs with standard size R10-12 signs.	
- Refresh northbound left-turn pavement arrow.	
- Extend southbound stop bar to edge of pavement.	
- Refresh stop bar and DSYL pavement marking on Darnell-Mealer Road.	
- Extend westbound DSYL pavement marking approximately 50'.	
- Option 1:	
- Traffic signal phasing incorporates five (5) approaches. All three (3) side minor street approaches (Finley Beech Road and Darnell-Mealer Road) are split phase.	
- Option 2:	
- Close Darnell-Mealer Road approach at Finley Beech Road.	



<b>Table 2 (continued)</b>	
<b>Operational Analysis Summary</b>	
<b>Intersection</b>	<b>Comments</b>
- Recommended Improvement	
<b>15 US-31 Alt Business at West Ewing Street</b>	
- Refresh northbound stop bar and DSYL pavement marking.	
- Install eastbound and westbound stop bars and approximately 50' of DSYL pavement marking.	
- Implement access management in the southwest quadrant.	
- Option 1:	
- Remove traffic signal.	Traffic signal is not warranted.
- Eradicate northbound and southbound stop bars.	
- Install eastbound and westbound STOP (R1-1) signs.	
- Option 2:	
- Upgrade all signal heads to 12" signal heads.	
- Install new cabinet and signal controller for exclusive use for this traffic signal.	
<b>16 East Commerce Street (SR 50) / Fayetteville Highway at Ellington Parkway (SR 11 / 106 / 272)</b>	
- No additional recommended improvements.	
<b>17 West Ewing Street at Franklin Road</b>	
- Remove traffic signal.	Traffic signal is not warranted.
- Install STOP (R1-1) signs, stop bars, and approximately 50' of DSYL pavement marking at all approaches.	
- Implement access management in the northwest quadrant and in the southwest quadrant.	
<b>18 South Ellington Parkway (SR 11) at Higgs Road</b>	
- Add through pavement marking arrow to the westbound left-turn lane.	
<b>19 North 2<sup>nd</sup> Avenue / US-431 Business at Water Street</b>	
- Remove traffic signal.	Traffic signal is not warranted.
- Eradicate northbound and southbound stop bars.	
- Refresh westbound stop bar.	
- Install eastbound stop bar.	
- Install eastbound and westbound STOP (R1-1) signs.	
- Install approximately 50' of DSYL pavement marking on the eastbound approach and on the westbound approach.	

<b>Table 2 (continued)</b> <b>Operational Analysis Summary</b>	
<b>Intersection</b>	<b>Comments</b>
- Recommended Improvement	
<b>21 North 2<sup>nd</sup> Avenue / US-431 Business at College Street</b>	
- Traffic signal may or may not be warranted. Further analysis is necessary before any recommendation to either maintain or remove the signal can be made.	
- Restrict parking within the intersection.	
- Install westbound stop bar and approximately 50' of DSYL.	
- Eradicate northbound and southbound stop bars. Install new eastbound and westbound stop bars so that each stop bar is located at least 40' in advance of the signal head.	
- Implement access management within the intersection (restrict open frontage and driveways).	
- Create a distance of at least 8' between signal heads for each approach.	The MUTCD states that signal heads should not be less than 8' apart.
<b>23 Franklin Road (SR 50) at Heil Quaker Avenue at Dodson Drive</b>	
- Install approximately 50' of DSYL pavement marking on the eastbound approach.	
- Refresh northbound DSYL pavement markings.	
- Option 1:	
- Remove traffic signal.	Traffic signal is not warranted.
- Eradicate northbound and southbound stop bars.	
- Install eastbound and westbound STOP (R1-1) signs.	
- Option 2:	
- Create a distance of at least 8' between signal heads for each approach.	The MUTCD states that signal heads should not be less than 8' apart.
<b>A West Ellington Parkway (SR 417) at Old Columbia Road / Jason Maxwell Boulevard</b>	
- Install westbound, southbound, and eastbound right-turn yield lines.	
- Refresh SSWL pavement markings at raised right-turn channelizing islands.	
- Refresh westbound DSYL pavement markings.	
- Eradicate southbound SSWL at beginning of right-turn channelization.	

<b>Table 2 (continued) Operational Analysis Summary</b>	
<b>Intersection</b>	<b>Comments</b>
- Recommended Improvement	
<b>B West Ellington Parkway (SR 417) / Freeman Drive at West Commerce Street / Mooresville Highway (SR 373)</b>	
- Consider installation of traffic signal.	Traffic signal is warranted.
- Install eastbound and westbound stop bars.	
- Install southbound raised right-turn channelizing island.	
<b>C East Commerce Street (SR 50) / Fayetteville Highway at Armory Drive</b>	
- No additional recommended improvements.	
<b>D South Ellington Parkway (SR 11) at Springplace Road / Ostella Road (SR 272)</b>	
- Install eastbound shared through/left-turn pavement arrow.	
<b>E Franklin Avenue (SR 50) at North Church Street</b>	
- Option 1:	
- Consider two-way stop control.	
- Option 2:	
- Install stop bars on all approaches.	
- Install approximately 50' of DSYL pavement marking on the eastbound approach.	
<b>F North First Avenue between Bates Street and Adams Street</b>	
- Option 1:	
- Consider two-way stop control.	
- Option 2:	
- Install northbound and southbound stop bars and DSYL pavement marking.	
<b>G South Ellington Parkway (SR 11) at US-31 Alt Business / Cornersville Road</b>	
- Consider installation of traffic signal.	Traffic signal is warranted.
- Refresh northbound and southbound median hatching pavement markings.	
- Install northbound right-turn yield line.	
- Remove westbound right-turn YIELD (R1-2) sign.	
<b>H Heil Quaker Avenue at International Comfort Products Entrance</b>	
- Refresh northbound and southbound DSYL pavement marking.	
<b>J Old Belfast Road at Nichirin Tennessee, Inc. Entrance</b>	
- Install eastbound and westbound DSYL pavement marking.	

Some of these operational improvement recommendations will provide an increase in LOS, a decrease in delay, and/or improve safety. Documented below are existing signalized intersections that are unwarranted and recommended to be stop-controlled.

A potential modification at the intersection of East Commerce Street at Legion Avenue / Martin Avenue is to remove the existing traffic signal and implement two-way stop control at the northbound and southbound approaches of Legion Avenue and Martin Avenue. With existing volumes, the removal of the existing traffic signal will reduce delay as well as volume to capacity (v/c) ratios in both the AM and PM peak periods, as shown in **Table 3**.

<b>Table 3</b>								
<b>Traffic Control Comparison</b>								
<b>11) East Commerce Street at Legion Avenue / Martin Avenue</b>								
	<i>Signalized Control</i>				<i>Two-Way Stop Control</i>			
Approach	EB	WB	NB	SB	EB	WB	NB	SB
Delay (s)	3.5	3.5	19.7	19.4	0.0	0.6	10.8	14.0
AM (PM)	(3.6)	(3.9)	(19.7)	(18.9)	(0.0)	(1.4)	(11.9)	(14.5)
v/c Ratio	0.17	0.19	0.14	0.07	0.00	0.01	0.09	0.02
AM (PM)	(0.18)	(0.28)	(0.23)	(0.08)	(0.00)	(0.03)	(0.17)	(0.05)

A potential modification at the intersection of West Ewing Street at US-31 Alt Business is to remove the existing traffic signal and implement two-way stop control at the eastbound and westbound approaches of West Ewing Street. With existing volumes, the removal of the existing traffic signal will reduce northbound and southbound approach delays as well as v/c ratios in both the AM and PM peak periods, as shown in **Table 4**. The eastbound and westbound approach delays and v/c ratios will slightly increase.

<b>Table 4</b>								
<b>Traffic Control Comparison</b>								
<b>15) West Ewing Street at US-31 Alt Business</b>								
	<i>Signalized Control</i>				<i>Two-Way Stop Control</i>			
Approach	EB	WB	NB	SB	EB	WB	NB	SB
Delay (s)	9.2	10.2	11.8	10.3	13.0	16.7	2.1	1.4
AM (PM)	(9.9)	(11.7)	(10.0)	(10.8)	(13.6)	(18.1)	(1.6)	(1.2)
v/c Ratio	0.08	0.21	0.44	0.22	0.14	0.29	0.06	0.02
AM (PM)	(0.17)	(0.34)	(0.25)	(0.29)	(0.25)	(0.41)	(0.03)	(0.02)

A potential modification at the intersection of West Ewing Street at Franklin Road is to remove the existing traffic signal and implement all-way stop control. All-way stop control was chosen at this location due to sight distance concerns. With existing volumes, the removal of the existing traffic signal will reduce eastbound and westbound approach delays in both the AM and PM peak periods, as shown in **Table 5**. The southbound approach delay will slightly increase.

<b>Table 5</b>						
<b>Traffic Control Comparison</b>						
<b>17) West Ewing Street at Franklin Road</b>						
	<i>Signalized Control</i>			<i>All-Way Stop Control</i>		
Approach	EB	WB	SB	EB	WB	SB
Delay (s)	9.9	10.2	6.8	8.0	7.1	7.8
AM (PM)	(9.9)	(10.2)	(7.1)	(7.5)	(7.4)	(8.3)
v/c Ratio	0.02	0.10	0.09	--*	--*	--*
AM (PM)	(0.01)	(0.10)	(0.18)			

\*Synchro does not provide v/c ratios for all-way stop controlled intersections.

A potential modification at the intersection of North 2<sup>nd</sup> Avenue / US-431 Business at Water Street is to remove the existing traffic signal and implement two-way stop control at the eastbound and westbound approaches of Water Street. With existing volumes, the removal of the existing traffic signal will reduce northbound and southbound approach delays as well as v/c ratios for all approaches in both the AM and PM peak periods, as shown in **Table 6**. The eastbound and westbound approach delays will slightly increase.

<b>Table 6</b>								
<b>Traffic Control Comparison</b>								
<b>19) North 2<sup>nd</sup> Avenue / US-431 Business at Water Street</b>								
	<i>Signalized Control</i>				<i>Two-Way Stop Control</i>			
Approach	EB	WB	NB	SB	EB	WB	NB	SB
Delay (s)	9.3	9.0	5.8	6.8	10.1	9.3	0.9	0.4
AM (PM)	(10.0)	(9.6)	(6.1)	(8.0)	(11.5)	(11.3)	(0.8)	(0.4)
v/c Ratio	0.04	0.01	0.08	0.25	0.02	0.01	0.00	0.00
AM (PM)	(0.12)	(0.07)	(0.14)	(0.40)	(0.07)	(0.04)	(0.01)	(0.01)

A potential modification at the intersection of Franklin Road at Heil Quaker Avenue at Dodson Drive is to remove the existing traffic signal and implement two-way stop control at the eastbound and westbound approaches of Dodson Drive and Franklin Avenue. With existing volumes, the removal of the existing traffic signal will reduce delay as well as v/c ratios for all approaches in both the AM and PM peak periods, as shown in **Table 7**.

<b>Table 7</b>								
<b>Traffic Control Comparison</b>								
<b>23) Franklin Road at Heil Quaker Avenue at Dodson Drive</b>								
	<i>Signalized Control</i>				<i>Two-Way Stop Control</i>			
Approach	EB	WB	NB	SB	EB	WB	NB	SB
Delay (s)	20.9	23.0	4.8	5.2	14.8	14.0	0.1	3.1
AM (PM)	(22.1)	(22.7)	(4.0)	(4.5)	(13.2)	(12.5)	(0.2)	(2.4)
v/c Ratio	0.07	0.39	0.22	0.30	0.04	0.25	0.00	0.07
AM (PM)	(0.06)	(0.16)	(0.14)	(0.28)	(0.02)	(0.16)	(0.00)	(0.05)

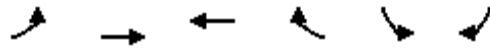
As referenced above, there are a number of modifications that can be implemented to improve signal operation, improve intersection capacity, comply with MUTCD and ADA standards and guidelines, and/or improve driver understanding of traffic controls. Many of these improvements could be implemented in-house by the City of Lewisburg staff; however, others are significant and will require additional planning, funding, and design.

Attachments:   Synchro Reports for Existing Conditions  
                      Signal Warrant Analyses  
                      Synchro Reports for Alternatives

c: File

# HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program 3: W Commerce Street & Heil Quaker Avenue

Existing 2015 AM

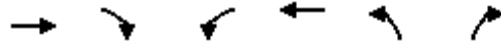


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Volume (vph)	21	392	436	75	79	20
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-2%	1%		0%	
Total Lost time (s)		6.0	6.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.98		0.97	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		3566	3411		1709	
Flt Permitted		0.91	1.00		0.96	
Satd. Flow (perm)		3246	3411		1709	
Peak-hour factor, PHF	0.75	0.75	0.78	0.78	0.75	0.75
Adj. Flow (vph)	28	523	559	96	105	27
RTOR Reduction (vph)	0	0	28	0	22	0
Lane Group Flow (vph)	0	551	627	0	110	0
Heavy Vehicles (%)	2%	2%	3%	3%	4%	4%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases	2					
Actuated Green, G (s)		28.3	28.3		6.4	
Effective Green, g (s)		28.3	28.3		6.4	
Actuated g/C Ratio		0.62	0.62		0.14	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		0.2	0.2		2.8	
Lane Grp Cap (vph)		2010	2112		239	
v/s Ratio Prot			c0.18		c0.06	
v/s Ratio Perm		0.17				
v/c Ratio		0.27	0.30		0.46	
Uniform Delay, d1		4.0	4.1		18.1	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.0	0.0		1.2	
Delay (s)		4.0	4.1		19.3	
Level of Service		A	A		B	
Approach Delay (s)		4.0	4.1		19.3	
Approach LOS		A	A		B	

## Intersection Summary

HCM 2000 Control Delay	5.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.33		
Actuated Cycle Length (s)	45.7	Sum of lost time (s)	11.0
Intersection Capacity Utilization	42.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 4: W Ellington Parkway & N Ellington Parkway Existing 2015 AM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Volume (vph)	440	152	197	365	146	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	4.5	6.0	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1810	1538	1736	1827	1770	1583
Flt Permitted	1.00	1.00	0.22	1.00	0.95	1.00
Satd. Flow (perm)	1810	1538	403	1827	1770	1583
Peak-hour factor, PHF	0.75	0.75	0.80	0.80	0.75	0.75
Adj. Flow (vph)	587	203	246	456	195	233
RTOR Reduction (vph)	0	123	0	0	0	200
Lane Group Flow (vph)	587	80	246	456	195	33
Heavy Vehicles (%)	5%	5%	4%	4%	2%	2%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	4	3	
Permitted Phases		2	4			3
Actuated Green, G (s)	18.5	18.5	29.8	29.8	6.7	6.7
Effective Green, g (s)	18.5	18.5	29.8	29.8	6.7	6.7
Actuated g/C Ratio	0.39	0.39	0.63	0.63	0.14	0.14
Clearance Time (s)	6.5	6.5	4.5	6.0	4.5	4.5
Vehicle Extension (s)	2.0	2.0	1.5	2.0	4.0	4.0
Lane Grp Cap (vph)	712	605	434	1158	252	225
v/s Ratio Prot	c0.32		c0.08	0.25	c0.11	
v/s Ratio Perm		0.05	0.28			0.02
v/c Ratio	0.82	0.13	0.57	0.39	0.77	0.15
Uniform Delay, d1	12.8	9.1	5.8	4.2	19.4	17.6
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	10.5	0.5	1.0	0.1	14.5	0.4
Delay (s)	23.3	9.6	6.8	4.3	33.9	18.1
Level of Service	C	A	A	A	C	B
Approach Delay (s)	19.8			5.2	25.3	
Approach LOS	B			A	C	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	47.0	Sum of lost time (s)	15.5
Intersection Capacity Utilization	55.1%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group



# HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program

## 5: 8th Avenue S & W Commerce Street

Existing 2015 AM

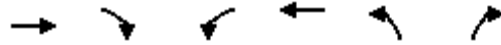


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Volume (vph)	2	339	73	8	315	2	186	14	14	0	6	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-6%			3%	
Total Lost time (s)		6.0			6.0			5.5			5.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			1.00			0.99			0.90	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		3428			3515			1805			1658	
Flt Permitted		0.95			0.94			0.73			1.00	
Satd. Flow (perm)		3271			3316			1382			1658	
Peak-hour factor, PHF	0.85	0.85	0.85	0.80	0.80	0.80	0.78	0.78	0.78	0.75	0.75	0.75
Adj. Flow (vph)	2	399	86	10	394	2	238	18	18	0	8	20
RTOR Reduction (vph)	0	30	0	0	0	0	0	4	0	0	15	0
Lane Group Flow (vph)	0	457	0	0	406	0	0	270	0	0	13	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		35.0			35.0			15.0			15.0	
Effective Green, g (s)		35.0			35.0			15.0			15.0	
Actuated g/C Ratio		0.57			0.57			0.24			0.24	
Clearance Time (s)		6.0			6.0			5.5			5.5	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		1861			1887			337			404	
v/s Ratio Prot											0.01	
v/s Ratio Perm		c0.14			0.12			c0.20				
v/c Ratio		0.25			0.21			0.80			0.03	
Uniform Delay, d1		6.6			6.5			21.9			17.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.0			12.2			0.0	
Delay (s)		6.7			6.5			34.0			17.7	
Level of Service		A			A			C			B	
Approach Delay (s)		6.7			6.5			34.0			17.7	
Approach LOS		A			A			C			B	

### Intersection Summary

HCM 2000 Control Delay	13.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	61.5	Sum of lost time (s)	11.5
Intersection Capacity Utilization	57.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

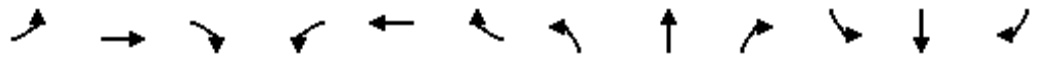
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 6: Franklin Road & N Ellington Parkway Existing 2015 AM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Volume (vph)	493	90	74	469	108	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%			0%	-1%	
Total Lost time (s)	6.5	6.5	4.5	6.5	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1836	1561	1736	1827	1728	1546
Flt Permitted	1.00	1.00	0.24	1.00	0.95	1.00
Satd. Flow (perm)	1836	1561	443	1827	1728	1546
Peak-hour factor, PHF	0.78	0.78	0.86	0.86	0.75	0.75
Adj. Flow (vph)	632	115	86	545	144	93
RTOR Reduction (vph)	0	49	0	0	0	82
Lane Group Flow (vph)	632	66	86	545	144	11
Heavy Vehicles (%)	4%	4%	4%	4%	5%	5%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	6		5	8	7	
Permitted Phases		6	8			7
Actuated Green, G (s)	22.7	22.7	30.8	30.8	5.7	5.7
Effective Green, g (s)	22.7	22.7	30.8	30.8	5.7	5.7
Actuated g/C Ratio	0.47	0.47	0.64	0.64	0.12	0.12
Clearance Time (s)	6.5	6.5	4.5	6.5	5.0	5.0
Vehicle Extension (s)	2.0	2.0	1.5	2.0	3.0	3.0
Lane Grp Cap (vph)	868	738	381	1172	205	183
v/s Ratio Prot	c0.34		0.02	c0.30	c0.08	
v/s Ratio Perm		0.04	0.13			0.01
v/c Ratio	0.73	0.09	0.23	0.47	0.70	0.06
Uniform Delay, d1	10.2	7.0	4.8	4.4	20.3	18.8
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	5.3	0.2	0.1	0.1	10.4	0.1
Delay (s)	15.5	7.2	5.0	4.5	30.7	18.9
Level of Service	B	A	A	A	C	B
Approach Delay (s)	14.2			4.6	26.1	
Approach LOS	B			A	C	

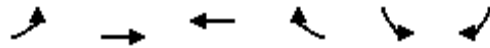
Intersection Summary			
HCM 2000 Control Delay	12.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	48.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	50.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 7: S 5th Avenue/N 5th Avenue & W Commerce Street Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations		↕↕			↕↕			↕			↕		
Volume (vph)	13	206	6	8	216	5	13	0	11	10	2	21	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Grade (%)		-4%			-3%			-3%			3%		
Total Lost time (s)		6.0			6.0			6.0			6.0		
Lane Util. Factor		0.95			0.95			1.00			1.00		
Frt		1.00			1.00			0.94			0.91		
Flt Protected		1.00			1.00			0.97			0.99		
Satd. Flow (prot)		3585			3539			1725			1653		
Flt Permitted		0.93			0.94			1.00			0.93		
Satd. Flow (perm)		3350			3340			1771			1552		
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	
Adj. Flow (vph)	17	275	8	11	288	7	17	0	15	13	3	28	
RTOR Reduction (vph)	0	2	0	0	2	0	0	0	0	0	0	0	
Lane Group Flow (vph)	0	298	0	0	304	0	0	32	0	0	44	0	
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	2%	2%	2%	2%	2%	2%	
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA		
Protected Phases		2			2			3			4		
Permitted Phases	2			2			3			4			
Actuated Green, G (s)		33.7			33.7			2.7			2.8		
Effective Green, g (s)		33.7			33.7			2.7			2.8		
Actuated g/C Ratio		0.59			0.59			0.05			0.05		
Clearance Time (s)		6.0			6.0			6.0			6.0		
Vehicle Extension (s)		0.2			0.2			2.2			2.2		
Lane Grp Cap (vph)		1973			1967			83			75		
v/s Ratio Prot													
v/s Ratio Perm		0.09			c0.09			c0.02			c0.03		
v/c Ratio		0.15			0.15			0.39			0.59		
Uniform Delay, d1		5.3			5.3			26.4			26.6		
Progression Factor		1.00			1.00			1.00			1.00		
Incremental Delay, d2		0.0			0.0			1.5			8.1		
Delay (s)		5.3			5.3			28.0			34.8		
Level of Service		A			A			C			C		
Approach Delay (s)		5.3			5.3			28.0			34.8		
Approach LOS		A			A			C			C		
<b>Intersection Summary</b>													
HCM 2000 Control Delay			8.3									HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.20										
Actuated Cycle Length (s)			57.2									Sum of lost time (s)	18.0
Intersection Capacity Utilization			37.5%									ICU Level of Service	A
Analysis Period (min)			15										
c Critical Lane Group													

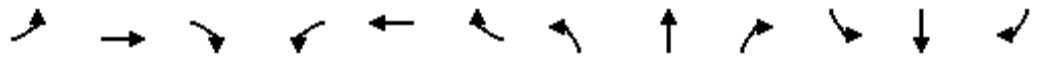
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 8: N Ellington Parkway & Walmart Entrance Existing 2015 AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	64	495	434	30	23	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-3%	4%		5%	
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1745	1837	1790	1522	1725	1544
Flt Permitted	0.42	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	779	1837	1790	1522	1725	1544
Peak-hour factor, PHF	0.83	0.83	0.87	0.87	0.82	0.82
Adj. Flow (vph)	77	596	499	34	28	60
RTOR Reduction (vph)	0	0	0	7	0	0
Lane Group Flow (vph)	77	596	499	27	28	60
Heavy Vehicles (%)	5%	5%	4%	4%	2%	2%
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pt+ov
Protected Phases	1	6	2	4	4	4 1
Permitted Phases	6			2		6
Actuated Green, G (s)	91.4	91.4	81.1	87.7	6.6	104.0
Effective Green, g (s)	91.4	91.4	81.1	87.7	6.6	104.0
Actuated g/C Ratio	0.83	0.83	0.74	0.80	0.06	0.95
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	3.5	
Lane Grp Cap (vph)	693	1526	1319	1296	103	1544
v/s Ratio Prot	0.01	c0.32	0.28	0.00	c0.02	0.01
v/s Ratio Perm	0.09			0.02		0.03
v/c Ratio	0.11	0.39	0.38	0.02	0.27	0.04
Uniform Delay, d1	2.2	2.3	5.3	2.3	49.4	0.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.8	0.8	0.0	1.7	0.0
Delay (s)	2.2	3.1	6.1	2.3	51.1	0.2
Level of Service	A	A	A	A	D	A
Approach Delay (s)		3.0	5.9		16.4	
Approach LOS		A	A		B	

Intersection Summary			
HCM 2000 Control Delay	5.1	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	47.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

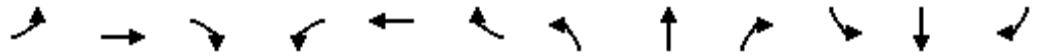
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 9: Franklin Road/N 3rd Avenue & W Commerce Street Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Volume (vph)	16	254	31	1	222	2	86	39	3	5	16	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			2%			5%			-2%	
Total Lost time (s)		5.5			5.5			5.5			5.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.98			1.00			1.00			0.96	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3476			3498			1734			1718	
Flt Permitted		0.93			0.95			0.77			0.95	
Satd. Flow (perm)		3253			3338			1386			1641	
Peak-hour factor, PHF	0.87	0.87	0.87	0.76	0.76	0.76	0.84	0.84	0.84	0.75	0.75	0.75
Adj. Flow (vph)	18	292	36	1	292	3	102	46	4	7	21	13
RTOR Reduction (vph)	0	16	0	0	1	0	0	1	0	0	10	0
Lane Group Flow (vph)	0	330	0	0	295	0	0	151	0	0	31	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.0			30.0			15.0			15.0	
Effective Green, g (s)		30.0			30.0			15.0			15.0	
Actuated g/C Ratio		0.54			0.54			0.27			0.27	
Clearance Time (s)		5.5			5.5			5.5			5.5	
Vehicle Extension (s)		1.0			1.0			1.0			1.0	
Lane Grp Cap (vph)		1742			1788			371			439	
v/s Ratio Prot												
v/s Ratio Perm		c0.10			0.09			c0.11			0.02	
v/c Ratio		0.19			0.16			0.41			0.07	
Uniform Delay, d1		6.7			6.6			16.8			15.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.0			0.3			0.0	
Delay (s)		6.7			6.6			17.1			15.3	
Level of Service		A			A			B			B	
Approach Delay (s)		6.7			6.6			17.1			15.3	
Approach LOS		A			A			B			B	

Intersection Summary		
HCM 2000 Control Delay	9.0	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.26	A
Actuated Cycle Length (s)	56.0	Sum of lost time (s)
Intersection Capacity Utilization	47.8%	11.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

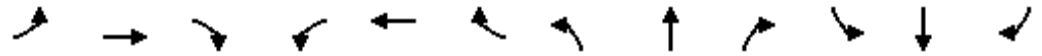
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 10: N 5th Avenue/Rock Crusher Road & N Ellington Parkway Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	532	16	58	501	57	18	20	51	42	25	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			1%			2%				-1%
Total Lost time (s)	5.0	6.0		5.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	1.00		1.00	0.98			0.92			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.98	
Satd. Flow (prot)	1753	1837		1744	1807			1636			1748	
Flt Permitted	0.35	1.00		0.28	1.00			0.91			0.78	
Satd. Flow (perm)	641	1837		522	1807			1502			1399	
Peak-hour factor, PHF	0.79	0.79	0.79	0.83	0.83	0.83	0.82	0.82	0.82	0.75	0.75	0.75
Adj. Flow (vph)	14	673	20	70	604	69	22	24	62	56	33	31
RTOR Reduction (vph)	0	1	0	0	2	0	0	52	0	0	13	0
Lane Group Flow (vph)	14	692	0	70	671	0	0	56	0	0	107	0
Heavy Vehicles (%)	4%	4%	4%	3%	3%	3%	5%	5%	5%	3%	3%	3%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	66.4	64.4		73.4	67.9			13.1			13.1	
Effective Green, g (s)	66.4	64.4		73.4	67.9			13.1			13.1	
Actuated g/C Ratio	0.66	0.64		0.73	0.68			0.13			0.13	
Clearance Time (s)	5.0	6.0		5.0	6.0			6.0			6.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.5			3.5	
Lane Grp Cap (vph)	447	1183		450	1226			196			183	
v/s Ratio Prot	0.00	c0.38		c0.01	c0.37							
v/s Ratio Perm	0.02			0.11				0.04			c0.08	
v/c Ratio	0.03	0.59		0.16	0.55			0.28			0.58	
Uniform Delay, d1	6.2	10.2		5.8	8.2			39.2			40.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	2.1		0.2	1.8			0.9			5.0	
Delay (s)	6.2	12.3		6.0	10.0			40.2			45.9	
Level of Service	A	B		A	A			D			D	
Approach Delay (s)		12.2			9.6			40.2			45.9	
Approach LOS		B			A			D			D	

Intersection Summary		
HCM 2000 Control Delay	15.2	HCM 2000 Level of Service B
HCM 2000 Volume to Capacity ratio	0.56	
Actuated Cycle Length (s)	100.0	Sum of lost time (s) 17.0
Intersection Capacity Utilization	62.6%	ICU Level of Service B
Analysis Period (min)	15	
c Critical Lane Group		

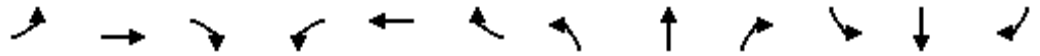
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 11: Martin Avenue/Legion Avenue & E Commerce Street Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	0	154	9	11	153	4	10	6	31	6	1	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-3%			4%			-2%	
Total Lost time (s)		6.0			6.0			5.5			5.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.91			1.00	
Flt Protected		1.00			1.00			0.99			0.96	
Satd. Flow (prot)		1830			1879			1615			1286	
Flt Permitted		1.00			0.98			0.92			0.71	
Satd. Flow (perm)		1830			1845			1508			952	
Peak-hour factor, PHF	0.78	0.78	0.78	0.75	0.75	0.75	0.78	0.78	0.78	0.88	0.88	0.88
Adj. Flow (vph)	0	197	12	15	204	5	13	8	40	7	1	0
RTOR Reduction (vph)	0	3	0	0	1	0	0	35	0	0	0	0
Lane Group Flow (vph)	0	206	0	0	223	0	0	26	0	0	8	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	4%	4%	4%	43%	43%	43%
Turn Type		NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		31.7			31.7			5.9			5.9	
Effective Green, g (s)		31.7			31.7			5.9			5.9	
Actuated g/C Ratio		0.65			0.65			0.12			0.12	
Clearance Time (s)		6.0			6.0			5.5			5.5	
Vehicle Extension (s)		1.0			1.0			3.0			3.0	
Lane Grp Cap (vph)		1181			1191			181			114	
v/s Ratio Prot		0.11										
v/s Ratio Perm					c0.12			c0.02			0.01	
v/c Ratio		0.17			0.19			0.14			0.07	
Uniform Delay, d1		3.5			3.5			19.3			19.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.0			0.4			0.3	
Delay (s)		3.5			3.5			19.7			19.4	
Level of Service		A			A			B			B	
Approach Delay (s)		3.5			3.5			19.7			19.4	
Approach LOS		A			A			B			B	

Intersection Summary		
HCM 2000 Control Delay	5.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.18	A
Actuated Cycle Length (s)	49.1	Sum of lost time (s)
Intersection Capacity Utilization	38.8%	11.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 12: N 2nd Avenue / US-431 Business/Nashville Highway & N Ellington Parkway Existing 2015 AM

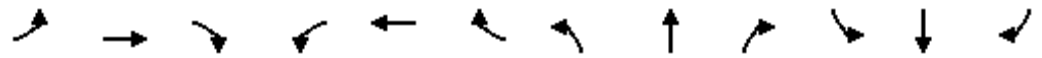


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	119	355	55	20	362	4	88	88	19	180	150	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			-3%				2%
Total Lost time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1710	1800	1530	1694	1783	1516	1796	1891	1607	1718	1809	1537
Flt Permitted	0.33	1.00	1.00	0.46	1.00	1.00	0.65	1.00	1.00	0.60	1.00	1.00
Satd. Flow (perm)	585	1800	1530	817	1783	1516	1229	1891	1607	1087	1809	1537
Peak-hour factor, PHF	0.89	0.89	0.89	0.88	0.88	0.88	0.84	0.84	0.84	0.89	0.89	0.89
Adj. Flow (vph)	134	399	62	23	411	5	105	105	23	202	169	4
RTOR Reduction (vph)	0	0	33	0	0	3	0	0	17	0	0	3
Lane Group Flow (vph)	134	399	29	23	411	2	105	105	6	202	169	1
Heavy Vehicles (%)	5%	5%	5%	6%	6%	6%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	72.1	63.9	63.9	59.8	56.1	56.1	43.8	34.1	34.1	54.1	39.9	39.9
Effective Green, g (s)	72.1	63.9	63.9	59.8	56.1	56.1	43.8	34.1	34.1	54.1	39.9	39.9
Actuated g/C Ratio	0.52	0.46	0.46	0.43	0.41	0.41	0.32	0.25	0.25	0.39	0.29	0.29
Clearance Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)	2.2	3.0	3.0	2.2	3.0	3.0	2.2	3.0	3.0	2.2	3.0	3.0
Lane Grp Cap (vph)	398	832	707	377	723	615	429	466	396	496	522	443
v/s Ratio Prot	c0.03	c0.22		0.00	c0.23		0.02	0.06		c0.05	0.09	
v/s Ratio Perm	0.15		0.02	0.02		0.00	0.06		0.00	c0.11		0.00
v/c Ratio	0.34	0.48	0.04	0.06	0.57	0.00	0.24	0.23	0.01	0.41	0.32	0.00
Uniform Delay, d1	19.3	25.7	20.4	22.7	31.7	24.4	34.2	41.5	39.3	29.1	38.6	35.0
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	2.0	0.1	0.0	3.2	0.0	0.2	1.1	0.1	0.3	1.6	0.0
Delay (s)	19.6	27.6	20.5	22.8	34.9	24.4	34.4	42.6	39.4	29.4	40.2	35.0
Level of Service	B	C	C	C	C	C	C	D	D	C	D	C
Approach Delay (s)		25.1			34.2			38.6			34.3	
Approach LOS		C			C			D			C	

Intersection Summary		
HCM 2000 Control Delay	31.5	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.50	
Actuated Cycle Length (s)	138.2	Sum of lost time (s) 21.0
Intersection Capacity Utilization	58.1%	ICU Level of Service B
Analysis Period (min)	15	
c Critical Lane Group		



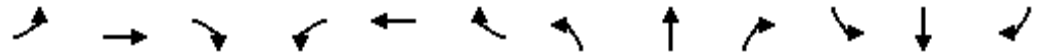
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 13: Garrett Parkway/Creekside Drive & E Commerce Street Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	1	141	131	26	215	0	144	0	33	1	0	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%				2%
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.88	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		1.00	
Satd. Flow (prot)	1649	1736	1476	1694	1783			1728	1546		1612	
Flt Permitted	0.59	1.00	1.00	0.65	1.00			0.78	1.00		1.00	
Satd. Flow (perm)	1030	1736	1476	1163	1783			1426	1546		1620	
Peak-hour factor, PHF	0.85	0.85	0.85	0.80	0.80	0.80	0.85	0.85	0.85	0.75	0.75	0.75
Adj. Flow (vph)	1	166	154	32	269	0	169	0	39	1	0	9
RTOR Reduction (vph)	0	0	87	0	0	0	0	0	34	0	10	0
Lane Group Flow (vph)	1	166	67	32	269	0	0	169	5	0	0	0
Heavy Vehicles (%)	10%	10%	10%	6%	6%	6%	5%	5%	5%	2%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		1			1			2			3	
Permitted Phases	1		1	1			2		2	3		
Actuated Green, G (s)	17.8	17.8	17.8	17.8	17.8			5.1	5.1		0.9	
Effective Green, g (s)	17.8	17.8	17.8	17.8	17.8			5.1	5.1		0.9	
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44			0.12	0.12		0.02	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		5.0	
Vehicle Extension (s)	6.0	6.0	6.0	6.0	6.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	449	757	643	507	777			178	193		35	
v/s Ratio Prot		0.10			c0.15							
v/s Ratio Perm	0.00		0.05	0.03				c0.12	0.00		c0.00	
v/c Ratio	0.00	0.22	0.10	0.06	0.35			0.95	0.03		0.01	
Uniform Delay, d1	6.5	7.2	6.8	6.7	7.6			17.7	15.7		19.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.4	0.2	0.1	0.8			52.1	0.1		0.1	
Delay (s)	6.5	7.6	7.0	6.8	8.4			69.9	15.7		19.6	
Level of Service	A	A	A	A	A			E	B		B	
Approach Delay (s)		7.3			8.2			59.7			19.6	
Approach LOS		A			A			E			B	

Intersection Summary		
HCM 2000 Control Delay	20.8	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.46	
Actuated Cycle Length (s)	40.8	Sum of lost time (s) 17.0
Intersection Capacity Utilization	46.3%	ICU Level of Service A
Analysis Period (min)	15	
c Critical Lane Group		

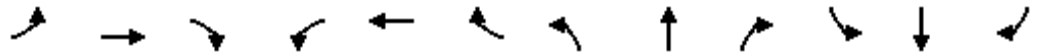
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 14: N Ellington Parkway & Finley Beech Road Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	26	27	42	25	17	11	19	422	45	11	485	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-3%			1%			1%	
Total Lost time (s)	5.0	6.0			6.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.91			0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1761	1685			1795		1694	3340		1694	3361	
Flt Permitted	0.66	1.00			0.81		0.42	1.00		0.46	1.00	
Satd. Flow (perm)	1219	1685			1482		745	3340		825	3361	
Peak-hour factor, PHF	0.82	0.82	0.82	0.83	0.83	0.83	0.91	0.91	0.91	0.86	0.86	0.86
Adj. Flow (vph)	32	33	51	30	20	13	21	464	49	13	564	33
RTOR Reduction (vph)	0	39	0	0	11	0	0	6	0	0	3	0
Lane Group Flow (vph)	32	45	0	0	52	0	21	507	0	13	594	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	6%	6%	6%
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	13.0	13.0			5.5		27.2	26.3		27.2	26.3	
Effective Green, g (s)	13.0	13.0			5.5		27.2	26.3		27.2	26.3	
Actuated g/C Ratio	0.23	0.23			0.10		0.48	0.46		0.48	0.46	
Clearance Time (s)	5.0	6.0			6.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	4.0	4.0			4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)	300	382			142		369	1535		405	1545	
v/s Ratio Prot	0.00	c0.03					c0.00	0.15		0.00	c0.18	
v/s Ratio Perm	0.02				c0.04		0.03			0.01		
v/c Ratio	0.11	0.12			0.37		0.06	0.33		0.03	0.38	
Uniform Delay, d1	17.6	17.5			24.2		8.0	9.8		7.9	10.1	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.2			2.2		0.1	0.3		0.0	0.3	
Delay (s)	17.8	17.7			26.4		8.1	10.1		8.0	10.5	
Level of Service	B	B			C		A	B		A	B	
Approach Delay (s)		17.8			26.4			10.0			10.4	
Approach LOS		B			C			B			B	

Intersection Summary		
HCM 2000 Control Delay	11.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.36	B
Actuated Cycle Length (s)	57.2	Sum of lost time (s)
Intersection Capacity Utilization	35.4%	22.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

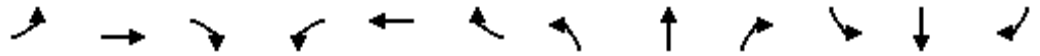
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 15: US-31 Alt Business & W Ewing Street Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↗		↕	
Volume (vph)	0	30	25	32	63	4	66	114	81	18	92	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			1%			3%				-3%
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frt		0.94			0.99			1.00	0.85		1.00	
Flt Protected		1.00			0.98			0.98	1.00		0.99	
Satd. Flow (prot)		1716			1796			1802	1560		1839	
Flt Permitted		1.00			0.89			0.83	1.00		0.92	
Satd. Flow (perm)		1716			1624			1516	1560		1707	
Peak-hour factor, PHF	0.75	0.75	0.75	0.80	0.80	0.80	0.75	0.75	0.75	0.82	0.82	0.82
Adj. Flow (vph)	0	40	33	40	79	5	88	152	108	22	112	0
RTOR Reduction (vph)	0	21	0	0	3	0	0	0	69	0	0	0
Lane Group Flow (vph)	0	52	0	0	121	0	0	240	39	0	134	0
Heavy Vehicles (%)	5%	5%	5%	3%	3%	3%	2%	2%	2%	4%	4%	4%
Turn Type		NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1		1	1		
Actuated Green, G (s)		15.0			15.0			15.0	15.0		15.0	
Effective Green, g (s)		15.0			15.0			15.0	15.0		15.0	
Actuated g/C Ratio		0.36			0.36			0.36	0.36		0.36	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		0.2			0.2			0.2	0.2		0.2	
Lane Grp Cap (vph)		612			580			541	557		609	
v/s Ratio Prot		0.03										
v/s Ratio Perm					c0.07			c0.16	0.02		0.08	
v/c Ratio		0.08			0.21			0.44	0.07		0.22	
Uniform Delay, d1		8.9			9.4			10.3	8.9		9.4	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.3			0.8			2.6	0.2		0.8	
Delay (s)		9.2			10.2			12.9	9.1		10.3	
Level of Service		A			B			B	A		B	
Approach Delay (s)		9.2			10.2			11.8			10.3	
Approach LOS		A			B			B			B	

Intersection Summary		
HCM 2000 Control Delay	10.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.33	B
Actuated Cycle Length (s)	42.0	Sum of lost time (s)
Intersection Capacity Utilization	52.5%	12.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

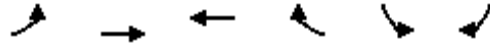
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 16: S Ellington Parkway/N Ellington Parkway & E Commerce Street Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	105	69	73	146	243	61	283	56	171	213	49
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			-2%				1%
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1761	3522	1576	1744	3489	1561	3368	3472	1553	3287	3389	1516
Flt Permitted	0.65	1.00	1.00	0.55	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1210	3522	1576	1008	3489	1561	3368	3472	1553	3287	3389	1516
Peak-hour factor, PHF	0.92	0.92	0.92	0.93	0.93	0.93	0.83	0.83	0.83	0.88	0.88	0.88
Adj. Flow (vph)	27	114	75	78	157	261	73	341	67	194	242	56
RTOR Reduction (vph)	0	0	64	0	0	212	0	0	40	0	0	32
Lane Group Flow (vph)	27	114	11	78	157	49	73	341	27	194	242	24
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	5%	5%	5%	6%	6%	6%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4			6			2
Actuated Green, G (s)	16.0	13.0	13.0	22.2	16.1	16.1	6.1	34.7	34.7	8.1	36.7	36.7
Effective Green, g (s)	16.0	13.0	13.0	22.2	16.1	16.1	6.1	34.7	34.7	8.1	36.7	36.7
Actuated g/C Ratio	0.19	0.15	0.15	0.26	0.19	0.19	0.07	0.40	0.40	0.09	0.43	0.43
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	244	533	238	312	653	292	239	1402	627	309	1447	647
v/s Ratio Prot	0.00	0.03		c0.02	0.05		0.02	c0.10		c0.06	0.07	
v/s Ratio Perm	0.02		0.01	c0.05		0.03			0.02			0.02
v/c Ratio	0.11	0.21	0.05	0.25	0.24	0.17	0.31	0.24	0.04	0.63	0.17	0.04
Uniform Delay, d1	28.9	32.0	31.2	24.8	29.7	29.3	37.9	16.9	15.5	37.4	15.2	14.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.3	0.1	0.6	0.3	0.4	1.0	0.4	0.1	4.5	0.2	0.1
Delay (s)	29.2	32.2	31.3	25.4	30.0	29.6	38.9	17.3	15.7	41.9	15.4	14.4
Level of Service	C	C	C	C	C	C	D	B	B	D	B	B
Approach Delay (s)		31.5			29.1			20.4			25.8	
Approach LOS		C			C			C			C	

Intersection Summary		
HCM 2000 Control Delay	25.9	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.31	
Actuated Cycle Length (s)	85.9	Sum of lost time (s) 24.0
Intersection Capacity Utilization	52.5%	ICU Level of Service A
Analysis Period (min)	15	
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 17: W Ewing Street & Franklin Road Existing 2015 AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (vph)	1	4	3	135	53	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-1%	2%		-4%	
Total Lost time (s)		6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.87		1.00	
Flt Protected		0.99	1.00		0.95	
Satd. Flow (prot)		1353	1600		1772	
Flt Permitted		0.94	1.00		0.95	
Satd. Flow (perm)		1282	1600		1772	
Peak-hour factor, PHF	0.75	0.75	0.91	0.91	0.81	0.81
Adj. Flow (vph)	1	5	3	148	65	1
RTOR Reduction (vph)	0	0	108	0	1	0
Lane Group Flow (vph)	0	6	43	0	65	0
Heavy Vehicles (%)	40%	40%	2%	2%	4%	4%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	4		3	
Permitted Phases	4					
Actuated Green, G (s)		10.0	10.0		15.0	
Effective Green, g (s)		10.0	10.0		15.0	
Actuated g/C Ratio		0.27	0.27		0.41	
Clearance Time (s)		6.0	6.0		6.0	
Vehicle Extension (s)		0.2	0.2		0.2	
Lane Grp Cap (vph)		346	432		718	
v/s Ratio Prot			c0.03		c0.04	
v/s Ratio Perm		0.00				
v/c Ratio		0.02	0.10		0.09	
Uniform Delay, d1		9.9	10.1		6.8	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.0	0.0		0.0	
Delay (s)		9.9	10.2		6.8	
Level of Service		A	B		A	
Approach Delay (s)		9.9	10.2		6.8	
Approach LOS		A	B		A	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			9.2		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.09			
Actuated Cycle Length (s)			37.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			31.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

# HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program

## 18: S Ellington Parkway & Higgs Road

Existing 2015 AM

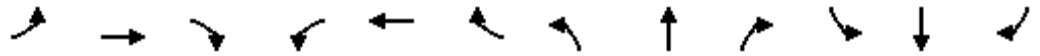


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖		↗	↖	↕		↖	↕	
Volume (vph)	1	0	0	11	0	33	0	285	39	68	188	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			-1%				-1%
Total Lost time (s)		6.0		6.0		6.0		6.0		5.5	6.0	
Lane Util. Factor		1.00		1.00		1.00		0.95		1.00	0.95	
Frt		1.00		1.00		0.85		0.98		1.00	1.00	
Flt Protected		0.95		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1770		1642		1470		3459		1695	3391	
Flt Permitted		0.95		0.95		1.00		1.00		0.39	1.00	
Satd. Flow (perm)		1770		1642		1470		3459		694	3391	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.87	0.87	0.87
Adj. Flow (vph)	1	0	0	15	0	44	0	380	52	78	216	0
RTOR Reduction (vph)	0	0	0	0	0	42	0	10	0	0	0	0
Lane Group Flow (vph)	0	1	0	15	0	2	0	422	0	78	216	0
Heavy Vehicles (%)	2%	2%	2%	11%	11%	11%	3%	3%	3%	7%	7%	7%
Turn Type	Perm	NA		Prot		Prot	Perm	NA		pm+pt	NA	
Protected Phases		3		4		4		6		5	2	
Permitted Phases	3						6			2		
Actuated Green, G (s)		22.2		4.0		4.0		26.2		34.4	34.4	
Effective Green, g (s)		22.2		4.0		4.0		26.2		34.4	34.4	
Actuated g/C Ratio		0.28		0.05		0.05		0.33		0.44	0.44	
Clearance Time (s)		6.0		6.0		6.0		6.0		5.5	6.0	
Vehicle Extension (s)		3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		499		83		74		1153		338	1484	
v/s Ratio Prot				c0.01		0.00		c0.12		c0.01	0.06	
v/s Ratio Perm		0.00								0.09		
v/c Ratio		0.00		0.18		0.03		0.37		0.23	0.15	
Uniform Delay, d1		20.2		35.7		35.5		19.9		13.4	13.3	
Progression Factor		1.00		1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2		0.0		1.0		0.2		0.9		0.4	0.2	
Delay (s)		20.3		36.8		35.6		20.8		13.7	13.5	
Level of Service		C		D		D		C		B	B	
Approach Delay (s)		20.3			35.9			20.8			13.5	
Approach LOS		C			D			C			B	

### Intersection Summary

HCM 2000 Control Delay	19.2	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.20		
Actuated Cycle Length (s)	78.6	Sum of lost time (s)	23.5
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 19: N 2nd Avenue / US-431 Business & Water Street Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	4	4	4	4	0	5	6	40	5	7	150	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			1%			-7%			-2%	
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.95			0.92			0.99			1.00	
Flt Protected		0.98			0.98			0.99			1.00	
Satd. Flow (prot)		1669			1673			1891			1850	
Flt Permitted		0.88			0.86			0.95			0.99	
Satd. Flow (perm)		1500			1465			1805			1829	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.85	0.85	0.85	0.95	0.95	0.95
Adj. Flow (vph)	5	5	5	5	0	7	7	47	6	7	158	6
RTOR Reduction (vph)	0	4	0	0	10	0	0	4	0	0	4	0
Lane Group Flow (vph)	0	11	0	0	2	0	0	56	0	0	167	0
Heavy Vehicles (%)	8%	8%	8%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		5.0			5.0			10.0			10.0	
Effective Green, g (s)		5.0			5.0			10.0			10.0	
Actuated g/C Ratio		0.19			0.19			0.37			0.37	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		4.0			4.0			2.5			2.5	
Lane Grp Cap (vph)		277			271			668			677	
v/s Ratio Prot												
v/s Ratio Perm		c0.01			0.00			0.03			c0.09	
v/c Ratio		0.04			0.01			0.08			0.25	
Uniform Delay, d1		9.0			9.0			5.5			5.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			0.1			0.2			0.9	
Delay (s)		9.3			9.0			5.8			6.8	
Level of Service		A			A			A			A	
Approach Delay (s)		9.3			9.0			5.8			6.8	
Approach LOS		A			A			A			A	

Intersection Summary		
HCM 2000 Control Delay	6.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.18	A
Actuated Cycle Length (s)	27.0	Sum of lost time (s)
Intersection Capacity Utilization	23.7%	12.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 21: N 2nd Avenue / US-431 Business & College Street Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	21	0	6	2	0	0	6	65	0	0	143	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			4%			1%				-1%
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			1.00			1.00			0.99	
Flt Protected		0.96			0.95			1.00			1.00	
Satd. Flow (prot)		1691			1734			1846			1848	
Flt Permitted		1.00			0.73			0.98			1.00	
Satd. Flow (perm)		1757			1339			1818			1848	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.99	0.99	0.99	0.78	0.78	0.78
Adj. Flow (vph)	28	0	8	3	0	0	6	66	0	0	183	19
RTOR Reduction (vph)	0	34	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	2	0	0	3	0	0	72	0	0	198	0
Heavy Vehicles (%)	7%	7%	7%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		3			4			2			2	
Permitted Phases	3			4			2			2		
Actuated Green, G (s)		3.4			10.2			30.5			30.5	
Effective Green, g (s)		3.4			10.2			30.5			30.5	
Actuated g/C Ratio		0.06			0.17			0.52			0.52	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			5.0			5.0	
Lane Grp Cap (vph)		101			231			938			953	
v/s Ratio Prot											c0.11	
v/s Ratio Perm		c0.00			c0.00			0.04				
v/c Ratio		0.02			0.01			0.08			0.21	
Uniform Delay, d1		26.3			20.3			7.2			7.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.0			0.1			0.2	
Delay (s)		26.4			20.3			7.3			8.0	
Level of Service		C			C			A			A	
Approach Delay (s)		26.4			20.3			7.3			8.0	
Approach LOS		C			C			A			A	

Intersection Summary		
HCM 2000 Control Delay	10.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.15	B
Actuated Cycle Length (s)	59.1	Sum of lost time (s)
Intersection Capacity Utilization	41.7%	15.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A



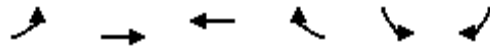
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 23: Heil Quaker Avenue/Franklin Road & Dodson Drive/Franklin Avenue Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	7	2	3	51	1	60	2	148	48	69	134	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%			1%			1%	
Total Lost time (s)		7.0			7.0			7.0			7.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.97			0.93			0.97			1.00	
Flt Protected		0.97			0.98			1.00			0.98	
Satd. Flow (prot)		1637			1642			1792			1802	
Flt Permitted		0.79			0.85			1.00			0.82	
Satd. Flow (perm)		1332			1420			1787			1499	
Peak-hour factor, PHF	0.75	0.75	0.75	0.84	0.84	0.84	0.78	0.78	0.78	0.75	0.75	0.75
Adj. Flow (vph)	9	3	4	61	1	71	3	190	62	92	179	3
RTOR Reduction (vph)	0	3	0	0	62	0	0	16	0	0	0	0
Lane Group Flow (vph)	0	13	0	0	71	0	0	239	0	0	274	0
Heavy Vehicles (%)	8%	8%	8%	6%	6%	6%	2%	2%	2%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		7.0			7.0			33.1			33.1	
Effective Green, g (s)		7.0			7.0			33.1			33.1	
Actuated g/C Ratio		0.13			0.13			0.61			0.61	
Clearance Time (s)		7.0			7.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		172			183			1093			917	
v/s Ratio Prot												
v/s Ratio Perm		0.01			0.05			0.13			0.18	
v/c Ratio		0.07			0.39			0.22			0.30	
Uniform Delay, d1		20.7			21.6			4.7			5.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			1.4			0.1			0.2	
Delay (s)		20.9			23.0			4.8			5.2	
Level of Service		C			C			A			A	
Approach Delay (s)		20.9			23.0			4.8			5.2	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	54.1	Sum of lost time (s)	14.0
Intersection Capacity Utilization	74.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 42: W Commerce Street Existing 2015 AM

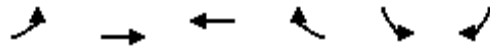


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑				↗
Volume (veh/h)	0	0	0	0	0	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	100	100	100	100	
cM capacity (veh/h)	1023	896	896	1085	1623	

Direction, Lane #	EB 1	SB 1
Volume Total	0	0
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.00	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS	A	
Approach Delay (s)	0.0	0.0
Approach LOS	A	

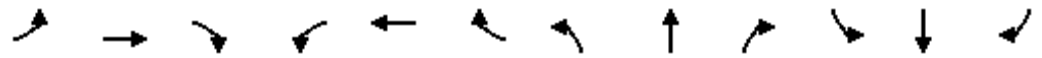
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 58: E Commerce Street Existing 2015 AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑		↗		
Sign Control		Stop	Stop		Stop	
Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	0	0				
Volume Left (vph)	0	0				
Volume Right (vph)	0	0				
Hadj (s)	0.00	0.00				
Departure Headway (s)	3.9	3.9				
Degree Utilization, x	0.00	0.00				
Capacity (veh/h)	917	917				
Control Delay (s)	6.9	6.9				
Approach Delay (s)	0.0	0.0				
Approach LOS	A	A				
Intersection Summary						
Delay			0.0			
Level of Service			A			
Intersection Capacity Utilization			6.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 101: W Ellington Parkway & Old Columbia Road/Jason Maxwell Boulevard Existing 2015 AM























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↖	↗		↖	↗		↕			↖	↗
Volume (veh/h)	17	6	13	3	6	240	9	321	38	177	148	6
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.76	0.76	0.76	0.89	0.89	0.89	0.76	0.76	0.76
Hourly flow rate (vph)	23	8	17	4	8	316	10	361	43	233	195	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			3			4						
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1067	1084	195	1067	1063	382	195			403		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1067	1084	195	1067	1063	382	195			403		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.3		
p0 queue free %	73	95	98	97	95	52	99			79		
cM capacity (veh/h)	84	171	847	157	174	661	1378			1129		

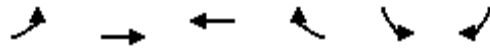
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	48	328	413	428	8
Volume Left	23	4	10	233	0
Volume Right	17	316	43	0	8
cSH	167	686	1378	1129	1700
Volume to Capacity	0.29	0.48	0.01	0.21	0.00
Queue Length 95th (ft)	28	65	1	19	0
Control Delay (s)	36.4	15.8	0.3	5.9	0.0
Lane LOS	E	C	A	A	
Approach Delay (s)	36.4	15.8	0.3	5.8	
Approach LOS	E	C			

Intersection Summary		
Average Delay		7.8
Intersection Capacity Utilization	55.2%	ICU Level of Service B
Analysis Period (min)		15

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 102: Freeman Drive/W Ellington Parkway & Mooreville Highway/W Commerce Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	106	171	5	16	167	238	7	14	19	92	9	44
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.80	0.80	0.80	0.84	0.84	0.84	0.75	0.75	0.75	0.81	0.81	0.81
Hourly flow rate (vph)	132	214	6	19	199	283	9	19	25	114	11	54
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												5
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	482			220			748	999	214	892	864	340
vC1, stage 1 conf vol							479	479		379	379	
vC2, stage 2 conf vol							270	520		513	485	
vCu, unblocked vol	482			220			748	999	214	892	864	340
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	88			99			98	95	97	71	97	92
cM capacity (veh/h)	1080			1349			414	342	819	387	416	702
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>EB 2</b>	<b>EB 3</b>	<b>WB 1</b>	<b>WB 2</b>	<b>NB 1</b>	<b>SB 1</b>					
Volume Total	132	214	6	19	482	53	179					
Volume Left	132	0	0	19	0	9	114					
Volume Right	0	0	6	0	283	25	54					
cSH	1080	1700	1700	1349	1700	494	559					
Volume to Capacity	0.12	0.13	0.00	0.01	0.28	0.11	0.32					
Queue Length 95th (ft)	10	0	0	1	0	9	34					
Control Delay (s)	8.8	0.0	0.0	7.7	0.0	13.2	16.1					
Lane LOS	A			A		B	C					
Approach Delay (s)	3.3			0.3		13.2	16.1					
Approach LOS						B	C					
<b>Intersection Summary</b>												
Average Delay			4.5									
Intersection Capacity Utilization			51.5%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 103: E Commerce Street & Armory Drive Existing 2015 AM

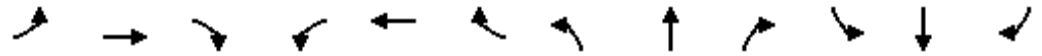


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	11	394	443	3	1	20
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.76	0.76	0.99	0.99	0.75	0.75
Hourly flow rate (vph)	14	518	447	3	1	27
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	None			
Median storage veh		2				
Upstream signal (ft)		1168				
pX, platoon unblocked						
vC, conflicting volume	451				737	449
vC1, stage 1 conf vol					449	
vC2, stage 2 conf vol					288	
vCu, unblocked vol	451				737	449
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	99				100	95
cM capacity (veh/h)	1085				539	557

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	14	259	259	451	28
Volume Left	14	0	0	0	1
Volume Right	0	0	0	3	27
cSH	1085	1700	1700	1700	556
Volume to Capacity	0.01	0.15	0.15	0.27	0.05
Queue Length 95th (ft)	1	0	0	0	4
Control Delay (s)	8.4	0.0	0.0	0.0	11.8
Lane LOS	A				B
Approach Delay (s)	0.2			0.0	11.8
Approach LOS					B

Intersection Summary			
Average Delay		0.4	
Intersection Capacity Utilization		33.5%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 104: S Ellington Parkway & Springplace Road/Ostella Road Existing 2015 AM

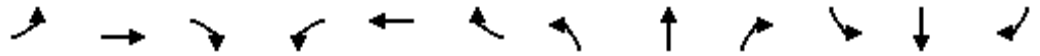


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Volume (veh/h)	4	5	11	40	28	100	8	293	7	22	187	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.98	0.98	0.98	0.89	0.89	0.89
Hourly flow rate (vph)	5	7	15	53	37	133	8	299	7	25	210	13
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			4			4						
Median type							TWLTL			TWLTL		
Median storage veh							2			2		
Upstream signal (ft)											917	
pX, platoon unblocked												
vC, conflicting volume	451	589	112	484	592	153	224			306		
vC1, stage 1 conf vol	266	266		319	319							
vC2, stage 2 conf vol	184	322		165	273							
vCu, unblocked vol	451	589	112	484	592	153	224			306		
tC, single (s)	7.6	6.6	7.0	7.5	6.5	6.9	4.2			4.2		
tC, 2 stage (s)	6.6	5.6		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.3			2.2		
p0 queue free %	99	99	98	91	93	85	99			98		
cM capacity (veh/h)	539	545	910	603	558	866	1307			1237		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	27	224	8	199	107	25	140	84
Volume Left	5	53	8	0	0	25	0	0
Volume Right	15	133	0	0	7	0	0	13
cSH	1205	1444	1307	1700	1700	1237	1700	1700
Volume to Capacity	0.02	0.16	0.01	0.12	0.06	0.02	0.08	0.05
Queue Length 95th (ft)	2	14	0	0	0	2	0	0
Control Delay (s)	10.3	10.9	7.8	0.0	0.0	8.0	0.0	0.0
Lane LOS	B	B	A			A		
Approach Delay (s)	10.3	10.9	0.2			0.8		
Approach LOS	B	B						

Intersection Summary		
Average Delay		3.7
Intersection Capacity Utilization	32.0%	ICU Level of Service A
Analysis Period (min)		15

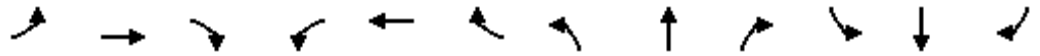
HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 105: N Church Street/Driveway & Franklin Avenue Existing 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	44	9	1	51	4	13	0	5	3	0	3
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	5	59	12	1	68	5	17	0	7	4	0	4
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	76	75	24	8								
Volume Left (vph)	5	1	17	4								
Volume Right (vph)	12	5	7	4								
Hadj (s)	0.04	0.03	0.01	-0.17								
Departure Headway (s)	4.1	4.1	4.2	4.1								
Degree Utilization, x	0.09	0.08	0.03	0.01								
Capacity (veh/h)	867	870	811	844								
Control Delay (s)	7.5	7.4	7.4	7.1								
Approach Delay (s)	7.5	7.4	7.4	7.1								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.4									
Level of Service			A									
Intersection Capacity Utilization			15.1%	ICU Level of Service								A
Analysis Period (min)			15									



HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 106: N First Avenue & Driveway Existing 2015 AM

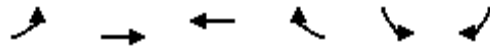


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	0	0	0	0	0	0	1	90	0	0	30	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	0	0	0	0	0	0	1	120	0	0	40	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			0			20	0	0	60	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			20	0	0	60	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	87	100	100	96	100
cM capacity (veh/h)	1623			1623			959	896	1085	840	896	1085

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	0	121	40
Volume Left	0	0	1	0
Volume Right	0	0	0	0
cSH	1700	1700	897	896
Volume to Capacity	0.00	0.00	0.14	0.04
Queue Length 95th (ft)	0	0	12	4
Control Delay (s)	0.0	0.0	9.6	9.2
Lane LOS			A	A
Approach Delay (s)	0.0	0.0	9.6	9.2
Approach LOS			A	A

Intersection Summary			
Average Delay		9.5	
Intersection Capacity Utilization	8.9%	ICU Level of Service	A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 107: US-31 Alt Business & S Ellington Parkway Existing 2015 AM

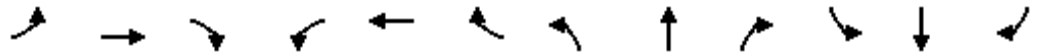


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	54	98	188	192	128	58
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.98	0.98	0.75	0.75
Hourly flow rate (vph)	72	131	192	196	171	77
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						11
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	192				467	192
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	192				467	192
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	95				68	91
cM capacity (veh/h)	1376				526	850

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	72	131	192	196	248
Volume Left	72	0	0	0	171
Volume Right	0	0	0	196	77
cSH	1376	1700	1700	1700	764
Volume to Capacity	0.05	0.08	0.11	0.12	0.32
Queue Length 95th (ft)	4	0	0	0	35
Control Delay (s)	7.8	0.0	0.0	0.0	13.4
Lane LOS	A				B
Approach Delay (s)	2.8		0.0		13.4
Approach LOS					B

Intersection Summary					
Average Delay			4.6		
Intersection Capacity Utilization		30.3%		ICU Level of Service	A
Analysis Period (min)		15			

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 108: Heil Quaker Avenue & International Products Entrance Existing 2015 AM

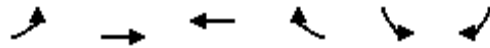


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	2	0	1	0	1	3	14	99	1	13	83	38
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.92	0.92	0.92	0.80	0.80	0.80
Hourly flow rate (vph)	3	0	1	0	1	4	15	108	1	16	104	48
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	303	299	128	300	322	108	151			109		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	303	299	128	300	322	108	151			109		
tC, single (s)	7.1	6.5	6.2	7.6	7.0	6.7	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	4.0	4.5	3.8	2.3			2.3		
p0 queue free %	100	100	100	100	100	100	99			99		
cM capacity (veh/h)	634	599	923	557	512	830	1376			1416		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	4	5	124	168
Volume Left	3	0	15	16
Volume Right	1	4	1	48
cSH	708	719	1376	1416
Volume to Capacity	0.01	0.01	0.01	0.01
Queue Length 95th (ft)	0	1	1	1
Control Delay (s)	10.1	10.0	1.0	0.8
Lane LOS	B	B	A	A
Approach Delay (s)	10.1	10.0	1.0	0.8
Approach LOS	B	B		

Intersection Summary			
Average Delay		1.2	
Intersection Capacity Utilization	19.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 109: Old Belfast Road & Nichirin Tennessee, Inc. Existing 2015 AM

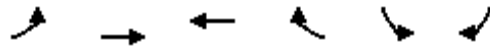


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Volume (veh/h)	24	33	15	10	17	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	32	44	20	13	23	19
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	33				135	27
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	33				135	27
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				97	98
cM capacity (veh/h)	1578				842	1049

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	76	33	41
Volume Left	32	0	23
Volume Right	0	13	19
cSH	1578	1700	924
Volume to Capacity	0.02	0.02	0.04
Queue Length 95th (ft)	2	0	4
Control Delay (s)	3.2	0.0	9.1
Lane LOS	A		A
Approach Delay (s)	3.2	0.0	9.1
Approach LOS			A

Intersection Summary			
Average Delay		4.1	
Intersection Capacity Utilization		19.7%	ICU Level of Service A
Analysis Period (min)		15	

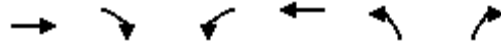
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 3: W Commerce Street & Heil Quaker Avenue Existing 2015 MD



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Volume (vph)	8	305	271	23	47	9
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-2%	1%		0%	
Total Lost time (s)		6.0	6.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.99		0.98	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		3535	3480		1668	
Flt Permitted		0.95	1.00		0.96	
Satd. Flow (perm)		3351	3480		1668	
Peak-hour factor, PHF	0.88	0.88	0.93	0.93	0.89	0.89
Adj. Flow (vph)	9	347	291	25	53	10
RTOR Reduction (vph)	0	0	7	0	9	0
Lane Group Flow (vph)	0	356	309	0	54	0
Heavy Vehicles (%)	3%	3%	2%	2%	7%	7%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases	2					
Actuated Green, G (s)		33.7	33.7		3.3	
Effective Green, g (s)		33.7	33.7		3.3	
Actuated g/C Ratio		0.70	0.70		0.07	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		0.2	0.2		2.8	
Lane Grp Cap (vph)		2352	2443		114	
v/s Ratio Prot			0.09		c0.03	
v/s Ratio Perm		c0.11				
v/c Ratio		0.15	0.13		0.47	
Uniform Delay, d1		2.4	2.3		21.5	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.0	0.0		2.7	
Delay (s)		2.4	2.3		24.2	
Level of Service		A	A		C	
Approach Delay (s)		2.4	2.3		24.2	
Approach LOS		A	A		C	

Intersection Summary			
HCM 2000 Control Delay	4.2	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	48.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	36.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 4: W Ellington Parkway & N Ellington Parkway Existing 2015 MD



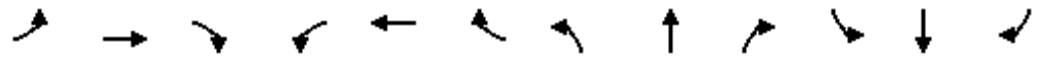
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Volume (vph)	272	34	140	294	35	128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	4.5	6.0	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1727	1468	1687	1776	1752	1568
Flt Permitted	1.00	1.00	0.46	1.00	0.95	1.00
Satd. Flow (perm)	1727	1468	820	1776	1752	1568
Peak-hour factor, PHF	0.83	0.83	0.91	0.91	0.83	0.83
Adj. Flow (vph)	328	41	154	323	42	154
RTOR Reduction (vph)	0	23	0	0	0	134
Lane Group Flow (vph)	328	18	154	323	42	20
Heavy Vehicles (%)	10%	10%	7%	7%	3%	3%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	4	3	
Permitted Phases		2	4			3
Actuated Green, G (s)	20.1	20.1	29.8	29.8	6.1	6.1
Effective Green, g (s)	20.1	20.1	29.8	29.8	6.1	6.1
Actuated g/C Ratio	0.43	0.43	0.64	0.64	0.13	0.13
Clearance Time (s)	6.5	6.5	4.5	6.0	4.5	4.5
Vehicle Extension (s)	2.0	2.0	1.5	2.0	4.0	4.0
Lane Grp Cap (vph)	748	635	614	1140	230	206
v/s Ratio Prot	c0.19		0.03	c0.18	c0.02	
v/s Ratio Perm		0.01	0.14			0.01
v/c Ratio	0.44	0.03	0.25	0.28	0.18	0.10
Uniform Delay, d1	9.2	7.5	3.5	3.6	17.9	17.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.0	0.1	0.0	0.5	0.3
Delay (s)	9.4	7.6	3.6	3.7	18.5	18.0
Level of Service	A	A	A	A	B	B
Approach Delay (s)	9.2			3.7	18.1	
Approach LOS	A			A	B	

**Intersection Summary**

HCM 2000 Control Delay	8.3	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	15.5
Intersection Capacity Utilization	40.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

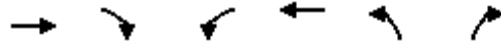
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 5: 8th Avenue S & W Commerce Street Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Volume (vph)	4	273	64	10	272	2	53	9	14	8	11	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-6%			3%	
Total Lost time (s)		6.0			6.0			5.5			5.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			1.00			0.98			0.95	
Flt Protected		1.00			1.00			0.97			0.99	
Satd. Flow (prot)		3454			3511			1791			1653	
Flt Permitted		0.95			0.94			0.77			0.93	
Satd. Flow (perm)		3288			3301			1429			1551	
Peak-hour factor, PHF	0.96	0.96	0.96	0.68	0.68	0.68	0.76	0.76	0.76	0.78	0.78	0.78
Adj. Flow (vph)	4	284	67	15	400	3	70	12	18	10	14	15
RTOR Reduction (vph)	0	29	0	0	1	0	0	13	0	0	11	0
Lane Group Flow (vph)	0	326	0	0	417	0	0	87	0	0	28	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		35.0			35.0			15.0			15.0	
Effective Green, g (s)		35.0			35.0			15.0			15.0	
Actuated g/C Ratio		0.57			0.57			0.24			0.24	
Clearance Time (s)		6.0			6.0			5.5			5.5	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		1871			1878			348			378	
v/s Ratio Prot												
v/s Ratio Perm		0.10			0.13			0.06			0.02	
v/c Ratio		0.17			0.22			0.25			0.07	
Uniform Delay, d1		6.3			6.5			18.7			17.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.0			0.1			0.0	
Delay (s)		6.4			6.6			18.9			17.9	
Level of Service		A			A			B			B	
Approach Delay (s)		6.4			6.6			18.9			17.9	
Approach LOS		A			A			B			B	

Intersection Summary		
HCM 2000 Control Delay	8.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.23	A
Actuated Cycle Length (s)	61.5	Sum of lost time (s)
Intersection Capacity Utilization	51.2%	11.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 6: Franklin Road & N Ellington Parkway Existing 2015 MD



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Volume (vph)	310	29	46	307	38	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%			0%	-1%	
Total Lost time (s)	6.5	6.5	4.5	6.5	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1785	1517	1687	1776	1577	1411
Flt Permitted	1.00	1.00	0.48	1.00	0.95	1.00
Satd. Flow (perm)	1785	1517	845	1776	1577	1411
Peak-hour factor, PHF	0.96	0.96	0.83	0.83	0.83	0.83
Adj. Flow (vph)	323	30	55	370	46	54
RTOR Reduction (vph)	0	12	0	0	0	49
Lane Group Flow (vph)	323	18	55	370	46	5
Heavy Vehicles (%)	7%	7%	7%	7%	15%	15%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	6		5	8	7	
Permitted Phases		6	8			7
Actuated Green, G (s)	24.0	24.0	30.6	30.6	4.3	4.3
Effective Green, g (s)	24.0	24.0	30.6	30.6	4.3	4.3
Actuated g/C Ratio	0.52	0.52	0.66	0.66	0.09	0.09
Clearance Time (s)	6.5	6.5	4.5	6.5	5.0	5.0
Vehicle Extension (s)	2.0	2.0	1.5	2.0	3.0	3.0
Lane Grp Cap (vph)	923	784	595	1171	146	130
v/s Ratio Prot	c0.18		0.00	c0.21	c0.03	
v/s Ratio Perm		0.01	0.06			0.00
v/c Ratio	0.35	0.02	0.09	0.32	0.32	0.04
Uniform Delay, d1	6.6	5.5	3.0	3.4	19.7	19.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.1	0.0	0.0	0.1	1.2	0.1
Delay (s)	6.7	5.5	3.0	3.5	20.9	19.3
Level of Service	A	A	A	A	C	B
Approach Delay (s)	6.6			3.4	20.0	
Approach LOS	A			A	C	

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.36		
Actuated Cycle Length (s)	46.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	39.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 7: S 5th Avenue/N 5th Avenue & W Commerce Street Existing 2015 MD

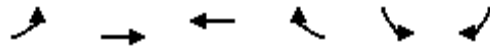


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Volume (vph)	132	304	4	8	246	4	8	0	20	25	1	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			-3%			-3%			3%	
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		1.00			1.00			0.90			0.92	
Flt Protected		0.99			1.00			0.99			0.98	
Satd. Flow (prot)		3518			3578			1685			1655	
Flt Permitted		0.74			0.94			0.96			0.86	
Satd. Flow (perm)		2660			3366			1633			1444	
Peak-hour factor, PHF	0.90	0.90	0.90	0.80	0.80	0.80	0.75	0.75	0.75	0.89	0.89	0.89
Adj. Flow (vph)	147	338	4	10	308	5	11	0	27	28	1	43
RTOR Reduction (vph)	0	0	0	0	1	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	489	0	0	322	0	0	38	0	0	72	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			3			4	
Permitted Phases	2			2			3			4		
Actuated Green, G (s)		32.2			32.2			2.7			5.2	
Effective Green, g (s)		32.2			32.2			2.7			5.2	
Actuated g/C Ratio		0.55			0.55			0.05			0.09	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		0.2			0.2			2.2			2.2	
Lane Grp Cap (vph)		1474			1865			75			129	
v/s Ratio Prot												
v/s Ratio Perm		c0.18			0.10			c0.02			c0.05	
v/c Ratio		0.33			0.17			0.51			0.56	
Uniform Delay, d1		7.1			6.4			27.0			25.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.0			2.7			3.4	
Delay (s)		7.1			6.4			29.8			28.8	
Level of Service		A			A			C			C	
Approach Delay (s)		7.1			6.4			29.8			28.8	
Approach LOS		A			A			C			C	

**Intersection Summary**

HCM 2000 Control Delay	9.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.37		
Actuated Cycle Length (s)	58.1	Sum of lost time (s)	18.0
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

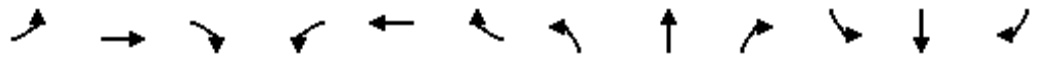
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 8: N Ellington Parkway & Walmart Entrance Existing 2015 MD



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	94	294	350	100	146	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-3%	4%		5%	
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1745	1837	1724	1465	1709	1529
Flt Permitted	0.36	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	668	1837	1724	1465	1709	1529
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.83	0.83
Adj. Flow (vph)	100	313	372	106	176	108
RTOR Reduction (vph)	0	0	0	44	0	0
Lane Group Flow (vph)	100	313	372	62	176	108
Heavy Vehicles (%)	5%	5%	8%	8%	3%	3%
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pt+ov
Protected Phases	1	6	2	4	4	4 1
Permitted Phases	6			2		6
Actuated Green, G (s)	30.3	30.3	19.7	31.9	12.2	48.5
Effective Green, g (s)	30.3	30.3	19.7	31.9	12.2	48.5
Actuated g/C Ratio	0.56	0.56	0.36	0.59	0.22	0.89
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	3.5	
Lane Grp Cap (vph)	482	1021	623	1018	382	1529
v/s Ratio Prot	0.02	c0.17	c0.22	0.01	c0.10	0.03
v/s Ratio Perm	0.09			0.03		0.04
v/c Ratio	0.21	0.31	0.60	0.06	0.46	0.07
Uniform Delay, d1	6.4	6.5	14.2	4.9	18.3	0.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.2	0.2	1.8	0.0	1.0	0.0
Delay (s)	6.6	6.7	16.0	4.9	19.3	0.4
Level of Service	A	A	B	A	B	A
Approach Delay (s)		6.7	13.5		12.1	
Approach LOS		A	B		B	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	54.5	Sum of lost time (s)	17.0
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 9: Franklin Road/N 3rd Avenue & W Commerce Street Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR		
Lane Configurations		↕↕			↕↕			↕			↕			
Volume (vph)	18	261	50	4	215	5	57	19	1	11	26	20		
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Grade (%)		-2%			2%			5%				-2%		
Total Lost time (s)		5.5			5.5			5.5			5.5			
Lane Util. Factor		0.95			0.95			1.00			1.00			
Frt		0.98			1.00			1.00			0.95			
Flt Protected		1.00			1.00			0.96			0.99			
Satd. Flow (prot)		3450			3456			1715			1776			
Flt Permitted		0.93			0.95			0.74			0.94			
Satd. Flow (perm)		3226			3283			1315			1684			
Peak-hour factor, PHF	0.88	0.88	0.88	0.79	0.79	0.79	0.75	0.75	0.75	0.79	0.79	0.79		
Adj. Flow (vph)	20	297	57	5	272	6	76	25	1	14	33	25		
RTOR Reduction (vph)	0	26	0	0	3	0	0	1	0	0	18	0		
Lane Group Flow (vph)	0	348	0	0	280	0	0	101	0	0	54	0		
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	4%	4%	4%	2%	2%	2%		
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA			
Protected Phases		2			2			4			4			
Permitted Phases	2			2			4			4				
Actuated Green, G (s)		30.0			30.0			15.0			15.0			
Effective Green, g (s)		30.0			30.0			15.0			15.0			
Actuated g/C Ratio		0.54			0.54			0.27			0.27			
Clearance Time (s)		5.5			5.5			5.5			5.5			
Vehicle Extension (s)		1.0			1.0			1.0			1.0			
Lane Grp Cap (vph)		1728			1758			352			451			
v/s Ratio Prot														
v/s Ratio Perm		c0.11			0.09			c0.08			0.03			
v/c Ratio		0.20			0.16			0.29			0.12			
Uniform Delay, d1		6.8			6.6			16.3			15.5			
Progression Factor		1.00			1.00			1.00			1.00			
Incremental Delay, d2		0.0			0.0			0.2			0.0			
Delay (s)		6.8			6.6			16.4			15.5			
Level of Service		A			A			B			B			
Approach Delay (s)		6.8			6.6			16.4			15.5			
Approach LOS		A			A			B			B			
<b>Intersection Summary</b>														
HCM 2000 Control Delay			8.7									HCM 2000 Level of Service	A	
HCM 2000 Volume to Capacity ratio			0.23											
Actuated Cycle Length (s)			56.0								11.0		Sum of lost time (s)	
Intersection Capacity Utilization			46.7%										ICU Level of Service	A
Analysis Period (min)			15											
c Critical Lane Group														

# HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program

## 10: N 5th Avenue/Rock Crusher Road & N Ellington Parkway

Existing 2015 MD

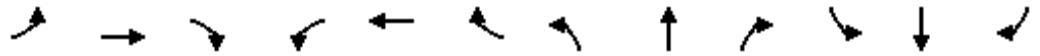


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	375	49	69	403	150	33	41	59	115	31	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			1%			2%				-1%
Total Lost time (s)	5.0	6.0		5.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.98		1.00	0.96			0.94			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.96	
Satd. Flow (prot)	1720	1779		1744	1761			1712			1788	
Flt Permitted	0.34	1.00		0.40	1.00			0.89			0.62	
Satd. Flow (perm)	608	1779		739	1761			1541			1149	
Peak-hour factor, PHF	0.98	0.98	0.98	0.89	0.89	0.89	0.76	0.76	0.76	0.84	0.84	0.84
Adj. Flow (vph)	5	383	50	78	453	169	43	54	78	137	37	14
RTOR Reduction (vph)	0	4	0	0	10	0	0	28	0	0	3	0
Lane Group Flow (vph)	5	429	0	78	612	0	0	147	0	0	185	0
Heavy Vehicles (%)	6%	6%	6%	3%	3%	3%	2%	2%	2%	2%	2%	2%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	56.6	54.6		64.6	58.6			22.4			22.4	
Effective Green, g (s)	56.6	54.6		64.6	58.6			22.4			22.4	
Actuated g/C Ratio	0.57	0.55		0.65	0.59			0.22			0.22	
Clearance Time (s)	5.0	6.0		5.0	6.0			6.0			6.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.5			3.5	
Lane Grp Cap (vph)	366	971		537	1031			345			257	
v/s Ratio Prot	0.00	0.24		c0.01	c0.35							
v/s Ratio Perm	0.01			0.08				0.10			c0.16	
v/c Ratio	0.01	0.44		0.15	0.59			0.43			0.72	
Uniform Delay, d1	10.2	13.6		7.4	13.1			33.3			35.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.0	1.5		0.1	2.5			1.0			9.6	
Delay (s)	10.2	15.0		7.5	15.7			34.3			45.5	
Level of Service	B	B		A	B			C			D	
Approach Delay (s)		15.0			14.8			34.3			45.5	
Approach LOS		B			B			C			D	

### Intersection Summary

HCM 2000 Control Delay	20.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

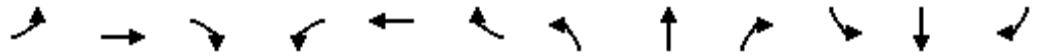
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 11: Martin Avenue/Legion Avenue & E Commerce Street Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	1	168	11	38	192	8	12	10	49	7	2	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-3%			4%			-2%	
Total Lost time (s)		6.0			6.0			5.5			5.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.91			0.97	
Flt Protected		1.00			0.99			0.99			0.97	
Satd. Flow (prot)		1811			1849			1640			1541	
Flt Permitted		1.00			0.93			0.94			0.78	
Satd. Flow (perm)		1810			1737			1552			1239	
Peak-hour factor, PHF	0.82	0.82	0.82	0.88	0.88	0.88	0.89	0.89	0.89	0.75	0.75	0.75
Adj. Flow (vph)	1	205	13	43	218	9	13	11	55	9	3	4
RTOR Reduction (vph)	0	3	0	0	2	0	0	48	0	0	4	0
Lane Group Flow (vph)	0	216	0	0	268	0	0	31	0	0	12	0
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	2%	2%	2%	17%	17%	17%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		31.0			31.0			6.0			6.0	
Effective Green, g (s)		31.0			31.0			6.0			6.0	
Actuated g/C Ratio		0.64			0.64			0.12			0.12	
Clearance Time (s)		6.0			6.0			5.5			5.5	
Vehicle Extension (s)		1.0			1.0			3.0			3.0	
Lane Grp Cap (vph)		1156			1110			192			153	
v/s Ratio Prot												
v/s Ratio Perm		0.12			0.15			0.02			0.01	
v/c Ratio		0.19			0.24			0.16			0.08	
Uniform Delay, d1		3.6			3.7			19.0			18.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.0			0.4			0.2	
Delay (s)		3.6			3.8			19.4			19.0	
Level of Service		A			A			B			B	
Approach Delay (s)		3.6			3.8			19.4			19.0	
Approach LOS		A			A			B			B	

Intersection Summary		
HCM 2000 Control Delay	6.2	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.23	A
Actuated Cycle Length (s)	48.5	Sum of lost time (s)
Intersection Capacity Utilization	57.0%	11.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		B

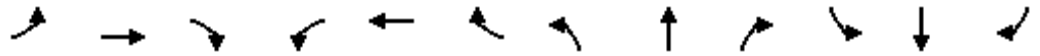
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 12: N 2nd Avenue / US-431 Business/Nashville Highway & N Ellington Parkway Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	138	361	78	38	388	207	135	101	27	216	114	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			-3%			2%	
Total Lost time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1694	1783	1516	1678	1767	1502	1796	1891	1607	1718	1809	1537
Flt Permitted	0.28	1.00	1.00	0.47	1.00	1.00	0.68	1.00	1.00	0.59	1.00	1.00
Satd. Flow (perm)	497	1783	1516	825	1767	1502	1287	1891	1607	1060	1809	1537
Peak-hour factor, PHF	0.98	0.98	0.98	0.86	0.86	0.86	0.89	0.89	0.89	0.96	0.96	0.96
Adj. Flow (vph)	141	368	80	44	451	241	152	113	30	225	119	159
RTOR Reduction (vph)	0	0	45	0	0	133	0	0	23	0	0	115
Lane Group Flow (vph)	141	368	35	44	451	108	152	113	7	225	119	44
Heavy Vehicles (%)	6%	6%	6%	7%	7%	7%	2%	2%	2%	4%	4%	4%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	71.4	61.4	61.4	60.6	55.1	55.1	46.3	34.1	34.1	55.6	38.9	38.9
Effective Green, g (s)	71.4	61.4	61.4	60.6	55.1	55.1	46.3	34.1	34.1	55.6	38.9	38.9
Actuated g/C Ratio	0.51	0.44	0.44	0.44	0.40	0.40	0.33	0.25	0.25	0.40	0.28	0.28
Clearance Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)	2.2	3.0	3.0	2.2	3.0	3.0	2.2	3.0	3.0	2.2	3.0	3.0
Lane Grp Cap (vph)	356	787	669	393	700	595	473	463	394	504	506	430
v/s Ratio Prot	c0.03	0.21		0.00	c0.26		0.03	0.06		c0.05	0.07	
v/s Ratio Perm	0.17		0.02	0.04		0.07	0.08		0.00	c0.12		0.03
v/c Ratio	0.40	0.47	0.05	0.11	0.64	0.18	0.32	0.24	0.02	0.45	0.24	0.10
Uniform Delay, d1	20.9	27.3	22.2	22.9	34.0	27.3	33.8	42.1	39.8	28.9	38.6	37.1
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.4	2.0	0.1	0.1	4.5	0.7	0.2	1.3	0.1	0.3	1.1	0.5
Delay (s)	21.3	29.3	22.3	23.0	38.5	28.0	34.0	43.4	39.9	29.2	39.7	37.6
Level of Service	C	C	C	C	D	C	C	D	D	C	D	D
Approach Delay (s)		26.4			34.1			38.2			34.4	
Approach LOS		C			C			D			C	

Intersection Summary		
HCM 2000 Control Delay	32.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.55	C
Actuated Cycle Length (s)	139.0	Sum of lost time (s)
Intersection Capacity Utilization	60.4%	21.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		B

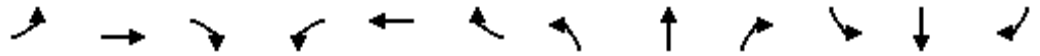
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 13: Garrett Parkway/Creekside Drive & E Commerce Street Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	5	200	131	13	181	0	172	0	14	1	0	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%				2%
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.89	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1695	1785	1517	1727	1818			1695	1517		1623	
Flt Permitted	0.63	1.00	1.00	0.60	1.00			0.78	1.00		1.00	
Satd. Flow (perm)	1122	1785	1517	1095	1818			1400	1517		1637	
Peak-hour factor, PHF	0.79	0.79	0.79	0.88	0.88	0.88	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	6	253	166	15	206	0	229	0	19	1	0	5
RTOR Reduction (vph)	0	0	94	0	0	0	0	0	17	0	6	0
Lane Group Flow (vph)	6	253	72	15	206	0	0	229	2	0	0	0
Heavy Vehicles (%)	7%	7%	7%	4%	4%	4%	7%	7%	7%	2%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		1			1			2			3	
Permitted Phases	1		1	1			2		2	3		
Actuated Green, G (s)	17.8	17.8	17.8	17.8	17.8			5.1	5.1		0.9	
Effective Green, g (s)	17.8	17.8	17.8	17.8	17.8			5.1	5.1		0.9	
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44			0.12	0.12		0.02	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		5.0	
Vehicle Extension (s)	6.0	6.0	6.0	6.0	6.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	489	778	661	477	793			175	189		36	
v/s Ratio Prot		c0.14			0.11							
v/s Ratio Perm	0.01		0.05	0.01				c0.16	0.00		c0.00	
v/c Ratio	0.01	0.33	0.11	0.03	0.26			1.31	0.01		0.00	
Uniform Delay, d1	6.5	7.6	6.8	6.6	7.3			17.8	15.6		19.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.7	0.2	0.1	0.5			173.7	0.0		0.0	
Delay (s)	6.5	8.2	7.0	6.6	7.8			191.6	15.7		19.6	
Level of Service	A	A	A	A	A			F	B		B	
Approach Delay (s)		7.7			7.7			178.1			19.6	
Approach LOS		A			A			F			B	

Intersection Summary		
HCM 2000 Control Delay	54.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.52	D
Actuated Cycle Length (s)	40.8	Sum of lost time (s)
Intersection Capacity Utilization	43.3%	17.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 14: N Ellington Parkway & Finley Beech Road Existing 2015 MD

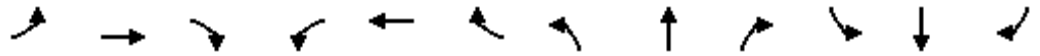


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	42	68	93	25	37	74	582	64	37	687	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-3%			1%			1%	
Total Lost time (s)	5.0	6.0			6.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.91			0.97		1.00	0.99		1.00	0.99	
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1744	1666			1776		1694	3338		1727	3430	
Flt Permitted	0.62	1.00			0.74		0.20	1.00		0.32	1.00	
Satd. Flow (perm)	1144	1666			1359		353	3338		586	3430	
Peak-hour factor, PHF	0.86	0.86	0.86	0.82	0.82	0.82	0.93	0.93	0.93	0.89	0.89	0.89
Adj. Flow (vph)	76	49	79	113	30	45	80	626	69	42	772	37
RTOR Reduction (vph)	0	50	0	0	11	0	0	8	0	0	3	0
Lane Group Flow (vph)	76	78	0	0	177	0	80	687	0	42	806	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	6%	6%	6%	4%	4%	4%
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	28.1	28.1			16.3		34.9	28.4		30.5	26.2	
Effective Green, g (s)	28.1	28.1			16.3		34.9	28.4		30.5	26.2	
Actuated g/C Ratio	0.36	0.36			0.21		0.45	0.37		0.39	0.34	
Clearance Time (s)	5.0	6.0			6.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	4.0	4.0			4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)	465	601			284		270	1218		292	1155	
v/s Ratio Prot	c0.01	0.05					c0.02	0.21		0.01	c0.23	
v/s Ratio Perm	0.04				c0.13		0.11			0.05		
v/c Ratio	0.16	0.13			0.62		0.30	0.56		0.14	0.70	
Uniform Delay, d1	17.3	16.7			28.0		13.5	19.8		14.9	22.4	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1			4.8		0.8	1.0		0.3	2.4	
Delay (s)	17.5	16.8			32.7		14.4	20.7		15.2	24.7	
Level of Service	B	B			C		B	C		B	C	
Approach Delay (s)		17.1			32.7			20.1			24.3	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	22.7	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	77.8	Sum of lost time (s)	22.0
Intersection Capacity Utilization	54.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			



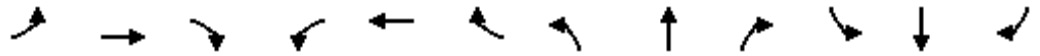
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 15: US-31 Alt Business & W Ewing Street Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↗		↕	
Volume (vph)	1	32	40	50	38	7	32	90	69	21	108	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			1%			3%				-3%
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frt		0.93			0.99			1.00	0.85		0.99	
Flt Protected		1.00			0.97			0.99	1.00		0.99	
Satd. Flow (prot)		1724			1753			1811	1560		1848	
Flt Permitted		1.00			0.81			0.88	1.00		0.93	
Satd. Flow (perm)		1720			1458			1609	1560		1737	
Peak-hour factor, PHF	0.87	0.87	0.87	0.79	0.79	0.79	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	1	37	46	63	48	9	43	120	92	28	144	7
RTOR Reduction (vph)	0	30	0	0	6	0	0	0	59	0	3	0
Lane Group Flow (vph)	0	54	0	0	114	0	0	163	33	0	176	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1		1	1		
Actuated Green, G (s)		15.0			15.0			15.0	15.0		15.0	
Effective Green, g (s)		15.0			15.0			15.0	15.0		15.0	
Actuated g/C Ratio		0.36			0.36			0.36	0.36		0.36	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		0.2			0.2			0.2	0.2		0.2	
Lane Grp Cap (vph)		614			520			574	557		620	
v/s Ratio Prot												
v/s Ratio Perm		0.03			0.08			0.10	0.02		0.10	
v/c Ratio		0.09			0.22			0.28	0.06		0.28	
Uniform Delay, d1		9.0			9.4			9.7	8.9		9.7	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.3			1.0			1.2	0.2		1.1	
Delay (s)		9.2			10.4			10.9	9.1		10.8	
Level of Service		A			B			B	A		B	
Approach Delay (s)		9.2			10.4			10.2			10.8	
Approach LOS		A			B			B			B	

Intersection Summary		
HCM 2000 Control Delay	10.3	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.25	B
Actuated Cycle Length (s)	42.0	Sum of lost time (s)
Intersection Capacity Utilization	52.5%	12.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 16: S Ellington Parkway/N Ellington Parkway & E Commerce Street Existing 2015 MD

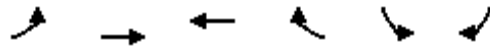


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	92	114	48	90	233	70	335	50	175	316	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			-2%				1%
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1744	3489	1561	1728	3455	1546	3337	3440	1539	3256	3357	1502
Flt Permitted	0.68	1.00	1.00	0.69	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1241	3489	1561	1251	3455	1546	3337	3440	1539	3256	3357	1502
Peak-hour factor, PHF	0.90	0.90	0.90	0.75	0.75	0.75	0.91	0.91	0.91	0.84	0.84	0.84
Adj. Flow (vph)	90	102	127	64	120	311	77	368	55	208	376	87
RTOR Reduction (vph)	0	0	111	0	0	271	0	0	32	0	0	49
Lane Group Flow (vph)	90	102	16	64	120	40	77	368	23	208	376	38
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	6%	6%	6%	7%	7%	7%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4			6			2
Actuated Green, G (s)	16.9	10.8	10.8	16.9	10.8	10.8	6.1	34.7	34.7	8.1	36.7	36.7
Effective Green, g (s)	16.9	10.8	10.8	16.9	10.8	10.8	6.1	34.7	34.7	8.1	36.7	36.7
Actuated g/C Ratio	0.20	0.13	0.13	0.20	0.13	0.13	0.07	0.41	0.41	0.10	0.44	0.44
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	287	450	201	287	445	199	243	1426	638	315	1471	658
v/s Ratio Prot	c0.02	0.03		0.02	0.03		0.02	0.11		c0.06	c0.11	
v/s Ratio Perm	c0.04		0.01	0.03		0.03			0.01			0.03
v/c Ratio	0.31	0.23	0.08	0.22	0.27	0.20	0.32	0.26	0.04	0.66	0.26	0.06
Uniform Delay, d1	28.1	32.7	32.1	27.7	32.9	32.6	36.8	16.1	14.6	36.5	14.9	13.5
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.9	0.4	0.2	0.5	0.4	0.7	1.0	0.4	0.1	5.6	0.4	0.2
Delay (s)	29.0	33.1	32.3	28.2	33.3	33.3	37.9	16.5	14.7	42.1	15.3	13.7
Level of Service	C	C	C	C	C	C	D	B	B	D	B	B
Approach Delay (s)		31.6			32.6			19.6			23.4	
Approach LOS		C			C			B			C	

Intersection Summary		
HCM 2000 Control Delay	26.1	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.34	
Actuated Cycle Length (s)	83.7	Sum of lost time (s) 24.0
Intersection Capacity Utilization	48.6%	ICU Level of Service A
Analysis Period (min)	15	
c Critical Lane Group		

# HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program 17: W Ewing Street & Franklin Road

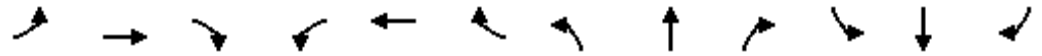
Existing 2015 MD



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (vph)	0	1	2	73	71	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-1%	2%		-4%	
Total Lost time (s)		6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.87		1.00	
Flt Protected		1.00	1.00		0.95	
Satd. Flow (prot)		1872	1572		1788	
Flt Permitted		1.00	1.00		0.95	
Satd. Flow (perm)		1872	1572		1788	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.88	0.88
Adj. Flow (vph)	0	1	3	97	81	2
RTOR Reduction (vph)	0	0	71	0	1	0
Lane Group Flow (vph)	0	1	29	0	82	0
Heavy Vehicles (%)	2%	2%	4%	4%	3%	3%
Turn Type		NA	NA		Prot	
Protected Phases		4	4		3	
Permitted Phases	4					
Actuated Green, G (s)		10.0	10.0		15.0	
Effective Green, g (s)		10.0	10.0		15.0	
Actuated g/C Ratio		0.27	0.27		0.41	
Clearance Time (s)		6.0	6.0		6.0	
Vehicle Extension (s)		0.2	0.2		0.2	
Lane Grp Cap (vph)		505	424		724	
v/s Ratio Prot		0.00	c0.02		c0.05	
v/s Ratio Perm						
v/c Ratio		0.00	0.07		0.11	
Uniform Delay, d1		9.9	10.0		6.9	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.0	0.0		0.0	
Delay (s)		9.9	10.1		6.9	
Level of Service		A	B		A	
Approach Delay (s)		9.9	10.1		6.9	
Approach LOS		A	B		A	

Intersection Summary			
HCM 2000 Control Delay	8.6	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.10		
Actuated Cycle Length (s)	37.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	30.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

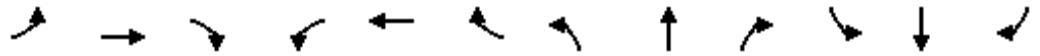
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 18: S Ellington Parkway & Higgs Road Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖		↗	↖	↗	↕	↖	↗	
Volume (vph)	2	0	0	30	0	87	1	272	25	66	280	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			-1%				-1%
Total Lost time (s)		6.0		6.0		6.0	6.0	6.0		5.5	6.0	
Lane Util. Factor		1.00		1.00		1.00	1.00	0.95		1.00	0.95	
Frt		1.00		1.00		0.85	1.00	0.99		1.00	1.00	
Flt Protected		0.95		0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1770		1704		1524	1761	3478		1695	3391	
Flt Permitted		0.95		0.95		1.00	0.55	1.00		0.46	1.00	
Satd. Flow (perm)		1770		1704		1524	1021	3478		820	3391	
Peak-hour factor, PHF	0.75	0.75	0.75	0.81	0.81	0.81	0.82	0.92	0.92	0.84	0.84	0.84
Adj. Flow (vph)	3	0	0	37	0	107	1	296	27	79	333	0
RTOR Reduction (vph)	0	0	0	0	0	99	0	7	0	0	0	0
Lane Group Flow (vph)	0	3	0	37	0	8	1	316	0	79	333	0
Heavy Vehicles (%)	2%	2%	2%	7%	7%	7%	3%	3%	3%	7%	7%	7%
Turn Type	Perm	NA		Prot		Prot	Perm	NA		pm+pt	NA	
Protected Phases		3		4		4		6		5	2	
Permitted Phases	3						6			2		
Actuated Green, G (s)		22.1		6.1		6.1	26.2	26.2		34.4	34.4	
Effective Green, g (s)		22.1		6.1		6.1	26.2	26.2		34.4	34.4	
Actuated g/C Ratio		0.27		0.08		0.08	0.33	0.33		0.43	0.43	
Clearance Time (s)		6.0		6.0		6.0	6.0	6.0		5.5	6.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		485		128		115	331	1130		379	1447	
v/s Ratio Prot				c0.02		0.01		c0.09		0.01	c0.10	
v/s Ratio Perm		0.00					0.00			0.08		
v/c Ratio		0.01		0.29		0.07	0.00	0.28		0.21	0.23	
Uniform Delay, d1		21.3		35.2		34.6	18.4	20.2		14.1	14.7	
Progression Factor		1.00		1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0		1.3		0.3	0.0	0.6		0.3	0.4	
Delay (s)		21.3		36.5		34.9	18.4	20.8		14.4	15.1	
Level of Service		C		D		C	B	C		B	B	
Approach Delay (s)		21.3			35.3			20.8			14.9	
Approach LOS		C			D			C			B	

Intersection Summary		
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.18	
Actuated Cycle Length (s)	80.6	Sum of lost time (s) 23.5
Intersection Capacity Utilization	37.5%	ICU Level of Service A
Analysis Period (min)	15	
c Critical Lane Group		

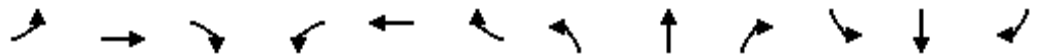
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 19: N 2nd Avenue / US-431 Business & Water Street Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	6	12	11	6	9	6	7	59	7	15	162	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			1%			-7%			-2%	
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.95			0.96			0.99			0.99	
Flt Protected		0.99			0.99			1.00			1.00	
Satd. Flow (prot)		1766			1757			1876			1858	
Flt Permitted		0.92			0.89			0.95			0.97	
Satd. Flow (perm)		1643			1585			1794			1808	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.87	0.87	0.87	0.86	0.86	0.86
Adj. Flow (vph)	8	16	15	8	12	8	8	68	8	17	188	14
RTOR Reduction (vph)	0	12	0	0	7	0	0	5	0	0	9	0
Lane Group Flow (vph)	0	27	0	0	21	0	0	79	0	0	210	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		5.0			5.0			10.0			10.0	
Effective Green, g (s)		5.0			5.0			10.0			10.0	
Actuated g/C Ratio		0.19			0.19			0.37			0.37	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		4.0			4.0			2.5			2.5	
Lane Grp Cap (vph)		304			293			664			669	
v/s Ratio Prot												
v/s Ratio Perm		c0.02			0.01			0.04			c0.12	
v/c Ratio		0.09			0.07			0.12			0.31	
Uniform Delay, d1		9.1			9.1			5.6			6.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.5			0.4			1.2	
Delay (s)		9.7			9.6			6.0			7.3	
Level of Service		A			A			A			A	
Approach Delay (s)		9.7			9.6			6.0			7.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.4	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.24		
Actuated Cycle Length (s)	27.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	26.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 21: N 2nd Avenue / US-431 Business & College Street Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	23	0	12	4	0	2	9	91	0	0	174	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			4%			1%				-1%
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.95			0.95			1.00			0.99	
Flt Protected		0.97			0.97			1.00			1.00	
Satd. Flow (prot)		1755			1681			1845			1852	
Flt Permitted		0.76			0.86			0.97			1.00	
Satd. Flow (perm)		1372			1485			1802			1852	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.93	0.93	0.93	0.76	0.76	0.76
Adj. Flow (vph)	31	0	16	5	0	3	10	98	0	0	229	20
RTOR Reduction (vph)	0	43	0	0	7	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	4	0	0	1	0	0	108	0	0	245	0
Turn Type	Perm	NA		Perm	NA		Perm	NA			NA	
Protected Phases		3			4			2			2	
Permitted Phases	3			4			2			2		
Actuated Green, G (s)		5.4			10.2			30.5			30.5	
Effective Green, g (s)		5.4			10.2			30.5			30.5	
Actuated g/C Ratio		0.09			0.17			0.50			0.50	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			5.0			5.0	
Lane Grp Cap (vph)		121			247			899			924	
v/s Ratio Prot											c0.13	
v/s Ratio Perm		c0.00			c0.00			0.06				
v/c Ratio		0.03			0.01			0.12			0.27	
Uniform Delay, d1		25.5			21.2			8.2			8.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.0			0.1			0.3	
Delay (s)		25.6			21.2			8.3			9.2	
Level of Service		C			C			A			A	
Approach Delay (s)		25.6			21.2			8.3			9.2	
Approach LOS		C			C			A			A	

**Intersection Summary**

HCM 2000 Control Delay	11.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.18		
Actuated Cycle Length (s)	61.1	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

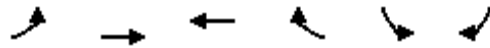
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 23: Heil Quaker Avenue/Franklin Road & Dodson Drive/Franklin Avenue Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	3	3	3	27	4	31	1	63	29	30	90	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%			1%			1%	
Total Lost time (s)		7.0			7.0			7.0			7.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.95			0.93			0.96			1.00	
Flt Protected		0.98			0.98			1.00			0.99	
Satd. Flow (prot)		1732			1668			1630			1649	
Flt Permitted		0.86			0.85			1.00			0.92	
Satd. Flow (perm)		1513			1456			1628			1543	
Peak-hour factor, PHF	0.75	0.75	0.75	0.82	0.82	0.82	0.89	0.89	0.89	0.78	0.78	0.78
Adj. Flow (vph)	4	4	4	33	5	38	1	71	33	38	115	3
RTOR Reduction (vph)	0	4	0	0	35	0	0	11	0	0	1	0
Lane Group Flow (vph)	0	8	0	0	41	0	0	94	0	0	155	0
Heavy Vehicles (%)	2%	2%	2%	5%	5%	5%	11%	11%	11%	13%	13%	13%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		4.9			4.9			36.0			36.0	
Effective Green, g (s)		4.9			4.9			36.0			36.0	
Actuated g/C Ratio		0.09			0.09			0.66			0.66	
Clearance Time (s)		7.0			7.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		135			129			1067			1011	
v/s Ratio Prot												
v/s Ratio Perm		0.01			0.03			0.06			0.10	
v/c Ratio		0.06			0.32			0.09			0.15	
Uniform Delay, d1		22.9			23.4			3.5			3.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			1.4			0.0			0.1	
Delay (s)		23.1			24.9			3.5			3.7	
Level of Service		C			C			A			A	
Approach Delay (s)		23.1			24.9			3.5			3.7	
Approach LOS		C			C			A			A	

Intersection Summary		
HCM 2000 Control Delay	8.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.17	A
Actuated Cycle Length (s)	54.9	Sum of lost time (s)
Intersection Capacity Utilization	42.0%	14.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 42: W Commerce Street Existing 2015 MD



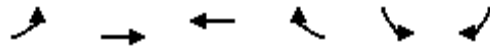
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑				↗
Volume (veh/h)	0	0	0	0	0	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	100	100	100	100	
cM capacity (veh/h)	1023	896	896	1085	1623	

Direction, Lane #	EB 1	SB 1
Volume Total	0	0
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.00	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS	A	
Approach Delay (s)	0.0	0.0
Approach LOS	A	

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

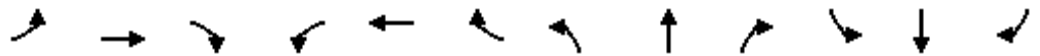


HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 58: E Commerce Street Existing 2015 MD



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑		↗		
Sign Control		Stop	Stop		Stop	
Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	0	0				
Volume Left (vph)	0	0				
Volume Right (vph)	0	0				
Hadj (s)	0.00	0.00				
Departure Headway (s)	3.9	3.9				
Degree Utilization, x	0.00	0.00				
Capacity (veh/h)	917	917				
Control Delay (s)	6.9	6.9				
Approach Delay (s)	0.0	0.0				
Approach LOS	A	A				
Intersection Summary						
Delay			0.0			
Level of Service			A			
Intersection Capacity Utilization			6.7%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 101: W Ellington Parkway & Old Columbia Road/Jason Maxwell Boulevard Existing 2015 MD























Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕	↗
Volume (veh/h)	2	2	4	1	1	30	1	90	10	23	116	3
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.77	0.77	0.77	0.85	0.85	0.85
Hourly flow rate (vph)	3	3	5	1	1	40	1	117	13	27	136	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			3			4						
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	317	323	136	318	317	123	136			130		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	317	323	136	318	317	123	136			130		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	100	100	99	100	100	96	100			98		
cM capacity (veh/h)	597	583	912	606	577	909	1448			1443		

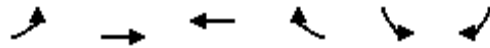
Direction, Lane #	EB 1	WB 1	NB 1	SB 1	SB 2
Volume Total	11	43	131	164	4
Volume Left	3	1	1	27	0
Volume Right	5	40	13	0	4
cSH	1180	970	1448	1443	1700
Volume to Capacity	0.01	0.04	0.00	0.02	0.00
Queue Length 95th (ft)	1	3	0	1	0
Control Delay (s)	10.1	9.3	0.1	1.4	0.0
Lane LOS	B	A	A	A	
Approach Delay (s)	10.1	9.3	0.1	1.3	
Approach LOS	B	A			

Intersection Summary	
Average Delay	2.1
Intersection Capacity Utilization	24.0%
ICU Level of Service	A
Analysis Period (min)	15

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 102: Freeman Drive/W Ellington Parkway & Mooresville Highway/W Commerce Street

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	100	3	16	100	58	3	11	7	71	12	43
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.85	0.85	0.85	0.88	0.88	0.88	0.85	0.85	0.85
Hourly flow rate (vph)	34	103	3	19	118	68	3	12	8	84	14	51
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												5
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	186			106			359	395	103	375	364	152
vC1, stage 1 conf vol							171	171		189	189	
vC2, stage 2 conf vol							188	224		185	174	
vCu, unblocked vol	186			106			359	395	103	375	364	152
tC, single (s)	4.2			4.2			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.3			2.3			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			99			99	98	99	88	98	94
cM capacity (veh/h)	1348			1454			660	625	952	685	648	894
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1					
Volume Total	34	103	3	19	186	24	148					
Volume Left	34	0	0	19	0	3	84					
Volume Right	0	0	3	0	68	8	51					
cSH	1348	1700	1700	1454	1700	712	1032					
Volume to Capacity	0.03	0.06	0.00	0.01	0.11	0.03	0.14					
Queue Length 95th (ft)	2	0	0	1	0	3	13					
Control Delay (s)	7.7	0.0	0.0	7.5	0.0	10.2	10.5					
Lane LOS	A			A		B	B					
Approach Delay (s)	1.9			0.7		10.2	10.5					
Approach LOS						B	B					
Intersection Summary												
Average Delay			4.3									
Intersection Capacity Utilization			33.4%		ICU Level of Service		A					
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 103: E Commerce Street & Armory Drive Existing 2015 MD

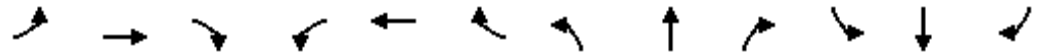


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	10	330	396	1	0	5
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.91	0.91	0.77	0.77	0.75	0.75
Hourly flow rate (vph)	11	363	514	1	0	7
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	None			
Median storage veh		2				
Upstream signal (ft)		1168				
pX, platoon unblocked						
vC, conflicting volume	516				718	515
vC1, stage 1 conf vol					515	
vC2, stage 2 conf vol					203	
vCu, unblocked vol	516				718	515
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.3				3.5	3.3
p0 queue free %	99				100	99
cM capacity (veh/h)	1019				526	505

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	11	181	181	516	7
Volume Left	11	0	0	0	0
Volume Right	0	0	0	1	7
cSH	1019	1700	1700	1700	505
Volume to Capacity	0.01	0.11	0.11	0.30	0.01
Queue Length 95th (ft)	1	0	0	0	1
Control Delay (s)	8.6	0.0	0.0	0.0	12.2
Lane LOS	A				B
Approach Delay (s)	0.3			0.0	12.2
Approach LOS					B

Intersection Summary			
Average Delay		0.2	
Intersection Capacity Utilization		30.9%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 104: S Ellington Parkway & Springplace Road/Ostella Road Existing 2015 MD

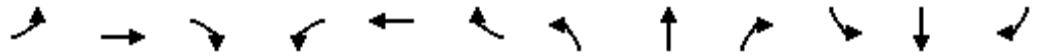


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗	↗	↕↗		↗	↕↗	
Volume (veh/h)	10	4	15	3	3	32	7	228	5	36	231	12
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.81	0.81	0.81	0.75	0.75	0.75	0.94	0.94	0.94	0.87	0.87	0.87
Hourly flow rate (vph)	12	5	19	4	4	43	7	243	5	41	266	14
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			4			4						
Median type							TWLTL			TWLTL		
Median storage veh							2			2		
Upstream signal (ft)											917	
pX, platoon unblocked												
vC, conflicting volume	493	618	140	487	622	124	279			248		
vC1, stage 1 conf vol	355	355		260	260							
vC2, stage 2 conf vol	138	263		227	362							
vCu, unblocked vol	493	618	140	487	622	124	279			248		
tC, single (s)	7.5	6.5	6.9	7.5	6.5	6.9	4.2			4.2		
tC, 2 stage (s)	6.5	5.5		6.5	5.5							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	98	99	99	95	99			97		
cM capacity (veh/h)	568	533	883	604	537	904	1266			1308		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	36	51	7	162	86	41	177	102
Volume Left	12	4	7	0	0	41	0	0
Volume Right	19	43	0	0	5	0	0	14
cSH	1156	1073	1266	1700	1700	1308	1700	1700
Volume to Capacity	0.03	0.05	0.01	0.10	0.05	0.03	0.10	0.06
Queue Length 95th (ft)	2	4	0	0	0	2	0	0
Control Delay (s)	10.4	9.5	7.9	0.0	0.0	7.8	0.0	0.0
Lane LOS	B	A	A			A		
Approach Delay (s)	10.4	9.5	0.2			1.0		
Approach LOS	B	A						

Intersection Summary		
Average Delay		1.9
Intersection Capacity Utilization	27.5%	ICU Level of Service A
Analysis Period (min)		15

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 105: N Church Street/Driveway & Franklin Avenue Existing 2015 MD

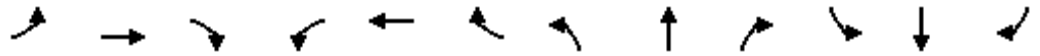


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	43	16	2	40	5	12	3	4	7	4	9
Peak Hour Factor	0.80	0.80	0.80	0.84	0.84	0.84	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	6	54	20	2	48	6	16	4	5	9	5	12

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	80	56	25	27
Volume Left (vph)	6	2	16	9
Volume Right (vph)	20	6	5	12
Hadj (s)	-0.10	-0.02	0.03	-0.17
Departure Headway (s)	4.0	4.1	4.2	4.0
Degree Utilization, x	0.09	0.06	0.03	0.03
Capacity (veh/h)	888	867	811	856
Control Delay (s)	7.3	7.3	7.4	7.2
Approach Delay (s)	7.3	7.3	7.4	7.2
Approach LOS	A	A	A	A

Intersection Summary			
Delay		7.3	
Level of Service		A	
Intersection Capacity Utilization	15.2%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 106: N First Avenue & Driveway Existing 2015 MD

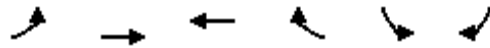


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	0	0	0	0	0	0	2	126	1	0	27	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.81	0.81	0.81	0.75	0.75	0.75
Hourly flow rate (vph)	0	0	0	0	0	0	2	156	1	0	36	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			0			18	0	0	79	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			18	0	0	79	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	83	100	100	96	100
cM capacity (veh/h)	1623			1623			966	896	1085	787	896	1085

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	0	0	159	36
Volume Left	0	0	2	0
Volume Right	0	0	1	0
cSH	1700	1700	898	896
Volume to Capacity	0.00	0.00	0.18	0.04
Queue Length 95th (ft)	0	0	16	3
Control Delay (s)	0.0	0.0	9.9	9.2
Lane LOS			A	A
Approach Delay (s)	0.0	0.0	9.9	9.2
Approach LOS			A	A

Intersection Summary			
Average Delay		9.7	
Intersection Capacity Utilization		11.6%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 107: US-31 Alt Business & S Ellington Parkway Existing 2015 MD



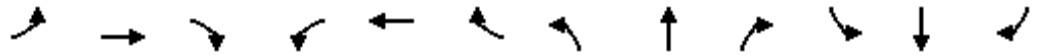
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↗	↗	↖	↖	↖
Volume (veh/h)	48	70	67	105	93	58
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.89	0.89	0.81	0.81	0.82	0.82
Hourly flow rate (vph)	54	79	83	130	113	71
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						11
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	83				269	83
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	83				269	83
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				84	93
cM capacity (veh/h)	1514				688	969

Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	54	79	83	130	184
Volume Left	54	0	0	0	113
Volume Right	0	0	0	130	71
cSH	1514	1700	1700	1700	1117
Volume to Capacity	0.04	0.05	0.05	0.08	0.16
Queue Length 95th (ft)	3	0	0	0	15
Control Delay (s)	7.5	0.0	0.0	0.0	10.4
Lane LOS	A				B
Approach Delay (s)	3.0		0.0		10.4
Approach LOS					B

Intersection Summary					
Average Delay			4.4		
Intersection Capacity Utilization			21.1%	ICU Level of Service	A
Analysis Period (min)			15		



HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 108: Heil Quaker Avenue & International Products Entrance Existing 2015 MD



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	10	0	6	13	0	13	5	47	13	17	44	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	13	0	8	17	0	17	7	63	17	23	59	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	211	202	63	201	198	71	68			80		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	211	202	63	201	198	71	68			80		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.3			4.3		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.4			2.4		
p0 queue free %	98	100	99	98	100	98	100			98		
cM capacity (veh/h)	722	680	1001	727	673	975	1426			1417		
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total	21	35	87	91								
Volume Left	13	17	7	23								
Volume Right	8	17	17	9								
cSH	806	833	1426	1417								
Volume to Capacity	0.03	0.04	0.00	0.02								
Queue Length 95th (ft)	2	3	0	1								
Control Delay (s)	9.6	9.5	0.6	2.0								
Lane LOS	A	A	A	A								
Approach Delay (s)	9.6	9.5	0.6	2.0								
Approach LOS	A	A										
Intersection Summary												
Average Delay			3.3									
Intersection Capacity Utilization			18.0%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 109: Old Belfast Road & Nichirin Tennessee, Inc. Existing 2015 MD



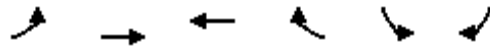
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Volume (veh/h)	25	17	35	5	7	46
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.75	0.75	0.83	0.83	0.75	0.75
Hourly flow rate (vph)	33	23	42	6	9	61
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	48				135	45
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	48				135	45
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	94
cM capacity (veh/h)	1559				836	1019

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	56	48	71
Volume Left	33	0	9
Volume Right	0	6	61
cSH	1559	1700	990
Volume to Capacity	0.02	0.03	0.07
Queue Length 95th (ft)	2	0	6
Control Delay (s)	4.4	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	4.4	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay		5.0	
Intersection Capacity Utilization		18.9%	ICU Level of Service A
Analysis Period (min)		15	

# HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program 3: W Commerce Street & Heil Quaker Avenue

Existing 2015 PM

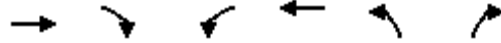


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑↑	↑↑		↑↑	
Volume (vph)	13	428	495	38	78	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-2%	1%		0%	
Total Lost time (s)		6.0	6.0		5.0	
Lane Util. Factor		0.95	0.95		1.00	
Frt		1.00	0.99		0.97	
Flt Protected		1.00	1.00		0.96	
Satd. Flow (prot)		3569	3484		1657	
Flt Permitted		0.94	1.00		0.96	
Satd. Flow (perm)		3343	3484		1657	
Peak-hour factor, PHF	0.96	0.96	0.93	0.93	0.77	0.77
Adj. Flow (vph)	14	446	532	41	101	30
RTOR Reduction (vph)	0	0	11	0	26	0
Lane Group Flow (vph)	0	460	562	0	105	0
Heavy Vehicles (%)	2%	2%	2%	2%	7%	7%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		2	2		4	
Permitted Phases	2					
Actuated Green, G (s)		28.3	28.3		6.4	
Effective Green, g (s)		28.3	28.3		6.4	
Actuated g/C Ratio		0.62	0.62		0.14	
Clearance Time (s)		6.0	6.0		5.0	
Vehicle Extension (s)		0.2	0.2		2.8	
Lane Grp Cap (vph)		2070	2157		232	
v/s Ratio Prot			c0.16		c0.06	
v/s Ratio Perm		0.14				
v/c Ratio		0.22	0.26		0.45	
Uniform Delay, d1		3.8	3.9		18.0	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.0	0.0		1.3	
Delay (s)		3.9	4.0		19.3	
Level of Service		A	A		B	
Approach Delay (s)		3.9	4.0		19.3	
Approach LOS		A	A		B	

## Intersection Summary

HCM 2000 Control Delay	5.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.30		
Actuated Cycle Length (s)	45.7	Sum of lost time (s)	11.0
Intersection Capacity Utilization	37.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 4: W Ellington Parkway & N Ellington Parkway Existing 2015 PM



















Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↑	↑	↑	↑	↑
Volume (vph)	377	126	320	371	73	174
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.5	6.5	4.5	6.0	4.5	4.5
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1827	1553	1736	1827	1770	1583
Flt Permitted	1.00	1.00	0.32	1.00	0.95	1.00
Satd. Flow (perm)	1827	1553	593	1827	1770	1583
Peak-hour factor, PHF	0.85	0.85	0.91	0.91	0.87	0.87
Adj. Flow (vph)	444	148	352	408	84	200
RTOR Reduction (vph)	0	92	0	0	0	165
Lane Group Flow (vph)	444	56	352	408	84	35
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	2		1	4	3	
Permitted Phases		2	4			3
Actuated Green, G (s)	20.9	20.9	35.2	35.2	9.6	9.6
Effective Green, g (s)	20.9	20.9	35.2	35.2	9.6	9.6
Actuated g/C Ratio	0.38	0.38	0.64	0.64	0.17	0.17
Clearance Time (s)	6.5	6.5	4.5	6.0	4.5	4.5
Vehicle Extension (s)	2.0	2.0	1.5	2.0	4.0	4.0
Lane Grp Cap (vph)	690	586	569	1162	307	274
v/s Ratio Prot	0.24		c0.10	0.22	c0.05	
v/s Ratio Perm		0.04	c0.29			0.02
v/c Ratio	0.64	0.10	0.62	0.35	0.27	0.13
Uniform Delay, d1	14.1	11.1	5.8	4.7	19.8	19.3
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	1.5	0.0	1.4	0.1	0.7	0.3
Delay (s)	15.7	11.1	7.3	4.8	20.5	19.6
Level of Service	B	B	A	A	C	B
Approach Delay (s)	14.5			5.9	19.9	
Approach LOS	B			A	B	

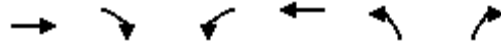
Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	55.3	Sum of lost time (s)	15.5
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 5: 8th Avenue S & W Commerce Street Existing 2015 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	11	433	127	10	384	5	88	11	18	3	14	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-6%			3%	
Total Lost time (s)		6.0			6.0			5.5			5.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			1.00			0.98			0.94	
Flt Protected		1.00			1.00			0.96			1.00	
Satd. Flow (prot)		3402			3510			1793			1695	
Flt Permitted		0.94			0.94			0.75			0.97	
Satd. Flow (perm)		3215			3296			1397			1656	
Peak-hour factor, PHF	0.87	0.87	0.87	0.88	0.88	0.88	0.77	0.77	0.77	0.75	0.75	0.75
Adj. Flow (vph)	13	498	146	11	436	6	114	14	23	4	19	20
RTOR Reduction (vph)	0	43	0	0	2	0	0	11	0	0	15	0
Lane Group Flow (vph)	0	614	0	0	451	0	0	140	0	0	28	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		35.0			35.0			15.0			15.0	
Effective Green, g (s)		35.0			35.0			15.0			15.0	
Actuated g/C Ratio		0.57			0.57			0.24			0.24	
Clearance Time (s)		6.0			6.0			5.5			5.5	
Vehicle Extension (s)		0.2			0.2			0.2			0.2	
Lane Grp Cap (vph)		1829			1875			340			403	
v/s Ratio Prot												
v/s Ratio Perm		c0.19			0.14			c0.10			0.02	
v/c Ratio		0.34			0.24			0.41			0.07	
Uniform Delay, d1		7.1			6.6			19.5			17.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.0			0.3			0.0	
Delay (s)		7.1			6.6			19.8			17.9	
Level of Service		A			A			B			B	
Approach Delay (s)		7.1			6.6			19.8			17.9	
Approach LOS		A			A			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			8.8				HCM 2000 Level of Service		A			
HCM 2000 Volume to Capacity ratio			0.36									
Actuated Cycle Length (s)			61.5				Sum of lost time (s)		11.5			
Intersection Capacity Utilization			52.0%				ICU Level of Service		A			
Analysis Period (min)			15									
c Critical Lane Group												

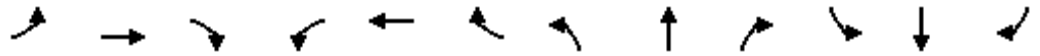
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 6: Franklin Road & N Ellington Parkway Existing 2015 PM



Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑	↗	↖	↑	↖	↗
Volume (vph)	457	72	72	526	55	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)	-1%			0%	-1%	
Total Lost time (s)	6.5	6.5	4.5	6.5	5.0	5.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	0.85	1.00	1.00	1.00	0.85
Flt Protected	1.00	1.00	0.95	1.00	0.95	1.00
Satd. Flow (prot)	1819	1546	1752	1845	1761	1576
Flt Permitted	1.00	1.00	0.35	1.00	0.95	1.00
Satd. Flow (perm)	1819	1546	637	1845	1761	1576
Peak-hour factor, PHF	0.91	0.91	0.97	0.97	0.75	0.75
Adj. Flow (vph)	502	79	74	542	73	97
RTOR Reduction (vph)	0	22	0	0	0	84
Lane Group Flow (vph)	502	57	74	542	73	13
Heavy Vehicles (%)	5%	5%	3%	3%	3%	3%
Turn Type	NA	Perm	pm+pt	NA	Prot	Perm
Protected Phases	6		5	8	7	
Permitted Phases		6	8			7
Actuated Green, G (s)	24.1	24.1	31.8	31.8	6.6	6.6
Effective Green, g (s)	24.1	24.1	31.8	31.8	6.6	6.6
Actuated g/C Ratio	0.48	0.48	0.64	0.64	0.13	0.13
Clearance Time (s)	6.5	6.5	4.5	6.5	5.0	5.0
Vehicle Extension (s)	2.0	2.0	1.5	2.0	3.0	3.0
Lane Grp Cap (vph)	878	746	477	1175	232	208
v/s Ratio Prot	c0.28		0.01	c0.29	c0.04	
v/s Ratio Perm		0.04	0.09			0.01
v/c Ratio	0.57	0.08	0.16	0.46	0.31	0.06
Uniform Delay, d1	9.2	6.9	4.1	4.6	19.6	18.9
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.0	0.1	0.1	0.8	0.1
Delay (s)	9.8	6.9	4.2	4.8	20.4	19.1
Level of Service	A	A	A	A	C	B
Approach Delay (s)	9.4			4.7	19.6	
Approach LOS	A			A	B	

Intersection Summary			
HCM 2000 Control Delay	8.5	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	49.9	Sum of lost time (s)	16.0
Intersection Capacity Utilization	47.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 7: S 5th Avenue/N 5th Avenue & W Commerce Street Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Volume (vph)	22	363	15	7	398	9	23	0	25	29	0	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			-3%			-3%				3%
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.99			1.00			0.93			0.91	
Flt Protected		1.00			1.00			0.98			0.98	
Satd. Flow (prot)		3580			3577			1717			1645	
Flt Permitted		0.92			0.95			0.75			0.86	
Satd. Flow (perm)		3297			3391			1324			1437	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.75	0.75	0.75	0.90	0.90	0.90
Adj. Flow (vph)	24	403	17	8	442	10	31	0	33	32	0	60
RTOR Reduction (vph)	0	3	0	0	2	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	441	0	0	458	0	0	64	0	0	92	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			3			4	
Permitted Phases	2			2			3			4		
Actuated Green, G (s)		30.4			30.4			4.1			5.2	
Effective Green, g (s)		30.4			30.4			4.1			5.2	
Actuated g/C Ratio		0.53			0.53			0.07			0.09	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		0.2			0.2			2.2			2.2	
Lane Grp Cap (vph)		1737			1786			94			129	
v/s Ratio Prot												
v/s Ratio Perm		0.13			c0.14			c0.05			c0.06	
v/c Ratio		0.25			0.26			0.68			0.71	
Uniform Delay, d1		7.5			7.5			26.2			25.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.0			15.8			15.0	
Delay (s)		7.5			7.5			41.9			40.5	
Level of Service		A			A			D			D	
Approach Delay (s)		7.5			7.5			41.9			40.5	
Approach LOS		A			A			D			D	

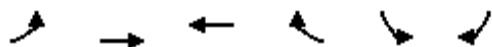
Intersection Summary		
HCM 2000 Control Delay	12.4	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.36	B
Actuated Cycle Length (s)	57.7	Sum of lost time (s)
Intersection Capacity Utilization	43.7%	18.0
Analysis Period (min)	15	ICU Level of Service
		A

c Critical Lane Group

# HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program

## 8: N Ellington Parkway & Walmart Entrance

Existing 2015 PM

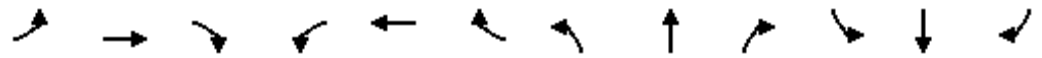


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↘	↙	↘
Volume (vph)	138	428	513	115	160	153
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-3%	4%		5%	
Total Lost time (s)	5.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	1.00	0.85	1.00	0.85
Flt Protected	0.95	1.00	1.00	1.00	0.95	1.00
Satd. Flow (prot)	1728	1819	1808	1537	1725	1544
Flt Permitted	0.32	1.00	1.00	1.00	0.95	1.00
Satd. Flow (perm)	576	1819	1808	1537	1725	1544
Peak-hour factor, PHF	0.92	0.92	0.86	0.86	0.89	0.89
Adj. Flow (vph)	150	465	597	134	180	172
RTOR Reduction (vph)	0	0	0	31	0	0
Lane Group Flow (vph)	150	465	597	103	180	172
Heavy Vehicles (%)	6%	6%	3%	3%	2%	2%
Turn Type	pm+pt	NA	NA	pm+ov	Prot	pt+ov
Protected Phases	1	6	2	4	4	4 1
Permitted Phases	6			2		6
Actuated Green, G (s)	80.7	80.7	67.3	84.6	17.3	104.0
Effective Green, g (s)	80.7	80.7	67.3	84.6	17.3	104.0
Actuated g/C Ratio	0.73	0.73	0.61	0.77	0.16	0.95
Clearance Time (s)	5.0	6.0	6.0	6.0	6.0	
Vehicle Extension (s)	3.0	4.0	4.0	3.5	3.5	
Lane Grp Cap (vph)	510	1334	1106	1265	271	1544
v/s Ratio Prot	0.02	c0.26	c0.33	0.01	c0.10	0.03
v/s Ratio Perm	0.19			0.05		0.08
v/c Ratio	0.29	0.35	0.54	0.08	0.66	0.11
Uniform Delay, d1	6.6	5.2	12.4	3.1	43.6	0.2
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.3	0.7	1.9	0.0	6.3	0.0
Delay (s)	6.9	6.0	14.3	3.2	49.9	0.2
Level of Service	A	A	B	A	D	A
Approach Delay (s)		6.2	12.2		25.6	
Approach LOS		A	B		C	

Intersection Summary			
HCM 2000 Control Delay	12.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	17.0
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			



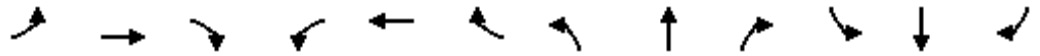
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 9: Franklin Road/N 3rd Avenue & W Commerce Street Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕↕			↕↕			↕			↕	
Volume (vph)	20	332	81	2	288	5	97	30	5	5	20	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			2%			5%			-2%	
Total Lost time (s)		5.5			5.5			5.5			5.5	
Lane Util. Factor		0.95			0.95			1.00			1.00	
Frt		0.97			1.00			0.99			0.95	
Flt Protected		1.00			1.00			0.96			0.99	
Satd. Flow (prot)		3433			3494			1726			1724	
Flt Permitted		0.93			0.95			0.75			0.96	
Satd. Flow (perm)		3205			3331			1346			1667	
Peak-hour factor, PHF	0.89	0.89	0.89	0.83	0.83	0.83	0.85	0.85	0.85	0.83	0.83	0.83
Adj. Flow (vph)	22	373	91	2	347	6	114	35	6	6	24	18
RTOR Reduction (vph)	0	35	0	0	2	0	0	3	0	0	13	0
Lane Group Flow (vph)	0	451	0	0	353	0	0	152	0	0	35	0
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%	3%	3%	3%	5%	5%	5%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.0			30.0			15.0			15.0	
Effective Green, g (s)		30.0			30.0			15.0			15.0	
Actuated g/C Ratio		0.54			0.54			0.27			0.27	
Clearance Time (s)		5.5			5.5			5.5			5.5	
Vehicle Extension (s)		1.0			1.0			1.0			1.0	
Lane Grp Cap (vph)		1716			1784			360			446	
v/s Ratio Prot												
v/s Ratio Perm		c0.14			0.11			c0.11			0.02	
v/c Ratio		0.26			0.20			0.42			0.08	
Uniform Delay, d1		7.0			6.8			16.9			15.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.0			0.3			0.0	
Delay (s)		7.1			6.8			17.2			15.4	
Level of Service		A			A			B			B	
Approach Delay (s)		7.1			6.8			17.2			15.4	
Approach LOS		A			A			B			B	

Intersection Summary		
HCM 2000 Control Delay	8.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.32	A
Actuated Cycle Length (s)	56.0	Sum of lost time (s)
Intersection Capacity Utilization	50.0%	11.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

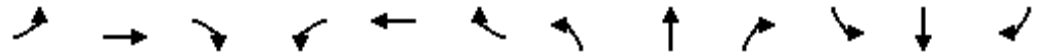
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 10: N 5th Avenue/Rock Crusher Road & N Ellington Parkway Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	20	216	57	72	528	136	38	59	58	133	57	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			1%			2%				-1%
Total Lost time (s)	5.0	6.0		5.0	6.0			6.0			6.0	
Lane Util. Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Frt	1.00	0.97		1.00	0.97			0.95			0.99	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.97	
Satd. Flow (prot)	1770	1805		1727	1762			1730			1747	
Flt Permitted	0.23	1.00		0.53	1.00			0.88			0.65	
Satd. Flow (perm)	433	1805		962	1762			1543			1180	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.86	0.86	0.86	0.90	0.90	0.90
Adj. Flow (vph)	21	225	59	75	550	142	44	69	67	148	63	13
RTOR Reduction (vph)	0	8	0	0	8	0	0	19	0	0	2	0
Lane Group Flow (vph)	21	276	0	75	684	0	0	161	0	0	222	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	2%	2%	2%	5%	5%	5%
Turn Type	pm+pt	NA		pm+pt	NA		Perm	NA		Perm	NA	
Protected Phases	1	6		5	2			4			8	
Permitted Phases	6			2			4			8		
Actuated Green, G (s)	55.0	51.0		58.8	52.9			26.1			26.1	
Effective Green, g (s)	55.0	51.0		58.8	52.9			26.1			26.1	
Actuated g/C Ratio	0.55	0.51		0.59	0.53			0.26			0.26	
Clearance Time (s)	5.0	6.0		5.0	6.0			6.0			6.0	
Vehicle Extension (s)	3.0	4.0		3.0	4.0			3.5			3.5	
Lane Grp Cap (vph)	291	920		610	932			402			307	
v/s Ratio Prot	0.00	0.15		c0.01	c0.39							
v/s Ratio Perm	0.04			0.06				0.10			c0.19	
v/c Ratio	0.07	0.30		0.12	0.73			0.40			0.72	
Uniform Delay, d1	12.6	14.2		9.0	18.1			30.5			33.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.1	0.8		0.1	5.1			0.8			8.4	
Delay (s)	12.7	15.0		9.1	23.2			31.3			42.1	
Level of Service	B	B		A	C			C			D	
Approach Delay (s)		14.8			21.9			31.3			42.1	
Approach LOS		B			C			C			D	

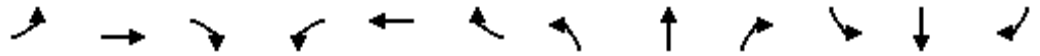
Intersection Summary		
HCM 2000 Control Delay	24.6	HCM 2000 Level of Service C
HCM 2000 Volume to Capacity ratio	0.70	
Actuated Cycle Length (s)	100.0	Sum of lost time (s) 17.0
Intersection Capacity Utilization	76.3%	ICU Level of Service D
Analysis Period (min)	15	
c Critical Lane Group		

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 11: Martin Avenue/Legion Avenue & E Commerce Street Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	1	191	18	39	229	10	18	9	58	7	4	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-3%			4%			-2%	
Total Lost time (s)		6.0			6.0			5.5			5.5	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			1.00			0.91			0.97	
Flt Protected		1.00			0.99			0.99			0.98	
Satd. Flow (prot)		1822			1869			1640			1697	
Flt Permitted		1.00			0.94			0.92			0.81	
Satd. Flow (perm)		1821			1766			1526			1416	
Peak-hour factor, PHF	0.96	0.96	0.96	0.87	0.87	0.87	0.79	0.79	0.79	0.75	0.75	0.75
Adj. Flow (vph)	1	199	19	45	263	11	23	11	73	9	5	4
RTOR Reduction (vph)	0	5	0	0	2	0	0	64	0	0	4	0
Lane Group Flow (vph)	0	214	0	0	317	0	0	43	0	0	14	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	7%	7%	7%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			2			4			4	
Permitted Phases	2			2			4			4		
Actuated Green, G (s)		30.7			30.7			5.9			5.9	
Effective Green, g (s)		30.7			30.7			5.9			5.9	
Actuated g/C Ratio		0.64			0.64			0.12			0.12	
Clearance Time (s)		6.0			6.0			5.5			5.5	
Vehicle Extension (s)		1.0			1.0			3.0			3.0	
Lane Grp Cap (vph)		1162			1127			187			173	
v/s Ratio Prot												
v/s Ratio Perm		0.12			c0.18			c0.03			0.01	
v/c Ratio		0.18			0.28			0.23			0.08	
Uniform Delay, d1		3.6			3.8			19.0			18.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.0			0.1			0.6			0.2	
Delay (s)		3.6			3.9			19.7			18.9	
Level of Service		A			A			B			B	
Approach Delay (s)		3.6			3.9			19.7			18.9	
Approach LOS		A			A			B			B	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			6.7				HCM 2000 Level of Service			A		
HCM 2000 Volume to Capacity ratio			0.27									
Actuated Cycle Length (s)			48.1				Sum of lost time (s)		11.5			
Intersection Capacity Utilization			60.1%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 12: N 2nd Avenue / US-431 Business/Nashville Highway & N Ellington Parkway Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations	↖	↑	↗	↖	↑	↗	↖	↑	↗	↖	↑	↗
Volume (vph)	246	440	87	28	471	207	135	127	34	204	180	160
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			1%			-3%				2%
Total Lost time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1761	1853	1575	1694	1783	1516	1796	1891	1607	1735	1826	1552
Flt Permitted	0.20	1.00	1.00	0.38	1.00	1.00	0.60	1.00	1.00	0.53	1.00	1.00
Satd. Flow (perm)	374	1853	1575	677	1783	1516	1125	1891	1607	971	1826	1552
Peak-hour factor, PHF	0.88	0.88	0.88	0.90	0.90	0.90	0.90	0.90	0.90	0.91	0.91	0.91
Adj. Flow (vph)	280	500	99	31	523	230	150	141	38	224	198	176
RTOR Reduction (vph)	0	0	52	0	0	111	0	0	29	0	0	93
Lane Group Flow (vph)	280	500	47	31	523	119	150	141	9	224	198	83
Heavy Vehicles (%)	2%	2%	2%	6%	6%	6%	2%	2%	2%	3%	3%	3%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases	5	2		1	6		7	4		3	8	
Permitted Phases	2		2	6		6	4		4	8		8
Actuated Green, G (s)	75.9	67.5	67.5	59.8	55.9	55.9	46.4	34.0	34.0	55.8	38.9	38.9
Effective Green, g (s)	75.9	67.5	67.5	59.8	55.9	55.9	46.4	34.0	34.0	55.8	38.9	38.9
Actuated g/C Ratio	0.53	0.47	0.47	0.42	0.39	0.39	0.32	0.24	0.24	0.39	0.27	0.27
Clearance Time (s)	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0	4.5	6.0	6.0
Vehicle Extension (s)	2.2	3.0	3.0	2.2	3.0	3.0	2.2	3.0	3.0	2.2	3.0	3.0
Lane Grp Cap (vph)	347	870	739	309	693	589	421	447	380	469	494	420
v/s Ratio Prot	c0.09	0.27		0.00	0.29		0.03	0.07		c0.06	0.11	
v/s Ratio Perm	c0.34		0.03	0.04		0.08	0.08		0.01	c0.13		0.05
v/c Ratio	0.81	0.57	0.06	0.10	0.75	0.20	0.36	0.32	0.02	0.48	0.40	0.20
Uniform Delay, d1	25.1	27.7	20.8	25.4	38.0	29.1	36.0	45.2	42.1	31.1	42.9	40.4
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	12.3	2.8	0.2	0.1	7.5	0.8	0.3	1.8	0.1	0.4	2.4	1.1
Delay (s)	37.4	30.4	21.0	25.5	45.5	29.9	36.2	47.1	42.2	31.5	45.3	41.4
Level of Service	D	C	C	C	D	C	D	D	D	C	D	D
Approach Delay (s)		31.6			40.1			41.6			39.0	
Approach LOS		C			D			D			D	

Intersection Summary		
HCM 2000 Control Delay	37.1	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.70	D
Actuated Cycle Length (s)	143.7	Sum of lost time (s)
Intersection Capacity Utilization	73.9%	21.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		D

# City of Lewisburg Signal Timing Optimization Program

## 13: Garrett Parkway/Creekside Drive & E Commerce Street

Existing 2015 PM

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	2	248	23	247	8	0	186	1	32	1	1	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			1%			-1%			2%	
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		5.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Frt	1.00	1.00	0.85	1.00	1.00			1.00	0.85		0.92	
Flt Protected	0.95	1.00	1.00	0.95	1.00			0.95	1.00		0.99	
Satd. Flow (prot)	1761	1854	1576	1727	1818			1716	1531		1678	
Flt Permitted	0.75	1.00	1.00	0.59	1.00			0.78	1.00		1.00	
Satd. Flow (perm)	1391	1854	1576	1075	1818			1410	1531		1695	
Peak-hour factor, PHF	0.91	0.91	0.91	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
Adj. Flow (vph)	2	273	25	329	11	0	248	1	43	1	1	3
RTOR Reduction (vph)	0	0	14	0	0	0	0	0	38	0	3	0
Lane Group Flow (vph)	2	273	11	329	11	0	0	249	5	0	2	0
Heavy Vehicles (%)	3%	3%	3%	4%	4%	4%	6%	6%	6%	2%	2%	2%
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		1			1			2			3	
Permitted Phases	1		1	1			2		2	3		
Actuated Green, G (s)	17.8	17.8	17.8	17.8	17.8			5.1	5.1		0.9	
Effective Green, g (s)	17.8	17.8	17.8	17.8	17.8			5.1	5.1		0.9	
Actuated g/C Ratio	0.44	0.44	0.44	0.44	0.44			0.12	0.12		0.02	
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0			6.0	6.0		5.0	
Vehicle Extension (s)	6.0	6.0	6.0	6.0	6.0			3.0	3.0		3.0	
Lane Grp Cap (vph)	606	808	687	468	793			176	191		37	
v/s Ratio Prot		0.15			0.01							
v/s Ratio Perm	0.00		0.01	c0.31				c0.18	0.00		c0.00	
v/c Ratio	0.00	0.34	0.02	0.70	0.01			1.41	0.03		0.06	
Uniform Delay, d1	6.5	7.6	6.5	9.4	6.5			17.8	15.7		19.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00			1.00	1.00		1.00	
Incremental Delay, d2	0.0	0.7	0.0	6.9	0.0			216.7	0.1		0.6	
Delay (s)	6.5	8.3	6.6	16.3	6.5			234.5	15.7		20.2	
Level of Service	A	A	A	B	A			F	B		C	
Approach Delay (s)		8.1			16.0			202.3			20.2	
Approach LOS		A			B			F			C	
<b>Intersection Summary</b>												
HCM 2000 Control Delay			71.6				HCM 2000 Level of Service		E			
HCM 2000 Volume to Capacity ratio			0.83									
Actuated Cycle Length (s)			40.8				Sum of lost time (s)		17.0			
Intersection Capacity Utilization			58.8%				ICU Level of Service		B			
Analysis Period (min)			15									
c Critical Lane Group												

# HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program 14: N Ellington Parkway & Finley Beech Road

Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	42	59	99	46	22	50	586	79	21	617	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		1%			-3%			1%			1%	
Total Lost time (s)	5.0	6.0			6.0		5.0	6.0		5.0	6.0	
Lane Util. Factor	1.00	1.00			1.00		1.00	0.95		1.00	0.95	
Frt	1.00	0.91			0.98		1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1761	1691			1804		1761	3466		1710	3388	
Flt Permitted	0.61	1.00			0.75		0.23	1.00		0.31	1.00	
Satd. Flow (perm)	1128	1691			1389		426	3466		554	3388	
Peak-hour factor, PHF	0.82	0.82	0.82	0.75	0.75	0.75	0.88	0.88	1.00	0.90	0.90	0.90
Adj. Flow (vph)	61	51	72	132	61	29	57	666	79	23	686	47
RTOR Reduction (vph)	0	45	0	0	5	0	0	8	0	0	5	0
Lane Group Flow (vph)	61	78	0	0	217	0	57	737	0	23	728	0
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	5%	5%	5%
Turn Type	pm+pt	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases	7	4			8		1	6		5	2	
Permitted Phases	4			8			6			2		
Actuated Green, G (s)	29.1	29.1			17.5		35.5	29.6		29.1	26.4	
Effective Green, g (s)	29.1	29.1			17.5		35.5	29.6		29.1	26.4	
Actuated g/C Ratio	0.37	0.37			0.22		0.45	0.38		0.37	0.34	
Clearance Time (s)	5.0	6.0			6.0		5.0	6.0		5.0	6.0	
Vehicle Extension (s)	4.0	4.0			4.0		4.0	5.0		4.0	5.0	
Lane Grp Cap (vph)	471	627			310		293	1308		245	1140	
v/s Ratio Prot	0.01	c0.05					c0.01	c0.21		0.00	c0.21	
v/s Ratio Perm	0.04				c0.16		0.07			0.03		
v/c Ratio	0.13	0.12			0.70		0.19	0.56		0.09	0.64	
Uniform Delay, d1	16.9	16.2			28.0		13.0	19.3		15.8	22.0	
Progression Factor	1.00	1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	0.1			7.2		0.4	0.9		0.2	1.6	
Delay (s)	17.1	16.4			35.3		13.5	20.2		16.1	23.6	
Level of Service	B	B			D		B	C		B	C	
Approach Delay (s)		16.6			35.3			19.7			23.4	
Approach LOS		B			D			B			C	

## Intersection Summary

HCM 2000 Control Delay	22.6	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	78.4	Sum of lost time (s)	22.0
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

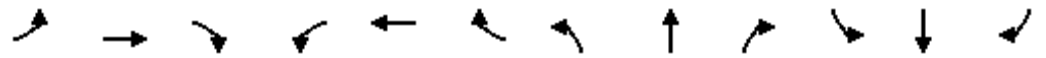
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 15: US-31 Alt Business & W Ewing Street Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Volume (vph)	2	63	39	72	93	8	36	77	74	23	142	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			1%			3%				-3%
Total Lost time (s)		6.0			6.0			6.0	6.0		6.0	
Lane Util. Factor		1.00			1.00			1.00	1.00		1.00	
Frt		0.95			0.99			1.00	0.85		1.00	
Flt Protected		1.00			0.98			0.98	1.00		0.99	
Satd. Flow (prot)		1733			1804			1806	1560		1871	
Flt Permitted		0.99			0.81			0.85	1.00		0.95	
Satd. Flow (perm)		1723			1494			1566	1560		1782	
Peak-hour factor, PHF	0.75	0.75	0.75	0.92	0.92	0.92	0.82	0.82	0.82	0.92	0.92	0.92
Adj. Flow (vph)	3	84	52	78	101	9	44	94	90	25	154	5
RTOR Reduction (vph)	0	33	0	0	5	0	0	0	58	0	3	0
Lane Group Flow (vph)	0	106	0	0	184	0	0	138	32	0	181	0
Heavy Vehicles (%)	5%	5%	5%	2%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA	Perm	Perm	NA	
Protected Phases		2			2			1			1	
Permitted Phases	2			2			1		1	1		
Actuated Green, G (s)		15.0			15.0			15.0	15.0		15.0	
Effective Green, g (s)		15.0			15.0			15.0	15.0		15.0	
Actuated g/C Ratio		0.36			0.36			0.36	0.36		0.36	
Clearance Time (s)		6.0			6.0			6.0	6.0		6.0	
Vehicle Extension (s)		0.2			0.2			0.2	0.2		0.2	
Lane Grp Cap (vph)		615			533			559	557		636	
v/s Ratio Prot												
v/s Ratio Perm		0.06			0.12			0.09	0.02		0.10	
v/c Ratio		0.17			0.34			0.25	0.06		0.29	
Uniform Delay, d1		9.2			9.9			9.5	8.9		9.7	
Progression Factor		1.00			1.00			1.00	1.00		1.00	
Incremental Delay, d2		0.6			1.8			1.1	0.2		1.1	
Delay (s)		9.9			11.7			10.6	9.1		10.8	
Level of Service		A			B			B	A		B	
Approach Delay (s)		9.9			11.7			10.0			10.8	
Approach LOS		A			B			A			B	

Intersection Summary		
HCM 2000 Control Delay	10.6	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.31	B
Actuated Cycle Length (s)	42.0	Sum of lost time (s)
Intersection Capacity Utilization	52.5%	12.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 16: S Ellington Parkway/N Ellington Parkway & E Commerce Street Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	60	74	126	68	134	241	66	347	67	148	300	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-1%			-1%			-2%				1%
Total Lost time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00	0.97	0.95	1.00
Frt	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85	1.00	1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (prot)	1778	3557	1591	1711	3423	1531	3368	3472	1553	3318	3421	1530
Flt Permitted	0.65	1.00	1.00	0.70	1.00	1.00	0.95	1.00	1.00	0.95	1.00	1.00
Satd. Flow (perm)	1215	3557	1591	1254	3423	1531	3368	3472	1553	3318	3421	1530
Peak-hour factor, PHF	0.83	0.83	0.83	0.82	0.82	0.82	0.93	0.93	0.93	0.82	0.82	0.82
Adj. Flow (vph)	72	89	152	83	163	294	71	373	72	180	366	72
RTOR Reduction (vph)	0	0	131	0	0	254	0	0	42	0	0	41
Lane Group Flow (vph)	72	89	21	83	163	40	71	373	30	180	366	31
Heavy Vehicles (%)	2%	2%	2%	6%	6%	6%	5%	5%	5%	5%	5%	5%
Turn Type	pm+pt	NA	Perm	pm+pt	NA	Perm	Prot	NA	Perm	Prot	NA	Perm
Protected Phases	3	8		7	4		1	6		5	2	
Permitted Phases	8		8	4		4			6			2
Actuated Green, G (s)	17.5	11.4	11.4	17.5	11.4	11.4	6.1	34.8	34.8	8.1	36.8	36.8
Effective Green, g (s)	17.5	11.4	11.4	17.5	11.4	11.4	6.1	34.8	34.8	8.1	36.8	36.8
Actuated g/C Ratio	0.21	0.14	0.14	0.21	0.14	0.14	0.07	0.41	0.41	0.10	0.44	0.44
Clearance Time (s)	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0	6.0
Vehicle Extension (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	5.0	5.0	4.0	5.0	5.0
Lane Grp Cap (vph)	292	480	214	293	462	206	243	1431	640	318	1491	667
v/s Ratio Prot	0.02	0.03		c0.02	c0.05		0.02	c0.11		c0.05	0.11	
v/s Ratio Perm	0.03		0.01	0.04		0.03			0.02			0.02
v/c Ratio	0.25	0.19	0.10	0.28	0.35	0.19	0.29	0.26	0.05	0.57	0.25	0.05
Uniform Delay, d1	27.6	32.4	32.0	27.9	33.1	32.4	37.1	16.3	14.9	36.5	15.0	13.7
Progression Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Incremental Delay, d2	0.6	0.3	0.3	0.7	0.6	0.6	0.9	0.4	0.1	2.8	0.4	0.1
Delay (s)	28.2	32.6	32.3	28.6	33.8	33.0	38.0	16.8	15.0	39.3	15.4	13.8
Level of Service	C	C	C	C	C	C	D	B	B	D	B	B
Approach Delay (s)		31.4			32.6			19.4			22.2	
Approach LOS		C			C			B			C	

Intersection Summary		
HCM 2000 Control Delay	25.8	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.32	C
Actuated Cycle Length (s)	84.4	Sum of lost time (s)
Intersection Capacity Utilization	52.5%	24.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A



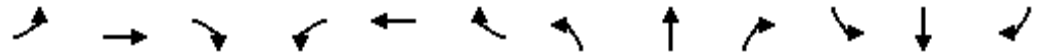
# HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program 17: W Ewing Street & Franklin Road

Existing 2015 PM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (vph)	1	4	4	134	98	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Grade (%)		-1%	2%		-4%	
Total Lost time (s)		6.0	6.0		6.0	
Lane Util. Factor		1.00	1.00		1.00	
Frt		1.00	0.87		1.00	
Flt Protected		0.99	1.00		0.95	
Satd. Flow (prot)		1857	1602		1770	
Flt Permitted		0.94	1.00		0.95	
Satd. Flow (perm)		1760	1602		1770	
Peak-hour factor, PHF	0.75	0.75	0.91	0.91	0.75	0.75
Adj. Flow (vph)	1	5	4	147	131	4
RTOR Reduction (vph)	0	0	107	0	2	0
Lane Group Flow (vph)	0	6	44	0	133	0
Heavy Vehicles (%)	2%	2%	2%	2%	4%	4%
Turn Type	Perm	NA	NA		Prot	
Protected Phases		4	4		3	
Permitted Phases	4					
Actuated Green, G (s)		10.0	10.0		15.0	
Effective Green, g (s)		10.0	10.0		15.0	
Actuated g/C Ratio		0.27	0.27		0.41	
Clearance Time (s)		6.0	6.0		6.0	
Vehicle Extension (s)		0.2	0.2		0.2	
Lane Grp Cap (vph)		475	432		717	
v/s Ratio Prot			c0.03		c0.07	
v/s Ratio Perm		0.00				
v/c Ratio		0.01	0.10		0.18	
Uniform Delay, d1		9.9	10.1		7.1	
Progression Factor		1.00	1.00		1.00	
Incremental Delay, d2		0.0	0.0		0.0	
Delay (s)		9.9	10.2		7.1	
Level of Service		A	B		A	
Approach Delay (s)		9.9	10.2		7.1	
Approach LOS		A	B		A	
<b>Intersection Summary</b>						
HCM 2000 Control Delay			8.8		HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio			0.15			
Actuated Cycle Length (s)			37.0		Sum of lost time (s)	12.0
Intersection Capacity Utilization			31.0%		ICU Level of Service	A
Analysis Period (min)			15			
c Critical Lane Group						

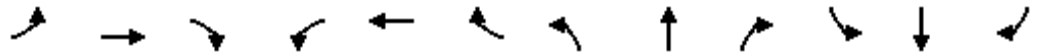
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 18: S Ellington Parkway & Higgs Road Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕		↖		↗	↖	↕		↖	↕	
Volume (vph)	0	0	1	43	0	52	1	251	5	17	403	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		0%			-2%			-1%				-1%
Total Lost time (s)		6.0		6.0		6.0	6.0	6.0		5.5	6.0	
Lane Util. Factor		1.00		1.00		1.00	1.00	0.95		1.00	0.95	
Frt		0.86		1.00		0.85	1.00	1.00		1.00	1.00	
Flt Protected		1.00		0.95		1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1611		1720		1539	1761	3511		1778	3556	
Flt Permitted		1.00		0.95		1.00	0.49	1.00		0.48	1.00	
Satd. Flow (perm)		1611		1720		1539	904	3511		907	3556	
Peak-hour factor, PHF	0.75	0.75	0.75	0.77	0.77	0.77	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	0	0	1	56	0	68	1	285	6	19	458	1
RTOR Reduction (vph)	0	1	0	0	0	63	0	1	0	0	0	0
Lane Group Flow (vph)	0	0	0	56	0	5	1	290	0	19	459	0
Heavy Vehicles (%)	2%	2%	2%	6%	6%	6%	3%	3%	3%	2%	2%	2%
Turn Type		NA		Prot		Prot	Perm	NA		pm+pt	NA	
Protected Phases		3		4		4		6		5	2	
Permitted Phases	3						6			2		
Actuated Green, G (s)		22.1		6.7		6.7	29.8	29.8		36.6	36.6	
Effective Green, g (s)		22.1		6.7		6.7	29.8	29.8		36.6	36.6	
Actuated g/C Ratio		0.26		0.08		0.08	0.36	0.36		0.44	0.44	
Clearance Time (s)		6.0		6.0		6.0	6.0	6.0		5.5	6.0	
Vehicle Extension (s)		3.0		3.0		3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		426		138		123	323	1254		411	1560	
v/s Ratio Prot		c0.00		c0.03		0.00		0.08		0.00	c0.13	
v/s Ratio Perm							0.00			0.02		
v/c Ratio		0.00		0.41		0.04	0.00	0.23		0.05	0.29	
Uniform Delay, d1		22.5		36.5		35.4	17.2	18.8		13.5	15.1	
Progression Factor		1.00		1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		0.0		1.9		0.1	0.0	0.4		0.0	0.5	
Delay (s)		22.5		38.4		35.5	17.3	19.2		13.5	15.6	
Level of Service		C		D		D	B	B		B	B	
Approach Delay (s)		22.5			36.8			19.2			15.5	
Approach LOS		C			D			B			B	

Intersection Summary		
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.23	B
Actuated Cycle Length (s)	83.4	Sum of lost time (s)
Intersection Capacity Utilization	35.0%	23.5
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

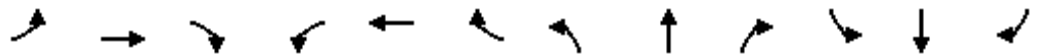
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 19: N 2nd Avenue / US-431 Business & Water Street Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	14	9	9	7	6	5	7	68	2	11	204	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-2%			1%			-7%			-2%	
Total Lost time (s)		6.0			6.0			6.0			6.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.96			0.96			1.00			0.99	
Flt Protected		0.98			0.98			1.00			1.00	
Satd. Flow (prot)		1771			1621			1914			1860	
Flt Permitted		0.85			0.86			0.95			0.98	
Satd. Flow (perm)		1532			1417			1818			1829	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.83	0.83	0.83
Adj. Flow (vph)	19	12	12	9	8	7	9	85	2	13	246	19
RTOR Reduction (vph)	0	10	0	0	6	0	0	1	0	0	10	0
Lane Group Flow (vph)	0	33	0	0	18	0	0	95	0	0	268	0
Heavy Vehicles (%)	2%	2%	2%	10%	10%	10%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		5.0			5.0			10.0			10.0	
Effective Green, g (s)		5.0			5.0			10.0			10.0	
Actuated g/C Ratio		0.19			0.19			0.37			0.37	
Clearance Time (s)		6.0			6.0			6.0			6.0	
Vehicle Extension (s)		4.0			4.0			2.5			2.5	
Lane Grp Cap (vph)		283			262			673			677	
v/s Ratio Prot												
v/s Ratio Perm		c0.02			0.01			0.05			c0.15	
v/c Ratio		0.12			0.07			0.14			0.40	
Uniform Delay, d1		9.2			9.1			5.6			6.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.8			0.5			0.4			1.7	
Delay (s)		10.0			9.6			6.1			8.0	
Level of Service		B			A			A			A	
Approach Delay (s)		10.0			9.6			6.1			8.0	
Approach LOS		B			A			A			A	

Intersection Summary		
HCM 2000 Control Delay	7.9	HCM 2000 Level of Service
HCM 2000 Volume to Capacity ratio	0.30	A
Actuated Cycle Length (s)	27.0	Sum of lost time (s)
Intersection Capacity Utilization	28.4%	12.0
Analysis Period (min)	15	ICU Level of Service
c Critical Lane Group		A

HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 21: N 2nd Avenue / US-431 Business & College Street Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	11	0	2	9	0	3	6	80	0	3	213	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-4%			4%			1%				-1%
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.98			0.97			1.00			0.99	
Flt Protected		0.96			0.96			1.00			1.00	
Satd. Flow (prot)		1783			1700			1847			1848	
Flt Permitted		1.00			0.82			0.98			1.00	
Satd. Flow (perm)		1857			1455			1815			1846	
Peak-hour factor, PHF	0.75	0.75	0.75	0.75	0.75	0.75	0.90	0.90	0.90	0.84	0.84	0.84
Adj. Flow (vph)	15	0	3	12	0	4	7	89	0	4	254	25
RTOR Reduction (vph)	0	17	0	0	13	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	1	0	0	3	0	0	96	0	0	279	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		3			4			2			2	
Permitted Phases	3			4			2			2		
Actuated Green, G (s)		1.6			10.1			30.3			30.3	
Effective Green, g (s)		1.6			10.1			30.3			30.3	
Actuated g/C Ratio		0.03			0.18			0.53			0.53	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		4.0			4.0			5.0			5.0	
Lane Grp Cap (vph)		52			257			964			981	
v/s Ratio Prot												
v/s Ratio Perm		c0.00			c0.00			0.05			c0.15	
v/c Ratio		0.01			0.01			0.10			0.28	
Uniform Delay, d1		26.9			19.3			6.6			7.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.0			0.1			0.3	
Delay (s)		27.0			19.4			6.7			7.7	
Level of Service		C			B			A			A	
Approach Delay (s)		27.0			19.4			6.7			7.7	
Approach LOS		C			B			A			A	

**Intersection Summary**

HCM 2000 Control Delay	8.8	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.21		
Actuated Cycle Length (s)	57.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	41.7%	ICU Level of Service	A
Analysis Period (min)	15		

c Critical Lane Group

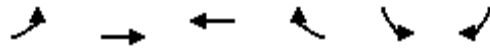
HCM Signalized Intersection Capacity Analysis of Lewisburg Signal Timing Optimization Program  
 23: Heil Quaker Avenue/Franklin Road & Dodson Drive/Franklin Avenue Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (vph)	4	4	1	46	0	29	3	91	73	55	149	7
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		2%			-2%			1%			1%	
Total Lost time (s)		7.0			7.0			7.0			7.0	
Lane Util. Factor		1.00			1.00			1.00			1.00	
Frt		0.99			0.95			0.94			1.00	
Flt Protected		0.98			0.97			1.00			0.99	
Satd. Flow (prot)		1781			1714			1702			1753	
Flt Permitted		0.81			0.81			1.00			0.88	
Satd. Flow (perm)		1476			1423			1696			1568	
Peak-hour factor, PHF	0.83	0.83	0.83	0.82	0.82	0.82	0.89	1.00	0.89	0.75	0.75	0.75
Adj. Flow (vph)	5	5	1	56	0	35	3	91	82	73	199	9
RTOR Reduction (vph)	0	1	0	0	66	0	0	30	0	0	1	0
Lane Group Flow (vph)	0	10	0	0	25	0	0	146	0	0	280	0
Heavy Vehicles (%)	2%	2%	2%	3%	3%	3%	4%	4%	4%	6%	6%	6%
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			4			2			2	
Permitted Phases	4			4			2			2		
Actuated Green, G (s)		5.8			5.8			34.7			34.7	
Effective Green, g (s)		5.8			5.8			34.7			34.7	
Actuated g/C Ratio		0.11			0.11			0.64			0.64	
Clearance Time (s)		7.0			7.0			7.0			7.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		157			151			1079			998	
v/s Ratio Prot												
v/s Ratio Perm		0.01			0.02			0.09			0.18	
v/c Ratio		0.06			0.16			0.14			0.28	
Uniform Delay, d1		21.9			22.1			3.9			4.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.5			0.1			0.2	
Delay (s)		22.1			22.7			4.0			4.5	
Level of Service		C			C			A			A	
Approach Delay (s)		22.1			22.7			4.0			4.5	
Approach LOS		C			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2000 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.26		
Actuated Cycle Length (s)	54.5	Sum of lost time (s)	14.0
Intersection Capacity Utilization	60.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 42: W Commerce Street Existing 2015 PM

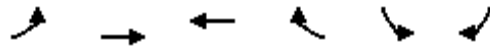


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑				↗
Volume (veh/h)	0	0	0	0	0	0
Sign Control		Stop	Stop		Free	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type					None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	0	0	0	0	0	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	0	0	0	0	0	
tC, single (s)	7.1	6.5	6.5	6.2	4.1	
tC, 2 stage (s)						
tF (s)	3.5	4.0	4.0	3.3	2.2	
p0 queue free %	100	100	100	100	100	
cM capacity (veh/h)	1023	896	896	1085	1623	

Direction, Lane #	EB 1	SB 1
Volume Total	0	0
Volume Left	0	0
Volume Right	0	0
cSH	1700	1700
Volume to Capacity	0.00	0.00
Queue Length 95th (ft)	0	0
Control Delay (s)	0.0	0.0
Lane LOS	A	
Approach Delay (s)	0.0	0.0
Approach LOS	A	

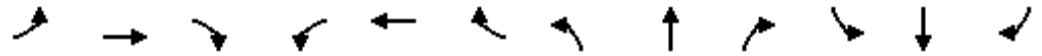
Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization	6.7%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 58: E Commerce Street Existing 2015 PM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑		↗		
Sign Control		Stop	Stop		Stop	
Volume (vph)	0	0	0	0	0	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	0	0	0	0
Direction, Lane #	EB 1	WB 1				
Volume Total (vph)	0	0				
Volume Left (vph)	0	0				
Volume Right (vph)	0	0				
Hadj (s)	0.00	0.00				
Departure Headway (s)	3.9	3.9				
Degree Utilization, x	0.00	0.00				
Capacity (veh/h)	917	917				
Control Delay (s)	6.9	6.9				
Approach Delay (s)	0.0	0.0				
Approach LOS	A	A				
Intersection Summary						
Delay			0.0			
Level of Service			A			
Intersection Capacity Utilization			6.7%	ICU Level of Service	A	
Analysis Period (min)			15			

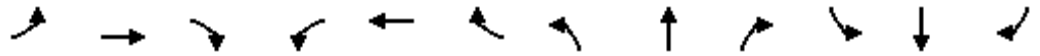
HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 101: W Ellington Parkway & Old Columbia Road/Jason Maxwell Boulevard Existing 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕	↗		↕	↗		↕↗			↕	↗
Volume (veh/h)	5	5	4	5	4	54	11	138	8	43	201	7
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.83	0.83	0.83	0.88	0.88	0.88	0.90	0.90	0.90
Hourly flow rate (vph)	7	7	5	6	5	65	12	157	9	48	223	8
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			3			4						
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	508	510	223	509	505	161	223			166		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	508	510	223	509	505	161	223			166		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	98	99	99	99	99	93	99			97		
cM capacity (veh/h)	423	447	816	451	449	884	1345			1406		
<b>Direction, Lane #</b>												
	EB 1	WB 1	NB 1	SB 1	SB 2							
Volume Total	19	76	178	271	8							
Volume Left	7	6	12	48	0							
Volume Right	5	65	9	0	8							
cSH	609	1031	1345	1406	1700							
Volume to Capacity	0.03	0.07	0.01	0.03	0.00							
Queue Length 95th (ft)	2	6	1	3	0							
Control Delay (s)	12.4	9.9	0.6	1.6	0.0							
Lane LOS	B	A	A	A								
Approach Delay (s)	12.4	9.9	0.6	1.6								
Approach LOS	B	A										
<b>Intersection Summary</b>												
Average Delay			2.8									
Intersection Capacity Utilization			35.3%		ICU Level of Service		A					
Analysis Period (min)			15									

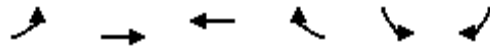


HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 102: Freeman Drive/W Ellington Parkway & Mooreville Highway/W Commerce Street  
 East 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	53	142	6	23	161	110	7	10	16	171	13	83
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.88	0.88	0.88	0.92	0.92	0.92	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	60	161	7	25	175	120	9	13	21	228	17	111
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												5
Median type		TWLTL			TWLTL							
Median storage (veh)		2			2							
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	295			168			571	626	161	595	573	235
vC1, stage 1 conf vol							282	282		285	285	
vC2, stage 2 conf vol							289	345		310	289	
vCu, unblocked vol	295			168			571	626	161	595	573	235
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)							6.1	5.5		6.1	5.5	
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	95			98			98	97	98	58	97	86
cM capacity (veh/h)	1250			1397			489	508	881	546	545	804
Direction, Lane #	EB 1	EB 2	EB 3	WB 1	WB 2	NB 1	SB 1					
Volume Total	60	161	7	25	295	44	356					
Volume Left	60	0	0	25	0	9	228					
Volume Right	0	0	7	0	120	21	111					
cSH	1250	1700	1700	1397	1700	633	792					
Volume to Capacity	0.05	0.09	0.00	0.02	0.17	0.07	0.45					
Queue Length 95th (ft)	4	0	0	1	0	6	59					
Control Delay (s)	8.0	0.0	0.0	7.6	0.0	11.1	14.8					
Lane LOS	A			A		B	B					
Approach Delay (s)	2.1			0.6		11.1	14.8					
Approach LOS						B	B					
<b>Intersection Summary</b>												
Average Delay				6.8								
Intersection Capacity Utilization			45.3%			ICU Level of Service			A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 103: E Commerce Street & Armory Drive Existing 2015 PM

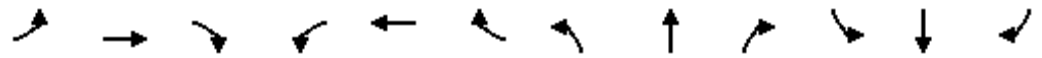


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	19	278	449	2	0	26
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.95	0.95	0.82	0.82	0.75	0.75
Hourly flow rate (vph)	20	293	548	2	0	35
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		TWLTL	None			
Median storage veh		2				
Upstream signal (ft)		1168				
pX, platoon unblocked						
vC, conflicting volume	550				735	549
vC1, stage 1 conf vol					549	
vC2, stage 2 conf vol					186	
vCu, unblocked vol	550				735	549
tC, single (s)	4.2				6.8	6.9
tC, 2 stage (s)					5.8	
tF (s)	2.2				3.5	3.3
p0 queue free %	98				100	93
cM capacity (veh/h)	995				509	480

Direction, Lane #	EB 1	EB 2	EB 3	WB 1	SB 1
Volume Total	20	146	146	550	35
Volume Left	20	0	0	0	0
Volume Right	0	0	0	2	35
cSH	995	1700	1700	1700	480
Volume to Capacity	0.02	0.09	0.09	0.32	0.07
Queue Length 95th (ft)	2	0	0	0	6
Control Delay (s)	8.7	0.0	0.0	0.0	13.1
Lane LOS	A				B
Approach Delay (s)	0.6			0.0	13.1
Approach LOS					B

Intersection Summary			
Average Delay		0.7	
Intersection Capacity Utilization	33.8%		ICU Level of Service A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 104: S Ellington Parkway & Springplace Road/Ostella Road Existing 2015 PM

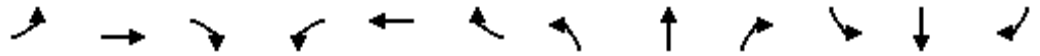


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔	↔		↔	↔	↔	↕↔		↔	↕↔	
Volume (veh/h)	27	11	17	13	14	37	62	214	10	56	369	456
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.86	0.86	0.86	0.84	0.84	0.84	0.97	0.97	0.97	0.90	0.90	0.90
Hourly flow rate (vph)	31	13	20	15	17	44	64	221	10	62	410	507
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)			4			4						
Median type								TWLTL			TWLTL	
Median storage (veh)								2			2	
Upstream signal (ft)											917	
pX, platoon unblocked	0.97	0.97	0.97	0.97	0.97		0.97					
vC, conflicting volume	1034	1147	458	699	1395	115	917			231		
vC1, stage 1 conf vol	788	788		354	354							
vC2, stage 2 conf vol	246	359		346	1041							
vCu, unblocked vol	972	1088	378	627	1344	115	851			231		
tC, single (s)	7.5	6.5	6.9	7.6	6.6	7.0	4.1			4.1		
tC, 2 stage (s)	6.5	5.5		6.6	5.6							
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	90	96	97	97	92	95	92			95		
cM capacity (veh/h)	322	345	601	463	221	905	759			1334		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	NB 3	SB 1	SB 2	SB 3
Volume Total	64	76	64	147	84	62	273	643
Volume Left	31	15	64	0	0	62	0	0
Volume Right	20	44	0	0	10	0	0	507
cSH	476	801	759	1700	1700	1334	1700	1700
Volume to Capacity	0.13	0.10	0.08	0.09	0.05	0.05	0.16	0.38
Queue Length 95th (ft)	12	8	7	0	0	4	0	0
Control Delay (s)	15.6	12.4	10.2	0.0	0.0	7.8	0.0	0.0
Lane LOS	C	B	B			A		
Approach Delay (s)	15.6	12.4	2.2			0.5		
Approach LOS	C	B						

















Intersection Summary		
Average Delay		2.2
Intersection Capacity Utilization	47.0%	ICU Level of Service A
Analysis Period (min)		15

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 105: N Church Street/Driveway & Franklin Avenue Existing 2015 PM

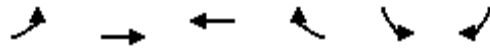


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	15	68	15	5	45	10	23	2	6	8	3	10
Peak Hour Factor	0.89	0.89	0.89	0.83	0.83	0.83	0.75	0.75	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	17	76	17	6	54	12	31	3	8	11	4	13
Direction, Lane #	EB 1	WB 1	NB 1	SB 1								
Volume Total (vph)	110	72	41	28								
Volume Left (vph)	17	6	31	11								
Volume Right (vph)	17	12	8	13								
Hadj (s)	-0.03	-0.05	0.07	-0.18								
Departure Headway (s)	4.1	4.1	4.4	4.2								
Degree Utilization, x	0.13	0.08	0.05	0.03								
Capacity (veh/h)	857	853	778	822								
Control Delay (s)	7.7	7.5	7.6	7.3								
Approach Delay (s)	7.7	7.5	7.6	7.3								
Approach LOS	A	A	A	A								
Intersection Summary												
Delay			7.6									
Level of Service			A									
Intersection Capacity Utilization			18.6%	ICU Level of Service	A							
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 106: N First Avenue & Driveway Existing 2015 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	0	0	1	108	0	0	25	0
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.83	0.83	0.83	0.75	0.75	0.75
Hourly flow rate (vph)	0	0	0	0	0	0	1	130	0	0	33	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	0			0			17	0	0	65	0	0
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	0			0			17	0	0	65	0	0
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	85	100	100	96	100
cM capacity (veh/h)	1623			1623			970	896	1085	825	896	1085
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	0	0	131	33								
Volume Left	0	0	1	0								
Volume Right	0	0	0	0								
cSH	1700	1700	897	896								
Volume to Capacity	0.00	0.00	0.15	0.04								
Queue Length 95th (ft)	0	0	13	3								
Control Delay (s)	0.0	0.0	9.7	9.2								
Lane LOS			A	A								
Approach Delay (s)	0.0	0.0	9.7	9.2								
Approach LOS			A	A								
<b>Intersection Summary</b>												
Average Delay			9.6									
Intersection Capacity Utilization			9.8%		ICU Level of Service				A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 107: US-31 Alt Business & S Ellington Parkway Existing 2015 PM



















Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations	↖	↑	↗	↑	↖	↗
Volume (veh/h)	83	133	68	111	239	90
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.83	0.83	0.84	0.84	0.95	0.95
Hourly flow rate (vph)	100	160	81	132	252	95
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						11
Median type		None	None			
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	81				441	81
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	81				441	81
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	93				53	90
cM capacity (veh/h)	1517				536	979

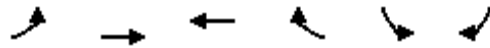
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	SB 1
Volume Total	100	160	81	132	346
Volume Left	100	0	0	0	252
Volume Right	0	0	0	132	95
cSH	1517	1700	1700	1700	737
Volume to Capacity	0.07	0.09	0.05	0.08	0.47
Queue Length 95th (ft)	5	0	0	0	63
Control Delay (s)	7.5	0.0	0.0	0.0	15.2
Lane LOS	A				C
Approach Delay (s)	2.9		0.0		15.2
Approach LOS					C

Intersection Summary					
Average Delay			7.3		
Intersection Capacity Utilization			31.2%	ICU Level of Service	A
Analysis Period (min)			15		

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 108: Heil Quaker Avenue & International Products Entrance Existing 2015 PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	39	0	28	16	0	18	2	55	2	6	88	1
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	1.00	0.82	0.82	0.82	0.75	0.75	0.75
Hourly flow rate (vph)	52	0	37	21	0	18	2	67	2	8	117	1
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	225	208	118	245	208	68	119			70		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	225	208	118	245	208	68	119			70		
tC, single (s)	7.1	6.5	6.2	7.2	6.7	6.4	4.2			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.3			2.3		
p0 queue free %	93	100	96	97	100	98	100			99		
cM capacity (veh/h)	713	684	934	652	662	960	1439			1494		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>SB 1</b>								
Volume Total	89	39	72	127								
Volume Left	52	21	2	8								
Volume Right	37	18	2	1								
cSH	791	764	1439	1494								
Volume to Capacity	0.11	0.05	0.00	0.01								
Queue Length 95th (ft)	10	4	0	0								
Control Delay (s)	10.1	10.0	0.3	0.5								
Lane LOS	B	A	A	A								
Approach Delay (s)	10.1	10.0	0.3	0.5								
Approach LOS	B	A										
<b>Intersection Summary</b>												
Average Delay			4.2									
Intersection Capacity Utilization			19.2%		ICU Level of Service					A		
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 109: Old Belfast Road & Nichirin Tennessee, Inc. Existing 2015 PM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Volume (veh/h)	19	8	38	18	7	24
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.78	0.78	0.75	0.75	0.75	0.75
Hourly flow rate (vph)	24	10	51	24	9	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	75				122	63
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	75				122	63
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	98				99	97
cM capacity (veh/h)	1512				857	999

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	35	75	41
Volume Left	24	0	9
Volume Right	0	24	32
cSH	1512	1700	963
Volume to Capacity	0.02	0.04	0.04
Queue Length 95th (ft)	1	0	3
Control Delay (s)	5.3	0.0	8.9
Lane LOS	A		A
Approach Delay (s)	5.3	0.0	8.9
Approach LOS			A

Intersection Summary			
Average Delay		3.7	
Intersection Capacity Utilization		18.1%	ICU Level of Service A
Analysis Period (min)		15	



**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	W Commerce Street (SR 373)	Approach Lanes - Major? (1 or 2)	2	
Minor Street:	Heil Quaker Avenue	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Figure 4C-1	Minor Delay	Minor Volume	Total Intrctn
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
07:00 AM TO 08:00 AM	925	99	154%	66%	103%	132%	193%	83%	128%	165%	59%				31%	
08:00 AM TO 09:00 AM	504	32	84%	21%	56%	43%	105%	27%	70%	53%	9%				1%	
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 AM TO 11:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 AM TO 12:00 PM	608	57	101%	38%	68%	76%	127%	48%	84%	95%	20%				12%	
12:00 PM TO 01:00 PM	566	65	94%	43%	63%	87%	118%	54%	79%	108%	21%				4%	
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 PM TO 04:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 PM TO 05:00 PM	947	101	158%	67%	105%	135%	197%	84%	132%	168%	62%				33%	
05:00 PM TO 06:00 PM	799	70	133%	47%	89%	93%	166%	58%	111%	117%	35%				19%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source: MUTCD, 2009 Edition			Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By: Kimley-Horn and Associates, Inc.			600	150	900	75	480	120	720	60	4C-1 and 4C-2				4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	0	TOTAL	2	TOTAL	0	TOTAL	3	TOTAL	0	TOTAL	0	TOTAL	0
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO

COMMENTS/NOTES:	COMMENTS/NOTES:
Existing signal, appears warranted.	


**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	W Commerce Street (SR 373)	Approach Lanes - Major? (1 or 2)	2	
Minor Street:	8th Avenue S	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B
			Major Street	Minor Street	Major Street	Minor Street	80%		80%		Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn	Figure 4C-3
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM	397	90	66%	60%	44%	120%	83%	75%	55%	150%	23%				3%
07:00 AM TO 08:00 AM	740	237	123%	158%	82%	316%	154%	198%	103%	395%	103%				60%
08:00 AM TO 09:00 AM	507	89	85%	59%	56%	119%	106%	74%	70%	148%	26%				3%
09:00 AM TO 10:00 AM	490	77	82%	51%	54%	103%	102%	64%	68%	128%	22%				2%
10:00 AM TO 11:00 AM	503	78	84%	52%	56%	104%	105%	65%	70%	130%	23%				2%
11:00 AM TO 12:00 PM	564	74	94%	49%	63%	99%	118%	62%	78%	123%	24%				5%
12:00 PM TO 01:00 PM	608	113	101%	75%	68%	151%	127%	94%	84%	188%	39%				25%
01:00 PM TO 02:00 PM	544	120	91%	80%	60%	160%	113%	100%	76%	200%	38%				5%
02:00 PM TO 03:00 PM	729	129	122%	86%	81%	172%	152%	108%	101%	215%	55%				32%
03:00 PM TO 04:00 PM	950	157	158%	105%	106%	209%	198%	131%	132%	262%	96%				51%
04:00 PM TO 05:00 PM	818	143	136%	95%	91%	191%	170%	119%	114%	238%	73%				40%
05:00 PM TO 06:00 PM	779	146	130%	97%	87%	195%	162%	122%	108%	243%	69%				39%
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
Source: MUTCD, 2009 Edition			Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure
Created By: Kimley-Horn and Associates, Inc.			600	150	900	75	480	120	720	60	4C-1 and 4C-2	Summary			4C-3 and 4C-4
			Summary		Summary		Summary		Summary		TOTAL	TOTAL			TOTAL
			TOTAL	2	TOTAL	1	TOTAL	6	TOTAL	5	1	0			0
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	Met?			Met?

COMMENTS/NOTES:	COMMENTS/NOTES:
Existing signal, appears warranted.	

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: 
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	W Commerce Street (SR 373)	Approach Lanes - Major? (1 or 2)	2	
Minor Street:	5th Avenue	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2 100% Figure 4C-1	Warrant 3, Condition A 100%			Warrant 3, Condition B 100% Figure 4C-3	
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street		Minor Delay	Minor Volume	Total Intrctn		
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 AM TO 07:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 AM TO 08:00 AM	574	33	96%	22%	64%	44%	120%	28%	80%	55%	11%				3%	
08:00 AM TO 09:00 AM	429	36	72%	24%	48%	48%	89%	30%	60%	60%	10%				1%	
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 AM TO 11:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 AM TO 12:00 PM	556	55	93%	37%	62%	73%	116%	46%	77%	92%	18%				3%	
12:00 PM TO 01:00 PM	559	60	93%	40%	62%	80%	116%	50%	78%	100%	19%				3%	
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 PM TO 04:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 PM TO 05:00 PM	814	83	136%	55%	90%	111%	170%	69%	113%	138%	42%				23%	
05:00 PM TO 06:00 PM	666	59	111%	39%	74%	79%	139%	49%	93%	98%	22%				14%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source: MUTCD, 2009 Edition			Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By: Kimley-Horn and Associates, Inc.			600	150	900	75	480	120	720	60	4C-1 and 4C-2				4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	1	TOTAL	0	TOTAL		TOTAL	0
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?		Met?	NO

COMMENTS/NOTES: Existing signal, may be warranted. At grade railroad crossing.	COMMENTS/NOTES:


**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	W Commerce Street (SR 373)	Approach Lanes - Major? (1 or 2)	2	
Minor Street:	N 3rd Avenue / Franklin Road	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM	326	54	54%	36%	36%	72%	68%	45%	45%	90%	14%					2%
07:00 AM TO 08:00 AM	509	160	85%	107%	57%	213%	106%	133%	71%	267%	48%					5%
08:00 AM TO 09:00 AM	419	126	70%	84%	47%	168%	87%	105%	58%	210%	33%					4%
09:00 AM TO 10:00 AM	431	103	72%	69%	48%	137%	90%	86%	60%	172%	27%					3%
10:00 AM TO 11:00 AM	442	103	74%	69%	49%	137%	92%	86%	61%	172%	28%					3%
11:00 AM TO 12:00 PM	489	147	82%	98%	54%	196%	102%	123%	68%	245%	42%					4%
12:00 PM TO 01:00 PM	543	131	91%	87%	60%	175%	113%	109%	75%	218%	41%					6%
01:00 PM TO 02:00 PM	467	117	78%	78%	52%	156%	97%	98%	65%	195%	33%					3%
02:00 PM TO 03:00 PM	572	141	95%	94%	64%	188%	119%	118%	79%	235%	46%					11%
03:00 PM TO 04:00 PM	728	172	121%	115%	81%	229%	152%	143%	101%	287%	73%					43%
04:00 PM TO 05:00 PM	647	160	108%	107%	72%	213%	135%	133%	90%	267%	59%					36%
05:00 PM TO 06:00 PM	570	134	95%	89%	63%	179%	119%	112%	79%	223%	44%					10%
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%					0%
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%					0%
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%					0%
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%					0%
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%					0%
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%					0%
Source:	MUTCD, 2009 Edition		Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By:	Kimley-Horn and Associates, Inc.		600	150	900	75	480	120	720	60	4C-1 and 4C-2				4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	2	TOTAL	0	TOTAL	7	TOTAL	1	TOTAL	0	TOTAL	0	TOTAL	0
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO

COMMENTS/NOTES:	COMMENTS/NOTES:
Existing signal. Warranted 7 of 8 hours.	


**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: 
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	E Commerce Street (SR 50)	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	Legion Avenue / Martin Avenue	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM	197	46	39%	31%	26%	61%	49%	38%	33%	77%	15%				11%	
07:00 AM TO 08:00 AM	292	61	58%	41%	39%	81%	73%	51%	49%	102%	20%				15%	
08:00 AM TO 09:00 AM	274	55	55%	37%	37%	73%	69%	46%	46%	92%	18%				13%	
09:00 AM TO 10:00 AM	331	57	66%	38%	44%	76%	83%	48%	55%	95%	18%				14%	
10:00 AM TO 11:00 AM	372	57	74%	38%	50%	76%	93%	48%	62%	95%	18%				14%	
11:00 AM TO 12:00 PM	372	75	74%	50%	50%	100%	93%	63%	62%	125%	24%				18%	
12:00 PM TO 01:00 PM	393	76	79%	51%	52%	101%	98%	63%	66%	127%	25%				18%	
01:00 PM TO 02:00 PM	367	83	73%	55%	49%	111%	92%	69%	61%	138%	27%				20%	
02:00 PM TO 03:00 PM	440	91	88%	61%	59%	121%	110%	76%	73%	152%	31%				22%	
03:00 PM TO 04:00 PM	484	107	97%	71%	65%	143%	121%	89%	81%	178%	40%				25%	
04:00 PM TO 05:00 PM	449	96	90%	64%	60%	128%	112%	80%	75%	160%	34%				23%	
05:00 PM TO 06:00 PM	381	64	76%	43%	51%	85%	95%	53%	64%	107%	21%				15%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source: MUTCD, 2009 Edition			Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By: Kimley-Horn and Associates, Inc.			500	150	750	75	400	120	600	60	4C-1 and 4C-2				4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO

COMMENTS/NOTES: Existing signal. Not warranted.	COMMENTS/NOTES:

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: 
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	E Commerce Street (SR 50) / Fayetteville Highway	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	Creekside Drive / Garrett Parkway	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	80%		80%		Figure 4C-1	Minor Delay	Minor Volume	Total Intrctn	Figure 4C-3	
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 AM TO 07:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 AM TO 08:00 AM	515	177	103%	118%	69%	236%	129%	148%	86%	295%	70%				43%	
08:00 AM TO 09:00 AM	358	69	72%	46%	48%	92%	90%	58%	60%	115%	22%				16%	
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 AM TO 11:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 AM TO 12:00 PM	450	168	90%	112%	60%	224%	113%	140%	75%	280%	59%				40%	
12:00 PM TO 01:00 PM	523	132	105%	88%	70%	176%	131%	110%	87%	220%	53%				33%	
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 PM TO 04:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 PM TO 05:00 PM	529	219	106%	146%	71%	292%	132%	183%	88%	365%	88%				54%	
05:00 PM TO 06:00 PM	429	109	86%	73%	57%	145%	107%	91%	72%	182%	37%				26%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By:	Kimley-Horn and Associates, Inc.		500	150	750	75	400	120	600	60	4C-1 and 4C-2				4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	2	TOTAL	0	TOTAL	4	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO

COMMENTS/NOTES:	COMMENTS/NOTES:
Existing signal, likely warranted.	


**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	W Ewing Street	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	Franklin Road	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B
			Major Street	Minor Street	Major Street	Minor Street	80%		80%		Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn	Figure 4C-3
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM	42	34	8%	23%	6%	45%	11%	28%	7%	57%	11%				8%
07:00 AM TO 08:00 AM	145	56	29%	37%	19%	75%	36%	47%	24%	93%	18%				13%
08:00 AM TO 09:00 AM	87	51	17%	34%	12%	68%	22%	43%	15%	85%	16%				12%
09:00 AM TO 10:00 AM	69	60	14%	40%	9%	80%	17%	50%	12%	100%	19%				14%
10:00 AM TO 11:00 AM	61	52	12%	35%	8%	69%	15%	43%	10%	87%	17%				12%
11:00 AM TO 12:00 PM	106	75	21%	50%	14%	100%	27%	63%	18%	125%	24%				18%
12:00 PM TO 01:00 PM	85	68	17%	45%	11%	91%	21%	57%	14%	113%	22%				16%
01:00 PM TO 02:00 PM	96	69	19%	46%	13%	92%	24%	58%	16%	115%	22%				16%
02:00 PM TO 03:00 PM	120	74	24%	49%	16%	99%	30%	62%	20%	123%	24%				18%
03:00 PM TO 04:00 PM	147	113	29%	75%	20%	151%	37%	94%	25%	188%	36%				27%
04:00 PM TO 05:00 PM	115	106	23%	71%	15%	141%	29%	88%	19%	177%	34%				25%
05:00 PM TO 06:00 PM	92	69	18%	46%	12%	92%	23%	58%	15%	115%	22%				16%
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
Source: MUTCD, 2009 Edition			Threshold 500 150		Threshold 750 75		Threshold 400 120		Threshold 600 60		MUTCD Figure 4C-1 and 4C-2	Warranting Volumes			MUTCD Figure 4C-3 and 4C-4
Created By: Kimley-Horn and Associates, Inc.			Summary		Summary		Summary		Summary		TOTAL 0	Summary			TOTAL 0
			TOTAL 0	TOTAL 0	TOTAL 0	TOTAL 0	TOTAL 0	TOTAL 0	TOTAL 0	Met? NO	TOTAL			Met? NO	
			Met? NO	Met? NO	Met? NO	Met? NO	Met? NO	Met? NO	Met? NO				Met? NO		

COMMENTS/NOTES: Existing signal, not warranted.	COMMENTS/NOTES:

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: 
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	US-31 Alt Business	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	W Ewing Street	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2 100% Figure 4C-1	Warrant 3, Condition A 100%			Warrant 3, Condition B 100% Figure 4C-3
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street		Major Street	Minor Street	Minor Delay	
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM	38	68	8%	45%	5%	91%	10%	57%	6%	113%	22%				16%
07:00 AM TO 08:00 AM	365	162	73%	108%	49%	216%	91%	135%	61%	270%	52%				39%
08:00 AM TO 09:00 AM	269	109	54%	73%	36%	145%	67%	91%	45%	182%	35%				26%
09:00 AM TO 10:00 AM	221	111	44%	74%	29%	148%	55%	93%	37%	185%	36%				26%
10:00 AM TO 11:00 AM	222	99	44%	66%	30%	132%	56%	83%	37%	165%	32%				24%
11:00 AM TO 12:00 PM	327	157	65%	105%	44%	209%	82%	131%	55%	262%	51%				37%
12:00 PM TO 01:00 PM	324	157	65%	105%	43%	209%	81%	131%	54%	262%	51%				37%
01:00 PM TO 02:00 PM	312	150	62%	100%	42%	200%	78%	125%	52%	250%	48%				36%
02:00 PM TO 03:00 PM	317	184	63%	123%	42%	245%	79%	153%	53%	307%	59%				44%
03:00 PM TO 04:00 PM	357	279	71%	186%	48%	372%	89%	233%	60%	465%	90%				66%
04:00 PM TO 05:00 PM	400	231	80%	154%	53%	308%	100%	193%	67%	385%	75%				55%
05:00 PM TO 06:00 PM	359	154	72%	103%	48%	205%	90%	128%	60%	257%	50%				37%
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
Source: MUTCD, 2009 Edition			Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure
Created By: Kimley-Horn and Associates, Inc.			500 150		750 75		400 120		600 60		4C-1 and 4C-2	Summary			4C-3 and 4C-4
			Summary		Summary		Summary		Summary			Summary			Summary
			TOTAL 0		TOTAL 0		TOTAL 1		TOTAL 0		TOTAL 0	TOTAL			TOTAL 0
			Met? NO		Met? NO		TOTAL 0		Met? NO		Met? NO	Met?			Met? NO

COMMENTS/NOTES: Existing signal, warranted 1 hour of 8.	COMMENTS/NOTES:



**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	Y	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	S Ellington Parkway (SR 11)	Approach Lanes - Major? (1 or 2)	2	
Minor Street:	Higgs Road	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 70%		Warrant 1, Condition B 70%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	70% Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM	580	44	138%	42%	92%	83%	121%	37%	81%	73%	32%				17%	
07:00 AM TO 08:00 AM	421	38	100%	36%	67%	72%	88%	32%	58%	63%	19%				12%	
08:00 AM TO 09:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 AM TO 11:00 AM	630	105	150%	100%	100%	198%	131%	88%	88%	175%	87%				45%	
11:00 AM TO 12:00 PM	596	89	142%	85%	95%	168%	124%	74%	83%	148%	68%				36%	
12:00 PM TO 01:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 PM TO 04:00 PM	658	108	157%	103%	104%	204%	137%	90%	91%	180%	96%				49%	
04:00 PM TO 05:00 PM	640	62	152%	59%	102%	117%	133%	52%	89%	103%	53%				27%	
05:00 PM TO 06:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold	420	105	Threshold	630	53	Threshold	480	120	MUTCD Figure	Warranting Volumes			MUTCD Figure
Created By:	Kimley-Horn and Associates, Inc.		Summary	TOTAL 2		Summary	TOTAL 3		Summary	TOTAL 0		4C-1 and 4C-2	Summary			4C-3 and 4C-4
			Met?	NO		Met?	NO		Met?	NO		Met?	Met?			Met?

COMMENTS/NOTES: Existing signal, appears warranted.	COMMENTS/NOTES:

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	N 2nd Avenue / US 431 Business	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	Water Street	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	80%		80%		Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn	Figure 4C-3	
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 AM TO 07:00 AM	60	12	12%	8%	8%	16%	15%	10%	10%	20%	4%				3%	
07:00 AM TO 08:00 AM	200	18	40%	12%	27%	24%	50%	15%	33%	30%	6%				4%	
08:00 AM TO 09:00 AM	202	22	40%	15%	27%	29%	51%	18%	34%	37%	7%				5%	
09:00 AM TO 10:00 AM	191	28	38%	19%	25%	37%	48%	23%	32%	47%	9%				7%	
10:00 AM TO 11:00 AM	206	50	41%	33%	27%	67%	52%	42%	34%	83%	16%				12%	
11:00 AM TO 12:00 PM	251	55	50%	37%	33%	73%	63%	46%	42%	92%	18%				13%	
12:00 PM TO 01:00 PM	270	38	54%	25%	36%	51%	68%	32%	45%	63%	12%				9%	
01:00 PM TO 02:00 PM	256	54	51%	36%	34%	72%	64%	45%	43%	90%	17%				13%	
02:00 PM TO 03:00 PM	253	49	51%	33%	34%	65%	63%	41%	42%	82%	16%				12%	
03:00 PM TO 04:00 PM	276	51	55%	34%	37%	68%	69%	43%	46%	85%	16%				12%	
04:00 PM TO 05:00 PM	309	54	62%	36%	41%	72%	77%	45%	52%	90%	17%				13%	
05:00 PM TO 06:00 PM	267	29	53%	19%	36%	39%	67%	24%	45%	48%	9%				7%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By:	Kimley-Horn and Associates, Inc.		500	150	750	75	400	120	600	60	4C-1 and 4C-2				4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL			0
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?			NO

COMMENTS/NOTES: Existing signal, not warranted.	COMMENTS/NOTES:

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	N 2nd Avenue / US 431 Business	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	College Street	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	100% Figure 4C-1	Minor Delay	Minor Volume
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM	199	29	40%	19%	27%	39%	50%	24%	33%	48%	9%				7%
07:00 AM TO 08:00 AM	229	27	46%	18%	31%	36%	57%	23%	38%	45%	9%				6%
08:00 AM TO 09:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
10:00 AM TO 11:00 AM	289	35	58%	23%	39%	47%	72%	29%	48%	58%	11%				8%
11:00 AM TO 12:00 PM	217	46	43%	31%	29%	61%	54%	38%	36%	77%	15%				11%
12:00 PM TO 01:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 PM TO 04:00 PM	313	56	63%	37%	42%	75%	78%	47%	52%	93%	18%				13%
04:00 PM TO 05:00 PM	293	38	59%	25%	39%	51%	73%	32%	49%	63%	12%				9%
05:00 PM TO 06:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
Source:	MUTCD, 2009 Edition		Threshold 500 150		Threshold 750 75		Threshold 400 120		Threshold 600 60		MUTCD Figure 4C-1 and 4C-2	Warranting Volumes			MUTCD Figure 4C-3 and 4C-4
Created By:	Kimley-Horn and Associates, Inc.		Summary		Summary		Summary		Summary		TOTAL 0	Summary			Summary
			TOTAL 0	TOTAL 0	TOTAL 0	TOTAL 0	TOTAL 0	TOTAL 0	TOTAL 0	Met? NO		TOTAL 0			TOTAL 0
			Met? NO	Met? NO	Met? NO	Met? NO	Met? NO	Met? NO	Met? NO			Met? NO			Met? NO

COMMENTS/NOTES: Existing signal, not warranted. Potential safety concerns.	COMMENTS/NOTES:

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	Franklin Road (SR 50) / Heil Quaker Avenue	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	Franklin Road (SR 50) / Dodson Drive	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A 100%			Warrant 3, Condition B 100%	
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM	126	56	25%	37%	17%	75%	32%	47%	21%	93%	18%				13%	
07:00 AM TO 08:00 AM	403	124	81%	83%	54%	165%	101%	103%	67%	207%	40%				30%	
08:00 AM TO 09:00 AM	152	38	30%	25%	20%	51%	38%	32%	25%	63%	12%				9%	
09:00 AM TO 10:00 AM	147	29	29%	19%	20%	39%	37%	24%	25%	48%	9%				7%	
10:00 AM TO 11:00 AM	146	39	29%	26%	19%	52%	37%	33%	24%	65%	13%				9%	
11:00 AM TO 12:00 PM	178	58	36%	39%	24%	77%	45%	48%	30%	97%	19%				14%	
12:00 PM TO 01:00 PM	183	69	37%	46%	24%	92%	46%	58%	31%	115%	22%				16%	
01:00 PM TO 02:00 PM	215	71	43%	47%	29%	95%	54%	59%	36%	118%	23%				17%	
02:00 PM TO 03:00 PM	326	80	65%	53%	43%	107%	82%	67%	54%	133%	26%				19%	
03:00 PM TO 04:00 PM	327	77	65%	51%	44%	103%	82%	64%	55%	128%	25%				18%	
04:00 PM TO 05:00 PM	303	90	61%	60%	40%	120%	76%	75%	51%	150%	29%				21%	
05:00 PM TO 06:00 PM	291	94	58%	63%	39%	125%	73%	78%	49%	157%	30%				22%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By:	Kimley-Horn and Associates, Inc.		500	150	750	75	400	120	600	60	4C-1 and 4C-2				4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	0	TOTAL	0	TOTAL	1	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0
			Met?	NO	Met?	NO	TOTAL	0	Met?	NO	Met?	NO	Met?	NO	Met?	NO

COMMENTS/NOTES:	COMMENTS/NOTES:
Existing signal, not warranted.	

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	Y	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	W Ellington Parkway (SR 417)	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	Old Columbia Road / Jason Maxwell Boulevard	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 70%		Warrant 1, Condition B 70%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	80%		80%		Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn	Figure 4C-3	
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 AM TO 07:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 AM TO 08:00 AM	699	249	200%	237%	133%	470%	175%	208%	117%	415%	356%				172%	
08:00 AM TO 09:00 AM	198	26	57%	25%	38%	49%	50%	22%	33%	43%	13%				10%	
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 AM TO 11:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 AM TO 12:00 PM	231	31	66%	30%	44%	58%	58%	26%	39%	52%	15%				12%	
12:00 PM TO 01:00 PM	233	34	67%	32%	44%	64%	58%	28%	39%	57%	17%				13%	
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 PM TO 04:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 PM TO 05:00 PM	404	58	115%	55%	77%	109%	101%	48%	67%	97%	36%				22%	
05:00 PM TO 06:00 PM	347	50	99%	48%	66%	94%	87%	42%	58%	83%	27%				19%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold	350	105	Threshold	525	53	Threshold	400	120	MUTCD Figure	Warranting Volumes			MUTCD Figure
Created By:	Kimley-Horn and Associates, Inc.		Summary	TOTAL 1		Summary	TOTAL 1		Summary	TOTAL 1		4C-1 and 4C-2	Summary			4C-3 and 4C-4
			Met?	NO		Met?	NO		Met?	NO		Met?	Met?			Met?

COMMENTS/NOTES:	COMMENTS/NOTES:
Flashing beacon. No signal warranted.	

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	Y	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	W Commerce Street / Mooreseville Highway (SR 373)	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	W Ellington Parkway (SR 417) / Freeman Drive	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 70%		Warrant 1, Condition B 70%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	80%		80%		Figure 4C-1	Minor Delay	Minor Volume	Total Intrctn	Figure 4C-3	
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
06:00 AM TO 07:00 AM	381	99	109%	94%	73%	187%	95%	83%	64%	165%	59%			38%		
07:00 AM TO 08:00 AM	703	185	201%	176%	134%	349%	176%	154%	117%	308%	264%			128%		
08:00 AM TO 09:00 AM	340	124	97%	118%	65%	234%	85%	103%	57%	207%	66%			48%		
09:00 AM TO 10:00 AM	276	100	79%	95%	53%	189%	69%	83%	46%	167%	49%			38%		
10:00 AM TO 11:00 AM	282	99	81%	94%	54%	187%	71%	83%	47%	165%	48%			38%		
11:00 AM TO 12:00 PM	302	134	86%	128%	58%	253%	76%	112%	50%	223%	66%			52%		
12:00 PM TO 01:00 PM	312	144	89%	137%	59%	272%	78%	120%	52%	240%	72%			55%		
01:00 PM TO 02:00 PM	294	162	84%	154%	56%	306%	74%	135%	49%	270%	79%			62%		
02:00 PM TO 03:00 PM	384	172	110%	164%	73%	325%	96%	143%	64%	287%	103%			66%		
03:00 PM TO 04:00 PM	495	300	141%	286%	94%	566%	124%	250%	83%	500%	236%			135%		
04:00 PM TO 05:00 PM	486	257	139%	245%	93%	485%	122%	214%	81%	428%	198%			114%		
05:00 PM TO 06:00 PM	497	239	142%	228%	95%	451%	124%	199%	83%	398%	190%			108%		
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%			0%		
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%			0%		
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%			0%		
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%			0%		
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%			0%		
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%			0%		
Source:	MUTCD, 2009 Edition		Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By:	Kimley-Horn and Associates, Inc.		350	105	525	53	400	120	600	60	4C-1 and 4C-2	Summary			4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	5	TOTAL	1	TOTAL	4	TOTAL	1	TOTAL	5	TOTAL		TOTAL	4
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	YES	Met?		Met?	YES

COMMENTS/NOTES:	COMMENTS/NOTES:
Flashing beacon.	
Signal warranted.	

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	E Commerce Street (SR 50) / Fayetteville Highway	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	Armory Drive	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A 100%			Warrant 3, Condition B 100%	
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 AM TO 07:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 AM TO 08:00 AM	851	21	170%	14%	113%	28%	213%	18%	142%	35%	16%				8%	
08:00 AM TO 09:00 AM	500	20	100%	13%	67%	27%	125%	17%	83%	33%	8%				5%	
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 AM TO 11:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 AM TO 12:00 PM	651	5	130%	3%	87%	7%	163%	4%	109%	8%	3%				1%	
12:00 PM TO 01:00 PM	719	9	144%	6%	96%	12%	180%	8%	120%	15%	5%				3%	
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 PM TO 04:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 PM TO 05:00 PM	748	26	150%	17%	99%	35%	187%	22%	125%	43%	16%				8%	
05:00 PM TO 06:00 PM	612	17	122%	11%	82%	23%	153%	14%	102%	28%	8%				5%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold	500	150	Threshold	750	75	Threshold	400	120	MUTCD Figure	Warranting Volumes			MUTCD Figure
Created By:	Kimley-Horn and Associates, Inc.		Summary	TOTAL 0		Summary	TOTAL 0		Summary	TOTAL 0		4C-1 and 4C-2	Summary			4C-3 and 4C-4
			Met?	NO		Met?	NO		Met?	NO		Met?	Met?			Met?

COMMENTS/NOTES:	COMMENTS/NOTES:
Flashing beacon. No signal warranted.	

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	Y	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	S Ellington Parkway (SR 11)	Approach Lanes - Major? (1 or 2)	2	
Minor Street:	Springplace Road / Ostella Road (SR 272)	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 70%		Warrant 1, Condition B 70%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	80%		80%		Figure 4C-1	Minor Delay	Minor Volume	Total Intrctn	Figure 4C-3	
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 AM TO 07:00 AM	529	168	126%	160%	84%	317%	110%	140%	73%	280%	108%				62%	
07:00 AM TO 08:00 AM	408	46	97%	44%	65%	87%	85%	38%	57%	77%	22%				14%	
08:00 AM TO 09:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 AM TO 11:00 AM	488	40	116%	38%	77%	75%	102%	33%	68%	67%	23%				14%	
11:00 AM TO 12:00 PM	519	38	124%	36%	82%	72%	108%	32%	72%	63%	24%				14%	
12:00 PM TO 01:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 PM TO 04:00 PM	822	68	196%	65%	130%	128%	171%	57%	114%	113%	88%				44%	
04:00 PM TO 05:00 PM	753	65	179%	62%	120%	123%	157%	54%	105%	108%	73%				36%	
05:00 PM TO 06:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold	420	105	Threshold	630	53	Threshold	480	120	MUTCD Figure	Warranting Volumes			MUTCD Figure
Created By:	Kimley-Horn and Associates, Inc.		Summary	TOTAL 1		Summary	TOTAL 2		Summary	TOTAL 1		4C-1 and 4C-2	Summary			4C-3 and 4C-4
			Met?	NO		Met?	NO		Met?	NO		Met?	Met?			Met?

COMMENTS/NOTES:	COMMENTS/NOTES:
Flashing beacon.	
No signal warranted.	



**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	Franklin Avenue (SR 50)	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	N Church Street	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A 100%			Warrant 3, Condition B 100%
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Figure 4C-1	Minor Delay	Minor Volume
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM	114	18	23%	12%	15%	24%	29%	15%	19%	30%	6%				4%
07:00 AM TO 08:00 AM	84	12	17%	8%	11%	16%	21%	10%	14%	20%	4%				3%
08:00 AM TO 09:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
10:00 AM TO 11:00 AM	87	18	17%	12%	12%	24%	22%	15%	15%	30%	6%				4%
11:00 AM TO 12:00 PM	111	20	22%	13%	15%	27%	28%	17%	19%	33%	6%				5%
12:00 PM TO 01:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 PM TO 04:00 PM	152	31	30%	21%	20%	41%	38%	26%	25%	52%	10%				7%
04:00 PM TO 05:00 PM	117	26	23%	17%	16%	35%	29%	22%	20%	43%	8%				6%
05:00 PM TO 06:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
Source:	MUTCD, 2009 Edition		Threshold	500	150	Threshold	750	75	Threshold	400	120	Threshold	600	60	MUTCD Figure 4C-3 and 4C-4
Created By:	Kimley-Horn and Associates, Inc.		Summary	TOTAL 0		Summary	TOTAL 0		Summary	TOTAL 0		Summary	TOTAL 0		MUTCD Figure 4C-3 and 4C-4
			Met?	NO		Met?	NO		Met?	NO		Met?	NO		

COMMENTS/NOTES:	COMMENTS/NOTES:
Flashing beacon.	
No signal warranted.	

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	N First Avenue	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	Driveways	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2 100% Figure 4C-1	Warrant 3, Condition A 100%			Warrant 3, Condition B 100% Figure 4C-3	
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street		Major Street	Minor Street	Minor Delay		Minor Volume
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 AM TO 07:00 AM	99	0	20%	0%	13%	0%	25%	0%	17%	0%	0%				0%	
07:00 AM TO 08:00 AM	106	0	21%	0%	14%	0%	27%	0%	18%	0%	0%				0%	
08:00 AM TO 09:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 AM TO 11:00 AM	146	0	29%	0%	19%	0%	37%	0%	24%	0%	0%				0%	
11:00 AM TO 12:00 PM	139	1	28%	1%	19%	1%	35%	1%	23%	2%	0%				0%	
12:00 PM TO 01:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 PM TO 04:00 PM	127	4	25%	3%	17%	5%	32%	3%	21%	7%	1%				1%	
04:00 PM TO 05:00 PM	120	5	24%	3%	16%	7%	30%	4%	20%	8%	2%				1%	
05:00 PM TO 06:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By:	Kimley-Horn and Associates, Inc.		500	150	750	75	400	120	600	60	4C-1 and 4C-2				4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO

COMMENTS/NOTES:	COMMENTS/NOTES:
Flashing beacon.	
No signal warranted.	

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	Y	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	S Ellington Parkway (SR 11)	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	US 31 Alt Business / Cornersville Road	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 70%		Warrant 1, Condition B 70%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	80%		80%		Figure 4C-1	Minor Delay	Minor Volume	Total Intrctn	Figure 4C-3	
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 AM TO 07:00 AM	367	73	105%	70%	70%	138%	92%	61%	61%	122%	42%				28%	
07:00 AM TO 08:00 AM	532	186	152%	177%	101%	351%	133%	155%	89%	310%	163%				91%	
08:00 AM TO 09:00 AM	243	99	69%	94%	46%	187%	61%	83%	41%	165%	48%				38%	
09:00 AM TO 10:00 AM	226	94	65%	90%	43%	177%	57%	78%	38%	157%	46%				36%	
10:00 AM TO 11:00 AM	232	129	66%	123%	44%	243%	58%	108%	39%	215%	63%				50%	
11:00 AM TO 12:00 PM	250	136	71%	130%	48%	257%	63%	113%	42%	227%	66%				52%	
12:00 PM TO 01:00 PM	273	147	78%	140%	52%	277%	68%	123%	46%	245%	72%				57%	
01:00 PM TO 02:00 PM	272	169	78%	161%	52%	319%	68%	141%	45%	282%	82%				65%	
02:00 PM TO 03:00 PM	434	211	124%	201%	83%	398%	109%	176%	72%	352%	143%				86%	
03:00 PM TO 04:00 PM	342	308	98%	293%	65%	581%	86%	257%	57%	513%	166%				118%	
04:00 PM TO 05:00 PM	395	329	113%	313%	75%	621%	99%	274%	66%	548%	203%				127%	
05:00 PM TO 06:00 PM	345	266	99%	253%	66%	502%	86%	222%	58%	443%	144%				102%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold	350	105	Threshold	525	53	Threshold	400	120	MUTCD Figure	Warranting Volumes			MUTCD Figure
Created By:	Kimley-Horn and Associates, Inc.		Summary	TOTAL 3		Summary	TOTAL 1		Summary	TOTAL 2		4C-1 and 4C-2	Summary			4C-3 and 4C-4
			Met?	NO		Met?	NO		Met?	NO		TOTAL	TOTAL			TOTAL
												Met?	Met?			Met?
												YES	YES			YES

COMMENTS/NOTES:	COMMENTS/NOTES:
Flashing beacon.	
Signal warranted.	

**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	Heil Quaker Avenue	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	International Comfort Products Entrance	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%			0%	
06:00 AM TO 07:00 AM	248	4	50%	3%	33%	5%	62%	3%	41%	7%	1%				1%	
07:00 AM TO 08:00 AM	104	10	21%	7%	14%	13%	26%	8%	17%	17%	3%				2%	
08:00 AM TO 09:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 AM TO 11:00 AM	107	16	21%	11%	14%	21%	27%	13%	18%	27%	5%				4%	
11:00 AM TO 12:00 PM	133	26	27%	17%	18%	35%	33%	22%	22%	43%	8%				6%	
12:00 PM TO 01:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 PM TO 04:00 PM	154	67	31%	45%	21%	89%	39%	56%	26%	112%	22%				16%	
04:00 PM TO 05:00 PM	130	12	26%	8%	17%	16%	33%	10%	22%	20%	4%				3%	
05:00 PM TO 06:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By:	Kimley-Horn and Associates, Inc.		500	150	750	75	400	120	600	60	4C-1 and 4C-2				4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL			0
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?			NO

COMMENTS/NOTES:	COMMENTS/NOTES:
Flashing beacon.	
No signal warranted.	

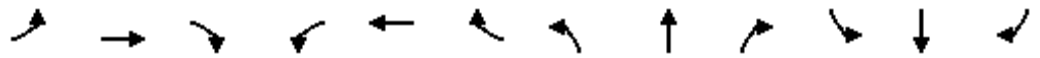
**TRAFFIC SIGNAL WARRANT ANALYSIS - Lewisburg Timing**

City/County:	Lewisburg	85th-percentile speed on the major street exceeds 40 mph? (Y or N)	N	Analyzed by: <b>Kimley»Horn</b>
State:	TN	Isolated community with a population of less than 10,000? (Y or N)	N	
Date:	2/9/2016	Apply 56% warrant to Warrant 1, Combination Warrant? (Y or N)	N	
Major Street:	Old Belfast Road	Approach Lanes - Major? (1 or 2)	1	
Minor Street:	Nichirin Tennessee, Inc	Approach Lanes - Minor? (1 or 2)	1	

24-Hour Volume Summary	Major Street Total of Both Approaches	Minor Street Higher Volume Approach	Warrant 1, Condition A 100%		Warrant 1, Condition B 100%		Warrant 1, Combination Warrant				Warrant 2	Warrant 3, Condition A			Warrant 3, Condition B	
			Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Major Street	Minor Street	Figure 4C-1	Minor Delay	Minor Volume	Total Intrstn
12:00 AM TO 01:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
01:00 AM TO 02:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
02:00 AM TO 03:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
03:00 AM TO 04:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
04:00 AM TO 05:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
05:00 AM TO 06:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%	0%				0%
06:00 AM TO 07:00 AM	83	31	17%	21%	11%	41%	21%	26%	14%	52%	10%				7%	
07:00 AM TO 08:00 AM	24	16	5%	11%	3%	21%	6%	13%	4%	27%	5%				4%	
08:00 AM TO 09:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 AM TO 10:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 AM TO 11:00 AM	63	36	13%	24%	8%	48%	16%	30%	11%	60%	12%				9%	
11:00 AM TO 12:00 PM	87	43	17%	29%	12%	57%	22%	36%	15%	72%	14%				10%	
12:00 PM TO 01:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
01:00 PM TO 02:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
02:00 PM TO 03:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
03:00 PM TO 04:00 PM	81	32	16%	21%	11%	43%	20%	27%	14%	53%	10%				8%	
04:00 PM TO 05:00 PM	58	19	12%	13%	8%	25%	15%	16%	10%	32%	6%				5%	
05:00 PM TO 06:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
06:00 PM TO 07:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
07:00 PM TO 08:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
08:00 PM TO 09:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
09:00 PM TO 10:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
10:00 PM TO 11:00 PM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
11:00 PM TO 12:00 AM			0%	0%	0%	0%	0%	0%	0%	0%	0%				0%	
Source:	MUTCD, 2009 Edition		Threshold		Threshold		Threshold		Threshold		MUTCD Figure	Warranting Volumes			MUTCD Figure	
Created By:	Kimley-Horn and Associates, Inc.		500	150	750	75	400	120	600	60	4C-1 and 4C-2				4C-3 and 4C-4	
			Summary		Summary		Summary		Summary			Summary			Summary	
			TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0	TOTAL	0
			Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO	Met?	NO

COMMENTS/NOTES:	COMMENTS/NOTES:
Flashing beacon.	
No signal warranted.	

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 11: Martin Avenue/Legion Avenue & E Commerce Street Alternatives 2015 AM

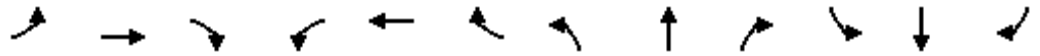


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	0	154	9	11	153	4	10	6	31	6	1	0
Sign Control		Free			Free			Stop			Stop	
Grade		2%			-3%			4%			-2%	
Peak Hour Factor	0.78	0.78	0.78	0.75	0.75	0.75	0.78	0.78	0.78	0.88	0.88	0.88
Hourly flow rate (vph)	0	197	12	15	204	5	13	8	40	7	1	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	209			209			440	442	203	483	445	207
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	209			209			440	442	203	483	445	207
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.5	6.9	6.6
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.9	4.4	3.7
p0 queue free %	100			99			98	98	95	98	100	100
cM capacity (veh/h)	1361			1362			518	501	832	404	447	741

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	209	224	60	8
Volume Left	0	15	13	7
Volume Right	12	5	40	0
cSH	1361	1362	686	410
Volume to Capacity	0.00	0.01	0.09	0.02
Queue Length 95th (ft)	0	1	7	1
Control Delay (s)	0.0	0.6	10.8	14.0
Lane LOS		A	B	B
Approach Delay (s)	0.0	0.6	10.8	14.0
Approach LOS			B	B

Intersection Summary			
Average Delay		1.8	
Intersection Capacity Utilization	27.4%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 15: US-31 Alt Business & W Ewing Street Alternatives 2015 AM

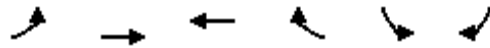


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Volume (veh/h)	0	30	25	32	63	4	66	114	81	18	92	0
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			1%			3%			-3%	
Peak Hour Factor	0.75	0.75	0.75	0.80	0.80	0.80	0.75	0.75	0.75	0.82	0.82	0.82
Hourly flow rate (vph)	0	40	33	40	79	5	88	152	108	22	112	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	528	592	112	537	484	152	112			260		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	528	592	112	537	484	152	112			260		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	90	96	89	82	99	94			98		
cM capacity (veh/h)	370	384	933	379	445	892	1477			1293		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total	73	124	240	108	134
Volume Left	0	40	88	0	22
Volume Right	33	5	0	108	0
cSH	524	429	1477	1700	1293
Volume to Capacity	0.14	0.29	0.06	0.06	0.02
Queue Length 95th (ft)	12	29	5	0	1
Control Delay (s)	13.0	16.7	3.1	0.0	1.4
Lane LOS	B	C	A		A
Approach Delay (s)	13.0	16.7	2.1		1.4
Approach LOS	B	C			

Intersection Summary		
Average Delay		5.8
Intersection Capacity Utilization	35.0%	ICU Level of Service A
Analysis Period (min)		15

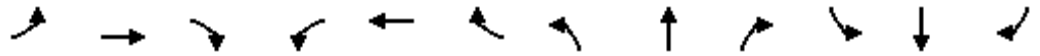
HCM Unsignalized Intersection Capacity Analysis - Lewisburg Signal Timing Optimization Program  
 17: W Ewing Street & Franklin Road Alternatives 2015 AM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Sign Control		Stop	Stop		Stop	
Volume (vph)	1	4	3	135	53	1
Peak Hour Factor	0.75	0.75	0.91	0.91	0.81	0.81
Hourly flow rate (vph)	1	5	3	148	65	1
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	7	152	67			
Volume Left (vph)	1	0	65			
Volume Right (vph)	0	148	1			
Hadj (s)	0.72	-0.55	0.25			
Departure Headway (s)	4.9	3.5	4.5			
Degree Utilization, x	0.01	0.15	0.08			
Capacity (veh/h)	714	1002	775			
Control Delay (s)	8.0	7.1	7.8			
Approach Delay (s)	8.0	7.1	7.8			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.4			
Level of Service			A			
Intersection Capacity Utilization			18.5%	ICU Level of Service	A	
Analysis Period (min)			15			



HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 19: N 2nd Avenue / US-431 Business & Water Street Alternatives 2015 AM

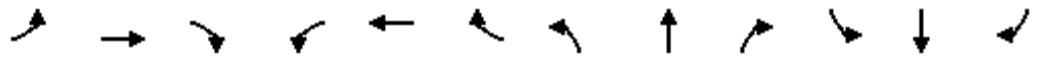


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	4	4	4	4	0	5	6	40	5	7	150	6
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			1%			-7%			-2%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.85	0.85	0.85	0.95	0.95	0.95
Hourly flow rate (vph)	5	5	5	5	0	7	7	47	6	7	158	6
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											966	
pX, platoon unblocked												
vC, conflicting volume	247	243	161	248	243	50	164			53		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	247	243	161	248	243	50	164			53		
tC, single (s)	7.2	6.6	6.3	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	99	99	99	100	99	100			100		
cM capacity (veh/h)	685	643	869	692	652	1018	1414			1546		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	16	12	60	172
Volume Left	5	5	7	7
Volume Right	5	7	6	6
cSH	720	842	1414	1546
Volume to Capacity	0.02	0.01	0.00	0.00
Queue Length 95th (ft)	2	1	0	0
Control Delay (s)	10.1	9.3	0.9	0.4
Lane LOS	B	A	A	A
Approach Delay (s)	10.1	9.3	0.9	0.4
Approach LOS	B	A		

Intersection Summary			
Average Delay		1.5	
Intersection Capacity Utilization		19.6%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 23: Heil Quaker Avenue/Franklin Road & Dodson Drive/Franklin Avenue Alternatives 2015 AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	7	2	3	51	1	60	2	148	48	69	134	2
Sign Control		Stop			Stop			Free			Free	
Grade		2%			-2%			1%			1%	
Peak Hour Factor	0.75	0.75	0.75	0.84	0.84	0.84	0.78	0.78	0.78	0.75	0.75	0.75
Hourly flow rate (vph)	9	3	4	61	1	71	3	190	62	92	179	3
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	662	620	180	595	591	221	181			251		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	662	620	180	595	591	221	181			251		
tC, single (s)	7.2	6.6	6.3	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.6	4.1	3.4	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	97	99	100	84	100	91	100			93		
cM capacity (veh/h)	315	367	847	384	385	809	1394			1308		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	16	133	254	273
Volume Left	9	61	3	92
Volume Right	4	71	62	3
cSH	385	534	1394	1308
Volume to Capacity	0.04	0.25	0.00	0.07
Queue Length 95th (ft)	3	24	0	6
Control Delay (s)	14.8	14.0	0.1	3.1
Lane LOS	B	B	A	A
Approach Delay (s)	14.8	14.0	0.1	3.1
Approach LOS	B	B		

Intersection Summary			
Average Delay		4.4	
Intersection Capacity Utilization	39.2%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 11: Martin Avenue/Legion Avenue & E Commerce Street Alternatives 2015 PM

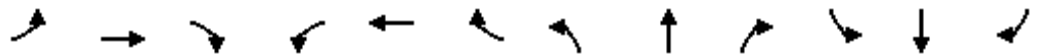


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	1	191	18	39	229	10	18	9	58	7	4	3
Sign Control		Free			Free			Stop			Stop	
Grade		2%			-3%			4%			-2%	
Peak Hour Factor	0.96	0.96	0.96	0.87	0.87	0.87	0.79	0.79	0.79	0.75	0.75	0.75
Hourly flow rate (vph)	1	199	19	45	263	11	23	11	73	9	5	4
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	275			218			576	575	208	648	578	269
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	275			218			576	575	208	648	578	269
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.2	6.6	6.3
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.6	4.1	3.4
p0 queue free %	100			97			94	97	91	97	99	99
cM capacity (veh/h)	1288			1352			411	414	832	328	406	758

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	219	320	108	19
Volume Left	1	45	23	9
Volume Right	19	11	73	4
cSH	1288	1352	628	398
Volume to Capacity	0.00	0.03	0.17	0.05
Queue Length 95th (ft)	0	3	15	4
Control Delay (s)	0.0	1.4	11.9	14.5
Lane LOS	A	A	B	B
Approach Delay (s)	0.0	1.4	11.9	14.5
Approach LOS			B	B

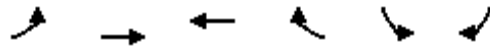
Intersection Summary			
Average Delay		3.0	
Intersection Capacity Utilization	41.3%	ICU Level of Service	A
Analysis Period (min)	15		

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 15: US-31 Alt Business & W Ewing Street Alternatives 2015 PM



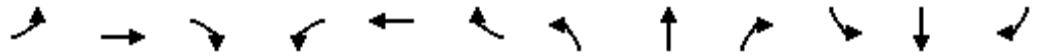
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕	↕		↕	
Volume (veh/h)	2	63	39	72	93	8	36	77	74	23	142	5
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			1%			3%			-3%	
Peak Hour Factor	0.75	0.75	0.75	0.92	0.92	0.92	0.82	0.82	0.82	0.92	0.92	0.92
Hourly flow rate (vph)	3	84	52	78	101	9	44	94	90	25	154	5
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	448	479	157	483	391	94	160			184		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	448	479	157	483	391	94	160			184		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	99	82	94	80	80	99	97			98		
cM capacity (veh/h)	419	458	881	385	518	963	1419			1391		
<b>Direction, Lane #</b>	<b>EB 1</b>	<b>WB 1</b>	<b>NB 1</b>	<b>NB 2</b>	<b>SB 1</b>							
Volume Total	139	188	138	90	185							
Volume Left	3	78	44	0	25							
Volume Right	52	9	0	90	5							
cSH	558	461	1419	1700	1391							
Volume to Capacity	0.25	0.41	0.03	0.05	0.02							
Queue Length 95th (ft)	24	49	2	0	1							
Control Delay (s)	13.6	18.1	2.6	0.0	1.2							
Lane LOS	B	C	A		A							
Approach Delay (s)	13.6	18.1	1.6		1.2							
Approach LOS	B	C										
<b>Intersection Summary</b>												
Average Delay			7.9									
Intersection Capacity Utilization			38.4%			ICU Level of Service			A			
Analysis Period (min)			15									

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 17: W Ewing Street & Franklin Road Alternatives 2015 PM



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↶	↷		↶	
Sign Control		Stop	Stop		Stop	
Volume (vph)	1	4	4	134	98	3
Peak Hour Factor	0.75	0.75	0.91	0.91	0.75	0.75
Hourly flow rate (vph)	1	5	4	147	131	4
Direction, Lane #	EB 1	WB 1	SB 1			
Volume Total (vph)	7	152	135			
Volume Left (vph)	1	0	131			
Volume Right (vph)	0	147	4			
Hadj (s)	0.07	-0.55	0.24			
Departure Headway (s)	4.4	3.7	4.5			
Degree Utilization, x	0.01	0.16	0.17			
Capacity (veh/h)	776	944	777			
Control Delay (s)	7.5	7.4	8.3			
Approach Delay (s)	7.5	7.4	8.3			
Approach LOS	A	A	A			
Intersection Summary						
Delay			7.8			
Level of Service			A			
Intersection Capacity Utilization			20.8%	ICU Level of Service	A	
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 19: N 2nd Avenue / US-431 Business & Water Street Alternatives 2015 PM

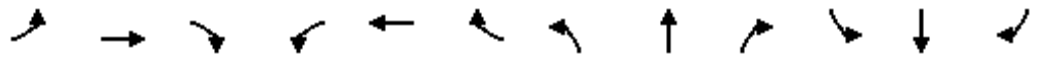


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	14	9	9	7	6	5	7	68	2	11	204	16
Sign Control		Stop			Stop			Free			Free	
Grade		-2%			1%			-7%			-2%	
Peak Hour Factor	0.75	0.75	0.75	0.75	0.75	0.75	0.80	0.80	0.80	0.83	0.83	0.83
Hourly flow rate (vph)	19	12	12	9	8	7	9	85	2	13	246	19
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)											966	
pX, platoon unblocked												
vC, conflicting volume	396	387	255	404	395	86	265			88		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	396	387	255	404	395	86	265			88		
tC, single (s)	7.1	6.5	6.2	7.2	6.6	6.3	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.6	4.1	3.4	2.2			2.2		
p0 queue free %	97	98	98	98	98	99	99			99		
cM capacity (veh/h)	547	539	783	520	521	951	1299			1508		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	43	24	96	278
Volume Left	19	9	9	13
Volume Right	12	7	2	19
cSH	595	595	1299	1508
Volume to Capacity	0.07	0.04	0.01	0.01
Queue Length 95th (ft)	6	3	1	1
Control Delay (s)	11.5	11.3	0.8	0.4
Lane LOS	B	B	A	A
Approach Delay (s)	11.5	11.3	0.8	0.4
Approach LOS	B	B		

Intersection Summary			
Average Delay		2.2	
Intersection Capacity Utilization	24.2%		ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis Lewisburg Signal Timing Optimization Program  
 23: Heil Quaker Avenue/Franklin Road & Dodson Drive/Franklin Avenue Alternatives 2015 PM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Volume (veh/h)	4	4	1	46	0	29	3	91	73	55	149	7
Sign Control		Stop			Stop			Free			Free	
Grade		2%			-2%			1%			1%	
Peak Hour Factor	0.83	0.83	0.83	0.82	0.82	0.82	0.89	1.00	0.89	0.75	0.75	0.75
Hourly flow rate (vph)	5	5	1	56	0	35	3	91	82	73	199	9
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage (veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	524	530	203	492	493	132	208			173		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	524	530	203	492	493	132	208			173		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.2		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.3		
p0 queue free %	99	99	100	88	100	96	100			95		
cM capacity (veh/h)	427	429	837	460	449	915	1351			1380		

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	11	91	176	281
Volume Left	5	56	3	73
Volume Right	1	35	82	9
cSH	453	570	1351	1380
Volume to Capacity	0.02	0.16	0.00	0.05
Queue Length 95th (ft)	2	14	0	4
Control Delay (s)	13.2	12.5	0.2	2.4
Lane LOS	B	B	A	A
Approach Delay (s)	13.2	12.5	0.2	2.4
Approach LOS	B	B		

Intersection Summary			
Average Delay		3.5	
Intersection Capacity Utilization	37.1%		ICU Level of Service A
Analysis Period (min)	15		

## **Appendix C:**

### **Approved Local Controller Settings**



Traffic Signal Optimization Services - Lewisburg, Tennessee  
Comparison of Local Controller Settings (Pedestrian Walk Intervals, Pedestrian Clearance Intervals, and Vehicle Clearance Intervals)



ID	Intersection	Pedestrian Timings	Intersection Geometry	Vehicle Clearance Intervals																																																																																																																				
3	West Commerce Street (SR 373) at Heil Quaker Avenue	<table border="1"> <thead> <tr><th>P2</th><th>P4</th><th>P6</th><th>P8</th></tr> </thead> <tbody> <tr><td></td><td></td><td></td><td></td></tr> </tbody> </table> <p>Phase Movement Existing W, FDW Time Crossing Distance Theoretical Pedestrian Clearance Time Theoretical Walk, Flashing Don't Walk Times <b>Chosen Walk, Flashing Don't Walk Times</b></p>	P2	P4	P6	P8					<table border="1"> <thead> <tr><th>Approach</th><th>NBT</th><th>NBL</th><th>WBT</th><th>WBL</th><th>SBT</th><th>SBL</th><th>EBT</th><th>EBL</th></tr> </thead> <tbody> <tr><td>Intersection Width</td><td>55</td><td>50</td><td>50</td><td>55</td><td>60</td><td>50</td><td>50</td><td>55</td></tr> <tr><td>Approach speed</td><td>30</td><td>30</td><td>30</td><td>30</td><td>30</td><td>30</td><td>30</td><td>30</td></tr> <tr><td>Grade</td><td>-2.0</td><td></td><td>1.0</td><td></td><td>-1.0</td><td></td><td>-1.5</td><td></td></tr> </tbody> </table>	Approach	NBT	NBL	WBT	WBL	SBT	SBL	EBT	EBL	Intersection Width	55	50	50	55	60	50	50	55	Approach speed	30	30	30	30	30	30	30	30	Grade	-2.0		1.0		-1.0		-1.5		<p>Phase Movement Existing Y   AR Theoretical Clearance Theoretical Y   AR <b>Chosen Y   AR</b></p> <table border="1"> <thead> <tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th></tr> </thead> <tbody> <tr><td></td><td>N/S</td><td></td><td>SBL</td><td></td><td></td><td></td><td></td></tr> <tr><td></td><td>4.0</td><td>2.0</td><td>3.5</td><td>1.5</td><td></td><td></td><td></td></tr> <tr><td></td><td colspan="2">5.2</td><td colspan="2">4.9</td><td></td><td></td><td></td></tr> <tr><td></td><td>3.4</td><td>1.8</td><td>3.3</td><td>1.6</td><td></td><td></td><td></td></tr> <tr><td></td><td>3.5</td><td>2.0</td><td>3.5</td><td>1.5</td><td></td><td></td><td></td></tr> </tbody> </table>	1	2	3	4	5	6	7	8		N/S		SBL						4.0	2.0	3.5	1.5					5.2		4.9						3.4	1.8	3.3	1.6					3.5	2.0	3.5	1.5																											
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4	North Ellington Parkway (SR 109) at West Ellington Parkway (SR 417)	<table border="1"> <thead> <tr><th>P2</th><th>P4</th><th>P6</th><th>P8</th></tr> </thead> <tbody> <tr><td></td><td></td><td></td><td></td></tr> </tbody> </table> <p>Phase Movement Existing W, FDW Time Crossing Distance Theoretical Pedestrian Clearance Time Theoretical Walk, Flashing Don't Walk Times <b>Chosen Walk, Flashing Don't Walk Times</b></p>	P2	P4	P6	P8					<table border="1"> <thead> <tr><th>Approach</th><th>NBT</th><th>NBL</th><th>WBT</th><th>WBL</th><th>SBT</th><th>SBL</th><th>EBT</th><th>EBL</th></tr> </thead> <tbody> <tr><td>Intersection Width</td><td></td><td>45</td><td>35</td><td>35</td><td></td><td></td><td>30</td><td></td></tr> <tr><td>Approach speed</td><td></td><td>45</td><td>45</td><td>45</td><td></td><td></td><td>45</td><td></td></tr> <tr><td>Grade</td><td>-3.4</td><td></td><td>-1.2</td><td></td><td></td><td></td><td>1.3</td><td></td></tr> </tbody> </table>	Approach	NBT	NBL	WBT	WBL	SBT	SBL	EBT	EBL	Intersection Width		45	35	35			30		Approach speed		45	45	45			45		Grade	-3.4		-1.2				1.3		<p>Phase Movement Existing Y   AR Theoretical Clearance Theoretical Y   AR <b>Chosen Y   AR</b></p> <table border="1"> <thead> <tr><th>1</th><th>2</th><th>3</th><th>4</th><th>5</th><th>6</th><th>7</th><th>8</th></tr> </thead> <tbody> <tr><td></td><td>WBL</td><td>EB</td><td>NBL</td><td>WB</td><td></td><td></td><td></td></tr> <tr><td>3.5</td><td>0.5</td><td>3.5</td><td>0.5</td><td>3.5</td><td>0.5</td><td>3.5</td><td>0.5</td></tr> <tr><td colspan="4">5.3</td><td colspan="4">5.7</td></tr> <tr><td>4.4</td><td>0.8</td><td>4.2</td><td>0.8</td><td>4.7</td><td>1.0</td><td>4.4</td><td>0.8</td></tr> <tr><td>4.5</td><td>1.0</td><td>4.5</td><td>1.0</td><td>5.0</td><td>1.0</td><td>4.5</td><td>1.0</td></tr> </tbody> </table>	1	2	3	4	5	6	7	8		WBL	EB	NBL	WB				3.5	0.5	3.5	0.5	3.5	0.5	3.5	0.5	5.3				5.7				4.4	0.8	4.2	0.8	4.7	1.0	4.4	0.8	4.5	1.0	4.5	1.0	5.0	1.0	4.5	1.0																								
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**Traffic Signal Optimization Services - Lewisburg, Tennessee**  
**Comparison of Local Controller Settings (Pedestrian Walk Intervals, Pedestrian Clearance Intervals, and Vehicle Clearance Intervals)**

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11	East Commerce Street (SR 50) at Legion Avenue / Martin Avenue	Phase	<b>P2</b> <b>P4</b> <b>P6</b> <b>P8</b>	<table border="1"> <thead> <tr><th>Approach</th><th>NBT</th><th>NBL</th><th>WBT</th><th>WBL</th><th>SBT</th><th>SBL</th><th>EBT</th><th>EBL</th></tr> </thead> <tbody> <tr><td>Intersection Width</td><td>50</td><td>50</td><td>45</td><td>45</td><td>45</td><td>45</td><td>40</td><td>40</td></tr> <tr><td>Approach speed</td><td>30</td><td>30</td><td>30</td><td>30</td><td>30</td><td>30</td><td>30</td><td>30</td></tr> <tr><td>Grade</td><td>4.0</td><td></td><td>-2.5</td><td></td><td>-1.8</td><td></td><td>2.1</td><td></td></tr> </tbody> </table>	Approach	NBT	NBL	WBT	WBL	SBT	SBL	EBT	EBL	Intersection Width	50	50	45	45	45	45	40	40	Approach speed	30	30	30	30	30	30	30	30	Grade	4.0		-2.5		-1.8		2.1		Phase	<b>1</b> <b>2</b> <b>3</b> <b>4</b> <b>5</b> <b>6</b> <b>7</b> <b>8</b>
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12	North Ellington Parkway (SR 11 / 106 / 272) at Nashville Highway (SR 11)	Phase	<b>P2</b> <b>P4</b> <b>P6</b> <b>P8</b>	<table border="1"> <thead> <tr><th>Approach</th><th>NBT</th><th>NBL</th><th>WBT</th><th>WBL</th><th>SBT</th><th>SBL</th><th>EBT</th><th>EBL</th></tr> </thead> <tbody> <tr><td>Intersection Width</td><td>50</td><td>55</td><td>65</td><td>75</td><td>70</td><td>75</td><td>55</td><td>65</td></tr> <tr><td>Approach speed</td><td>30</td><td>30</td><td>45</td><td>45</td><td>45</td><td>45</td><td>45</td><td>45</td></tr> <tr><td>Grade</td><td>-2.7</td><td></td><td>1.0</td><td></td><td>1.7</td><td></td><td>1.0</td><td></td></tr> </tbody> </table>	Approach	NBT	NBL	WBT	WBL	SBT	SBL	EBT	EBL	Intersection Width	50	55	65	75	70	75	55	65	Approach speed	30	30	45	45	45	45	45	45	Grade	-2.7		1.0		1.7		1.0		Phase	<b>1</b> <b>2</b> <b>3</b> <b>4</b> <b>5</b> <b>6</b> <b>7</b> <b>8</b>
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13	East Commerce Street (SR 50) / Fayetteville Highway at Creekside Drive / Garrett Parkway	Phase	<b>P2</b> <b>P4</b> <b>P6</b> <b>P8</b>	<table border="1"> <thead> <tr><th>Approach</th><th>NBT</th><th>NBL</th><th>WBT</th><th>WBL</th><th>SBT</th><th>SBL</th><th>EBT</th><th>EBL</th></tr> </thead> <tbody> <tr><td>Intersection Width</td><td>60</td><td>65</td><td>50</td><td>50</td><td>60</td><td>60</td><td>75</td><td>70</td></tr> <tr><td>Approach speed</td><td>30</td><td>30</td><td>45</td><td>45</td><td>30</td><td>30</td><td>35</td><td>35</td></tr> <tr><td>Grade</td><td>-1.2</td><td></td><td>0.8</td><td></td><td>2.1</td><td></td><td>-1.1</td><td></td></tr> </tbody> </table>	Approach	NBT	NBL	WBT	WBL	SBT	SBL	EBT	EBL	Intersection Width	60	65	50	50	60	60	75	70	Approach speed	30	30	45	45	30	30	35	35	Grade	-1.2		0.8		2.1		-1.1		Phase	<b>1</b> <b>2</b> <b>3</b> <b>4</b> <b>5</b> <b>6</b> <b>7</b> <b>8</b>
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14	North Ellington Parkway (SR 11 / 106 / 272) at Finley Beech Road	Phase	<b>P2</b> <b>P4</b> <b>P6</b> <b>P8</b>	<table border="1"> <thead> <tr><th>Approach</th><th>NBT</th><th>NBL</th><th>WBT</th><th>WBL</th><th>SBT</th><th>SBL</th><th>EBT</th><th>EBL</th></tr> </thead> <tbody> <tr><td>Intersection Width</td><td>90</td><td>100</td><td>135</td><td>110</td><td>75</td><td>100</td><td>105</td><td>75</td></tr> <tr><td>Approach speed</td><td>45</td><td>45</td><td>30</td><td>30</td><td>45</td><td>45</td><td>30</td><td>30</td></tr> <tr><td>Grade</td><td>1.0</td><td></td><td>-2.5</td><td></td><td>1.0</td><td></td><td>1.0</td><td></td></tr> </tbody> </table>	Approach	NBT	NBL	WBT	WBL	SBT	SBL	EBT	EBL	Intersection Width	90	100	135	110	75	100	105	75	Approach speed	45	45	30	30	45	45	30	30	Grade	1.0		-2.5		1.0		1.0		Phase	<b>1</b> <b>2</b> <b>3</b> <b>4</b> <b>5</b> <b>6</b> <b>7</b> <b>8</b>
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Traffic Signal Optimization Services - Lewisburg, Tennessee  
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23	Franklin Road (SR 50) at Heil Quaker Avenue at Dodson Drive	Phase	<table border="1"> <thead> <tr> <th>Approach</th> <th>NBT</th> <th>NBL</th> <th>WBT</th> <th>WBL</th> <th>SBT</th> <th>SBL</th> <th>EBT</th> <th>EBL</th> </tr> </thead> <tbody> <tr> <td>Intersection Width</td> <td>75</td> <td>55</td> <td>40</td> <td>60</td> <td>70</td> <td>55</td> <td>35</td> <td>55</td> </tr> <tr> <td>Approach speed</td> <td>30</td> <td>30</td> <td>30</td> <td>30</td> <td>30</td> <td>30</td> <td>30</td> <td>30</td> </tr> <tr> <td>Grade</td> <td colspan="2">0.8</td> <td colspan="2">-1.6</td> <td colspan="2">0.8</td> <td colspan="2">1.6</td> </tr> </tbody> </table>	Approach	NBT	NBL	WBT	WBL	SBT	SBL	EBT	EBL	Intersection Width	75	55	40	60	70	55	35	55	Approach speed	30	30	30	30	30	30	30	30	Grade	0.8		-1.6		0.8		1.6		<table border="1"> <thead> <tr> <th>1</th> <th>2</th> <th>3</th> <th>4</th> <th>5</th> <th>6</th> <th>7</th> <th>8</th> </tr> </thead> <tbody> <tr> <td colspan="2">N/S</td> <td colspan="2">E/W</td> <td colspan="4"></td> </tr> <tr> <td colspan="2">4.0</td> <td colspan="2">3.0</td> <td colspan="2">4.0</td> <td colspan="2">3.0</td> </tr> <tr> <td colspan="4">5.3</td> <td colspan="4">4.7</td> </tr> <tr> <td colspan="2">3.1</td> <td colspan="2">2.2</td> <td colspan="2">3.3</td> <td colspan="2">1.4</td> </tr> <tr> <td colspan="2">3.0</td> <td colspan="2">2.5</td> <td colspan="2">3.5</td> <td colspan="2">1.5</td> </tr> </tbody> </table>	1	2	3	4	5	6	7	8	N/S		E/W						4.0		3.0		4.0		3.0		5.3				4.7				3.1		2.2		3.3		1.4		3.0		2.5		3.5		1.5	
		Approach		NBT	NBL	WBT	WBL	SBT	SBL	EBT	EBL																																																																													
		Intersection Width		75	55	40	60	70	55	35	55																																																																													
		Approach speed		30	30	30	30	30	30	30	30																																																																													
		Grade		0.8		-1.6		0.8		1.6																																																																														
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Movement																																																																																								
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Crossing Distance																																																																																								
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<b>Chosen Walk, Flashing Don't Walk Times</b>																																																																																								

**Appendix D:**  
**Cycle Length Evaluation Memorandum**



## MEMORANDUM

To: Randall Dunn  
City of Lewisburg, Tennessee

From: Beth Ostrowski, PE  
Emily Harrison, EIT  
Kimley-Horn and Associates, Inc.

Date: April 7, 2016

Subject: City of Lewisburg Community Transportation Planning Grant 2015  
**Cycle Length Evaluation**  
Kimley-Horn and Associates, Inc. Agreement Number: 45942  
PIN Number: 104685.10  
Kimley-Horn Project Number: 118000037

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This memorandum summarizes our recommendations for the local controller settings, system boundaries, and cycle lengths for the signal systems in the City of Lewisburg.

The local controller settings (pedestrian walk intervals, pedestrian clearance intervals, and vehicle clearance intervals) were developed using current MUTCD and ITE standards and guidelines. The attached tables provide detailed data for each intersection and the existing and proposed local controller settings. Once approved by the City, these local controller settings will be programmed into the signal controllers during field implementation. Local controller setting calculations and results are attached.

The existing system boundaries are depicted in the attached figure. Our recommendation is to have two coordinated systems, zones, for the signal system in Lewisburg. The proposed coordinated systems are described below:

- **Zone A** will include nine intersections and consist of:
  - North Ellington Parkway (SR 106) at West Ellington Parkway (SR 417)
  - North Ellington Parkway (SR 373) at Franklin Road
  - North Ellington Parkway (SR 106) at Walmart Entrance
  - North Ellington Parkway (SR 106) at North 5th Avenue / Rock Crusher Road
  - North Ellington Parkway (SR 11 / 106 / 272) at Nashville Highway (SR 11)
  - North Ellington Parkway (SR 11 / 106 / 272) at Finley Beech Road
  - East Commerce Street (SR 50) / Fayetteville Highway at Ellington Parkway (SR 11/106/272)
  - South Ellington Parkway (SR 11) at Higgs Road
  - Franklin Road (SR 50) at Heil Quaker Avenue at Dodson Drive
- **Zone B** will include ten intersections and consist of:
  - West Commerce Street (State Route (SR) 373) at Heil Quaker Avenue
  - West Commerce Street (SR 373) at 8th Avenue S
  - West Commerce Street (SR 373) at 5th Avenue

- West Commerce Street (SR 373) at North 3rd Avenue / Franklin Road
- East Commerce Street (SR 50) at Legion Avenue / Martin Avenue
- East Commerce Street (SR 50) / Fayetteville Highway at Creekside Drive / Garrett Parkway
- North 2nd Avenue / US-431 Business at Water Street
- North 2nd Avenue / US-431 Business at College Street
- West Ewing Street at Franklin Road
- West Ewing Street at US-31 Alt Business

These system boundaries are recommended based upon review of the following factors:

- Driver expectancy
- Count data
- Coupling indices
- Synchro coordinatability factors
- Intersection spacing
- Number of signal phases per intersection
- Field observations

The following table summarized the recommended cycle lengths for each zone:

System	Timing Plan	Existing Cycle Length	Minimum Cycle Length	Synchro Cycle Length	Recommended Cycle Length
Zone A	AM	Varies	70 w/o Peds	70	75
	MD		95 w/ Mainline Peds	70	85
	PM		125 w/ All Peds	70	100
Zone B	AM	Varies	60	60	60
	MD			85	70
	PM			80	70

For the systems, a total of three timing plans are proposed: weekday AM, weekday MD, and weekday PM. Additionally timing plans may be added in the Timing Plan Development phase of this project for Off peak and school or church related sub-peak peak periods.

Once cycle lengths have been approved by the City of Lewisburg, we will continue with the development of timing plans. If there are any further questions, please contact us.

Attachments: Local Controller Settings Recommendations  
City of Lewisburg Cycle Lengths Figure

c: File

**Appendix E:**  
**Time of Day Clock Settings**

# Zone A - Ellington Parkway

		CYCLE LENGTHS		
EXISTING	FREE	FREE	FREE	
	AM	MD	PM	
PROPOSED	75	85	100	

TOD CLOCK	PROPOSED	SATURDAY	SUNDAY	Station 2 N Ellington Pky north of Nashville 3/3/2015		Station 3 N Ellington Pky north of E Commerce 3/10/2015		Station 32 Franklin Rd south of N Ellington 06/09/2014 - 06/10/2014		Station 58 N Ellington Pky east of W Ellington 10/21/2015 - 10/22/2015		Station 59 N Ellington Pky west of W Ellington 10/14/2015 - 10/15/2015		Station 61 S Ellington Pky south of Springplac 10/20/2015 - 10/21/2015		Station 62 S Ellington Pky south of Old Belfast 10/20/2015 - 10/21/2015		Station 67 N Ellington Pky north of E Commerce 10/20/2015 - 10/21/2015		Station 72 E Commerce St west of Ellington 10/20/2015 - 10/21/2015		Station 125 N Ellington Pky north of US-31 10/21/2015 - 10/22/2015		Station 60 N Ellington Pky north of Finley 10/21/2015 - 10/22/2015		
				Time	Total	Time	Total	Time	Total	Time	Total	Time	Total	Time	Total	Time	Total	Time	Total	Time	Total	Time	Total	Time	Total	Time
FLASH	FLASH	FLASH	0:00	128	0:00	46	0:00	43	0:00	76	0:00	67	0:00	49	0:00	61	0:00	110	0:00	26	0:00	95	0:00	116		
			0:30		0:30		0:30		0:30		0:30		0:30		0:30		0:30		0:30		0:30		0:30			
			1:00	57	1:00	29	1:00	34	1:00	71	1:00	51	1:00	35	1:00	59	1:00	84	1:00	10	1:00	96	1:00	94		
			1:30		1:30		1:30		1:30		1:30		1:30		1:30		1:30		1:30		1:30		1:30		1:30	
			2:00	55	2:00	25	2:00	27	2:00	49	2:00	25	2:00	13	2:00	26	2:00	66	2:00	15	2:00	68	2:00	74		
			2:30		2:30		2:30		2:30		2:30		2:30		2:30		2:30		2:30		2:30		2:30		2:30	
			3:00	66	3:00	36	3:00	22	3:00	76	3:00	62	3:00	44	3:00	61	3:00	131	3:00	45	3:00	93	3:00	119		
			3:30		3:30		3:30		3:30		3:30		3:30		3:30		3:30		3:30		3:30		3:30		3:30	
			4:00	140	4:00	57	4:00	30	4:00	125	4:00	108	4:00	66	4:00	92	4:00	156	4:00	33	4:00	167	4:00	151		
			4:30		4:30		4:30		4:30		4:30		4:30		4:30		4:30		4:30		4:30		4:30		4:30	
			5:00	363	5:00	159	5:00	83	5:00	353	5:00	314	5:00	191	5:00	238	5:00	334	5:00	139	5:00	405	5:00	366		
			5:30		5:30		5:30		5:30		5:30		5:30		5:30		5:30		5:30		5:30		5:30		5:30	
			6:00	647	6:00	350	6:00	144	6:00	747	6:00	608	6:00	429	6:00	588	6:00	796	6:00	318	6:00	859	6:00	736		
			6:30		6:30		6:30		6:30		6:30		6:30		6:30		6:30		6:30		6:30		6:30		6:30	
			7:00	1,075	7:00	474	7:00	193	7:00	1,248	7:00	759	7:00	537	7:00	762	7:00	1,117	7:00	457	7:00	1,437	7:00	1,010		
7:30		7:30		7:30		7:30		7:30		7:30		7:30		7:30		7:30		7:30		7:30		7:30				
8:00	840	8:00	332	8:00	217	8:00	778	8:00	644	8:00	349	8:00	580	8:00	982	8:00	359	8:00	992	8:00	836					
8:30		8:30		8:30		8:30		8:30		8:30		8:30		8:30		8:30		8:30		8:30		8:30				
9:00	897	9:00	331	9:00	189	9:00	734	9:00	596	9:00	388	9:00	616	9:00	912	9:00	435	9:00	934	9:00	768					
9:30		9:30		9:30		9:30		9:30		9:30		9:30		9:30		9:30		9:30		9:30		9:30				
10:00	954	10:00	336	10:00	187	10:00	764	10:00	626	10:00	408	10:00	587	10:00	905	10:00	446	10:00	1,054	10:00	867					
10:30		10:30		10:30		10:30		10:30		10:30		10:30		10:30		10:30		10:30		10:30		10:30				
11:00	1,011	11:00	373	11:00	210	11:00	791	11:00	630	11:00	398	11:00	607	11:00	1,127	11:00	517	11:00	1,213	11:00	1,134					
11:30		11:30		11:30		11:30		11:30		11:30		11:30		11:30		11:30		11:30		11:30		11:30				
12:00	1,056	12:00	387	12:00	248	12:00	848	12:00	644	12:00	414	12:00	661	12:00	1,179	12:00	561	12:00	1,343	12:00	1,159					
12:30		12:30		12:30		12:30		12:30		12:30		12:30		12:30		12:30		12:30		12:30		12:30				
13:00	1,003	13:00	374	13:00	256	13:00	833	13:00	636	13:00	394	13:00	598	13:00	1,068	13:00	503	13:00	1,222	13:00	1,102					
13:30		13:30		13:30		13:30		13:30		13:30		13:30		13:30		13:30		13:30		13:30		13:30				
14:00	1,108	14:00	480	14:00	287	14:00	993	14:00	683	14:00	501	14:00	646	14:00	1,154	14:00	566	14:00	1,315	14:00	1,171					
14:30		14:30		14:30		14:30		14:30		14:30		14:30		14:30		14:30		14:30		14:30		14:30				
15:00	1,235	15:00	557	15:00	261	15:00	1,124	15:00	820	15:00	618	15:00	920	15:00	1,433	15:00	676	15:00	1,500	15:00	1,305					
15:30		15:30		15:30		15:30		15:30		15:30		15:30		15:30		15:30		15:30		15:30		15:30				
16:00	1,184	16:00	553	16:00	299	16:00	1,193	16:00	888	16:00	593	16:00	840	16:00	1,315	16:00	580	16:00	1,468	16:00	1,197					
16:30		16:30		16:30		16:30		16:30		16:30		16:30		16:30		16:30		16:30		16:30		16:30				
17:00	909	17:00	442	17:00	323	17:00	1,186	17:00	883	17:00	560	17:00	732	17:00	1,139	17:00	417	17:00	1,440	17:00	1,168					
17:30		17:30		17:30		17:30		17:30		17:30		17:30		17:30		17:30		17:30		17:30		17:30				
18:00	964	18:00	326	18:00	259	18:00	894	18:00	665	18:00	362	18:00	548	18:00	875	18:00	342	18:00	1,134	18:00	918					
18:30		18:30		18:30		18:30		18:30		18:30		18:30		18:30		18:30		18:30		18:30		18:30				
19:00	556	19:00	238	19:00	177	19:00	551	19:00	404	19:00	236	19:00	347	19:00	608	19:00	226	19:00	749	19:00	681					
19:30		19:30		19:30		19:30		19:30		19:30		19:30		19:30		19:30		19:30		19:30		19:30				
20:00	417	20:00	173	20:00	151	20:00	420	20:00	275	20:00	190	20:00	292	20:00	461	20:00	155	20:00	453	20:00	432					
20:30		20:30		20:30		20:30		20:30		20:30		20:30		20:30		20:30		20:30		20:30		20:30				
21:00	310	21:00	133	21:00	111	21:00	306	21:00	234	21:00	132	21:00	171	21:00	286	21:00	132	21:00	368	21:00	345					
21:30		21:30		21:30		21:30		21:30		21:30		21:30		21:30		21:30		21:30		21:30		21:30				
22:00	231	22:00	138	22:00	53	22:00	247	22:00	164	22:00	147	22:00	193	22:00	306	22:00	121	22:00	292	22:00	312					
22:30		22:30		22:30		22:30		22:30		22:30		22:30		22:30		22:30		22:30		22:30		22:30				
23:00	185	23:00	108	23:00	57	23:00	148	23:00	129	23:00	117	23:00	175	23:00	254	23:00	81	23:00	212	23:00	235					
23:30		23:30		23:30		23:30		23:30		23:30		23:30		23:30		23:30		23:30		23:30		23:30				
	Sum	15,391	Sum	6,457	Sum	3,861	Sum	14,555	Sum	10,915	Sum	7,171	Sum	10,400	Sum	16,798	Sum	7,160	Sum	18,909	Sum	16,296				



# Zone B - Commerce Street



214 Oceanside Drive  
Nashville, TN 37204  
TEL 615 564 2701  
FAX 615 564 2702

		CYCLE LENGTHS		
EXISTING		FREE	FREE	FREE
		AM	MD	PM
PROPOSED		60	70	70

TOD CLOCK

PROPOSED	SATURDAY	SUNDAY	Station 7	Station 8	Station 56	Station 66	Station 112			
			W Commerce St east of 8th Ave S	E Commerce St west of Legion Ave	W Commerce Pkwy west of Heil	E Commerce St west of Legion Ave	W Commerce St west of N 4th Ave			
			3/19/2015	3/19/2015	10/20/2015 - 10/21/2015	10/20/2015 - 10/21/2015	06/09/2014 - 06/10/2014			
			Date	Date	Date	Date	Date			
			Time	Total	Time	Total	Time	Total		
			0:00	46	0:00	32	0:00	29	0:00	80
			0:30		0:30		0:30		0:30	
			1:00	25	1:00	25	1:00	10	1:00	31
			1:30		1:30		1:30		1:30	
			2:00	20	2:00	19	2:00	10	2:00	21
			2:30		2:30		2:30		2:30	
			3:00	37	3:00	40	3:00	50	3:00	53
			3:30		3:30		3:30		3:30	
			4:00	62	4:00	53	4:00	34	4:00	54
			4:30		4:30		4:30		4:30	
			5:00	151	5:00	128	5:00	141	5:00	147
			5:30		5:30		5:30		5:30	
			6:00	305	6:00	293	6:00	346	6:00	335
			6:30		6:30		6:30		6:30	
			7:00	536	7:00	441	7:00	481	7:00	482
			7:30		7:30		7:30		7:30	
			8:00	383	8:00	345	8:00	379	8:00	498
			8:30		8:30		8:30		8:30	
			9:00	372	9:00	382	9:00	470	9:00	560
			9:30		9:30		9:30		9:30	
			10:00	401	10:00	410	10:00	425	10:00	582
			10:30		10:30		10:30		10:30	
			11:00	264	11:00	514	11:00	571	11:00	536
			11:30		11:30		11:30		11:30	
			12:00	463	12:00	231	12:00	577	12:00	654
			12:30		12:30		12:30		12:30	
			13:00	447	13:00	517	13:00	570	13:00	623
			13:30		13:30		13:30		13:30	
			14:00	498	14:00	516	14:00	591	14:00	643
			14:30		14:30		14:30		14:30	
			15:00	297	15:00	644	15:00	745	15:00	779
			15:30		15:30		15:30		15:30	
			16:00	664	16:00	572	16:00	616	16:00	781
			16:30		16:30		16:30		16:30	
			17:00	561	17:00	491	17:00	471	17:00	709
			17:30		17:30		17:30		17:30	
			18:00	421	18:00	370	18:00	378	18:00	520
			18:30		18:30		18:30		18:30	
			19:00	338	19:00	314	19:00	244	19:00	458
			19:30		19:30		19:30		19:30	
			20:00	240	20:00	202	20:00	159	20:00	345
			20:30		20:30		20:30		20:30	
			21:00	157	21:00	138	21:00	121	21:00	244
			21:30		21:30		21:30		21:30	
			22:00	132	22:00	131	22:00	124	22:00	144
			22:30		22:30		22:30		22:30	
			23:00	91	23:00	95	23:00	78	23:00	150
			23:30		23:30		23:30		23:30	
			<b>Sum</b>	<b>6,911</b>	<b>Sum</b>	<b>6,903</b>	<b>Sum</b>	<b>7,613</b>	<b>Sum</b>	<b>9,429</b>

**Appendix F:**  
**Coding Sheets**

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #3 : West Commerce Street AT Heil Quaker Avenue

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		---	15	---	8	---	---	---	---	---	---	---	---	---	---	---	---
Passage Time .....		---	0.2	---	2.8	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 1 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 2 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yellow Change .....		---	3.5	---	3.5	---	---	---	---	---	---	---	---	---	---	---	---
Red Clearance .....		---	2.0	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---
Density Times	Phase :																
Seconds/Actuation .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum Initial .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cars B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time To Reduce .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Minimum Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Clearance .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extended Pedestrian Clear .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Act Rest In Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

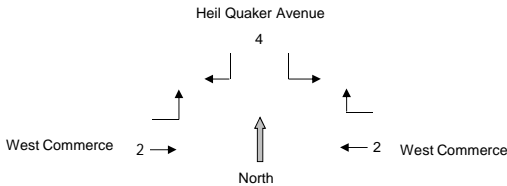
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

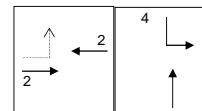
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dual Entry .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Last Car Passage .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Conditional Service .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
No Simultaneous Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**



Intersection Name ..... Int #3		<u>Vest Commerce Stree</u>				AT	<u>Heil Quaker Avenue</u>										
<u>General Control</u>	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....	:	---	2	---	0	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....	:	---	0	---	0	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Codes</u> .....	:	0		1		2		3		4							
Initialization.....	:	NONE		INACTIVE		RED		YELLOW		GREEN							
Non-Act Response.....	:	NONE		TO NA I		TO NA II		TO BOTH		----							
Vehicle Recall.....	:	NONE		1 CALL		MINIMUM		MAXIMUM		SOFT							
Pedestrian Recall.....	:	NONE		1 CALL		PED		NA		NA+							

**PHASE DATA - SEQUENCE CONTROL**

<u>Sequence Control</u>	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Codes</u> .....	:	0		01 TO 16 (# - PHASE)													
Phase Omit.....	:	NONE		Phase Is Omitted By # - Phase On													
Phase - Yellow.....	:	NONE		Phase Yellow Is Omitted By # - Phase Yellow													

**PHASE DATA - VEH DETECTOR CONTROL**

<u>Control</u>	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Control</u>	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Codes</u> .....	:	0		1		2		3		4							
Operation Mode.....	:	NORM VEH		NORM PED		ONE CALL		ST BAR A		ST BAR B							
Assigned Phase.....	:	NONE		Detector Is Assigned To # - Phase													
Switch.....	:	NONE		Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green													

Intersection Name ..... Int #3

**Vest Commerce Stree** AT

**Heil Quaker Avenue**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS						
00	1 5	2 6		3 7	4 8		
01	2 5	2 6	1 6	3 7	4 8		
02	1 5	2 6		4 7	4 8	3 8	
03	2 5	2 6	1 6	4 7	4 8	3 8	
04	1 6	2 6	2 5	3 7	4 8		
05	2 6	1 5		3 7	4 8		
06	1 6	2 6	2 5	4 7	4 8	3 8	
07	2 6	1 5		4 7	4 8	3 8	
08	1 5	2 6		3 8	4 8	4 7	
09	2 5	2 6	1 6	3 8	4 8	4 7	
10	1 5	2 6		4 8	3 7		
11	2 5	2 6	1 6	4 8	3 7		
12	1 6	2 6	2 5	3 8	4 8	4 7	
13	2 6	1 5		3 8	4 8	4 7	
14	1 6	2 6	2 5	4 8	3 7		
15	2 6	1 5		4 8	3 7		

Intersection Name ..... Int #3 **est Commerce Stre** AT **Heil Quaker Avenue**

**COORD DATA MODE**

<b>Control</b>		Codes:	0	1	2	3	4	5
Operation .....	: 1		FRE	AUT	MAN	-	-	-
Mode .....	: 1		PRM	YLD	PYL	POM	SOM	FAC
Maximum .....	: 0		INH	MX1	MX2	-	-	-
Correction .....	: 2		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green) .....	: 1		BEGIN	END OF GREEN				
Force .....	: 1		PLAN	CYCLE TIME				
Max Dwell Time .....	: 0		Time in Seconds					
Yield Period .....	: 0		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3 1 1</u>							

**COORD DATA TIMING PLANS**

<b>Control</b>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length .....		<u>60</u>	<u>70</u>	<u>70</u>	<u>70</u>	<u>70</u>			
Phase 01 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 02 Time/Mode .....		<u>42</u> / <u>1</u>	<u>50</u> / <u>1</u>	<u>50</u> / <u>1</u>	<u>50</u> / <u>1</u>	<u>50</u> / <u>1</u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 03 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 04 Time/Mode .....		<u>18</u> / <u>    </u>	<u>20</u> / <u>    </u>	<u>20</u> / <u>    </u>	<u>20</u> / <u>    </u>	<u>20</u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 05 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 06 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 07 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 08 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 09 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 10 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 11 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 12 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 13 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 14 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 15 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Phase 16 Time/Mode .....		<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>	<u>    </u> / <u>    </u>
Offset 1 .....		<u>38</u>	<u>15</u>	<u>37</u>	<u>37</u>	<u>37</u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 1 Alt Sequence .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 1 Pattern Mode .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 1 Ring 2 Lag .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 1 Ring 3 Lag .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 1 Ring 4 Lag .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 2 .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 2 Pattern Mode .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 2 Ring 2 Lag .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 2 Ring 3 Lag .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 2 Ring 4 Lag .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 3 .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 3 Pattern Mode .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 3 Ring 2 Lag .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 3 Ring 3 Lag .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>
Offset 3 Ring 4 Lag .....		<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>	<u>    </u>

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name ..... Int #3 **est Commerce Stre** AT **Heil Quaker Avenue**

**COORD DATA TIMING PLANS**

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #3 West Commerce Street AT Heil Quaker Avenue

TIME BASE DATA MISCELLANEOUS

DST: BEGIN MONTH 3 WEEK 2
DST: END MONTH 11 WEEK 1
COORD CYCLE ZERO 24 : 00

DST: Daylight Savings Time
Month = 01 to 12 (Begin < End)
Week = 1 to 5 (5= Last Week)
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)
1 =
2 = 3 4 5 6
7 =

DAY EQUATES: Care Must Be Used To Insure Days Are Not
Equated To Undefined Days Or Days That Are Equated To
Other Days. The Rest Will Be A Day Without Events To Run.

TIME BASE DATA TRAFFIC EVENTS

Table with columns: DAY, PDAY, HH : MM, PATTERN, TRAFFIC EVENT FUNCTIONS MAX II PHASE(S), OMIT PHASE(S). Contains traffic event data for various days and times.

REFERENCE DATA:
PDAY - 01-99 Program Day
HH:MM - 24 Hour Clock
PATTERN : (D/S/O)
Flash - 5 / 5 / 0
Free - 0 / 0 / 4
MAX 2 & OMTS: Call Free,
Set Pattern To 0 / 0 / 0



Intersection Name ..... Int #3 West Commerce Street AT Heil Quaker Avenue

**TIME BASE DATA - AUXILIARY EVENTS**

DAY	TIME		AUXILIARY EVENT FUNCTIONS														REFERENCE DATA:
	PDAY	HH : MM	A: 1	2	3	D: 1	2	3	DIM	S: 1	2	3	4	5	6	7	
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**TIME BASE DATA - TIME OF YEAR EVENTS**

DATE	SPECIAL		DATE	SPECIAL		Reference Data:
	MM / DD / YY	DAY WEEK		MM / DD / YY	DAY WEEK	
___/___/___	---	---	___/___/___	---	---	Special Day - Any Program Day 00-99
___/___/___	---	---	___/___/___	---	---	Special Week -
___/___/___	---	---	___/___/___	---	---	Week 0 = Program Day 01-07
___/___/___	---	---	___/___/___	---	---	Week 1 = Program Day 11-17
___/___/___	---	---	___/___/___	---	---	Week 2 = Program Day 21-27
___/___/___	---	---	___/___/___	---	---	
___/___/___	---	---	___/___/___	---	---	Week 9 = Program Day 91-97
___/___/___	---	---	___/___/___	---	---	
___/___/___	---	---	___/___/___	---	---	
___/___/___	---	---	___/___/___	---	---	
___/___/___	---	---	___/___/___	---	---	
___/___/___	---	---	___/___/___	---	---	
___/___/___	---	---	___/___/___	---	---	
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___/___/___	---	---	___/___/___	---	---	

Intersection Name ..... #REF! :           #REF!           AT           #REF!          

UNIT DATA RING STRUCTURE

Control	Channel :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 12 Veh Channel(s)..... :		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 13 Ped Channel(s)..... :		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 13 Veh Channel(s)..... :		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 14 Ped Channel(s)..... :		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 14 Veh Channel(s)..... :		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 15 Ped Channel(s)..... :		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 15 Veh Channel(s)..... :		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 16 Ped Channel(s)..... :		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ph 16 Veh Channel(s)..... :		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Codes:           0 - NO                      1 - YES           Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

UNIT DATA ALTERNATE SEQUENCE

Control	Alt Seq	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Alternate Sequence 00 ..... :	00	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 01 ..... :	01	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 02 ..... :	02	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 03 ..... :	03	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 04 ..... :	04	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 05 ..... :	05	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 06 ..... :	06	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 07 ..... :	07	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 08 ..... :	08	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 09 ..... :	09	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 10 ..... :	10	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 11 ..... :	11	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 12 ..... :	12	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 13 ..... :	13	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 14 ..... :	14	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—
Alternate Sequence 15 ..... :	15	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—	—	/	—

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS
00	1 5 2 6 3 7 4 8
01	2 5 2 6 1 6 3 7 4 8
02	1 5 2 6 4 7 4 8 3 8
03	2 5 2 6 1 6 4 7 4 8 3 8
04	1 6 2 6 2 5 3 7 4 8
05	2 6 1 5 3 7 4 8
06	1 6 2 6 2 5 4 7 4 8 3 8
07	2 6 1 5 4 7 4 8 3 8
08	1 5 2 6 3 8 4 8 4 7
09	2 5 2 6 1 6 3 8 4 8 4 7
10	1 5 2 6 4 8 3 7
11	2 5 2 6 1 6 4 8 3 7
12	1 6 2 6 2 5 3 8 4 8 4 7
13	2 6 1 5 3 8 4 8 4 7
14	1 6 2 6 2 5 4 8 3 7
15	2 6 1 5 4 8 3 7

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #4,6 :     N Ellington Parkway     AT     W Ellington Parkway & Franklin Road    

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		<u>6</u>	<u>18</u>	<u>6</u>	<u>18</u>	<u>6</u>	<u>18</u>	<u>6</u>	<u>18</u>	---	---	---	---	---	---	---	---
Passage Time .....		<u>1.5</u>	<u>2.0</u>	<u>5.0</u>	<u>2.0</u>	<u>1.5</u>	<u>2.0</u>	<u>3.0</u>	<u>2.0</u>	---	---	---	---	---	---	---	---
Maximum No 1 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 2 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yellow Change .....		<u>4.5</u>	<u>4.5</u>	<u>5.0</u>	<u>4.5</u>	<u>4.0</u>	<u>4.0</u>	<u>3.5</u>	<u>4.0</u>	---	---	---	---	---	---	---	---
Red Clearance .....		<u>1.0</u>	<u>1.0</u>	<u>1.0</u>	<u>1.0</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	---	---	---	---	---	---	---	---

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum Initial .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cars B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time To Reduce .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Minimum Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Clearance .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extended Pedestrian Clear .....		---	<u>0</u>	---	<u>0</u>	---	<u>0</u>	---	<u>0</u>	---	---	---	---	---	---	---	---
Act Rest In Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

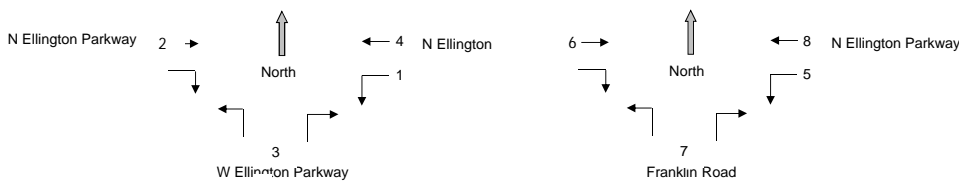
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

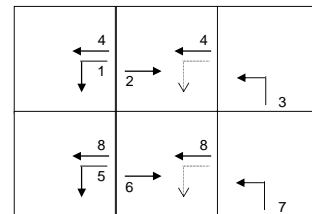
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dual Entry .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Last Car Passage .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Conditional Service .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
No Simultaneous Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**



Intersection Name ..... Int #4,6      **N Ellington Parkway**    AT    **ington Parkway & Franklin I**

<u>General Control</u>	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....	:	---	2	---	2	---	2	---	2	---	---	---	---	---	---	---	---
Pedestrian Recall .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

<u>Codes</u> .....	:	0	1	2	3	4
Initialization.....	:	NONE	INACTIVE	RED	YELLOW	GREEN
Non-Act Response.....	:	NONE	TO NA I	TO NA II	TO BOTH	----
Vehicle Recall.....	:	NONE	1 CALL	MINIMUM	MAXIMUM	SOFT
Pedestrian Recall.....	:	NONE	1 CALL	PED	NA	NA+

**PHASE DATA - SEQUENCE CONTROL**

<u>Sequence Control</u>	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

<u>Codes</u> .....	:	0	01 TO 16 (# - PHASE)
Phase Omit.....	:	NONE	Phase Is Omitted By # - Phase On
Phase - Yellow.....	:	NONE	Phase Yellow Is Omitted By # - Phase Yellow

**PHASE DATA - VEH DETECTOR CONTROL**

<u>Control</u>	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

<u>Control</u>	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

<u>Codes</u> .....	:	0	1	2	3	4
Operation Mode.....	:	NORM VEH	NORM PED	ONE CALL	ST BAR A	ST BAR B
Assigned Phase.....	:	NONE	Detector Is Assigned To # - Phase			
Switch.....	:	NONE	Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green			

Intersection Name ..... Int #4,6

**N Ellington Parkway** AT **Ellington Parkway & Franklin Rc**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS						
00	1 5	2 6		3 7	4 8		
01	2 5	2 6	1 6	3 7	4 8		
02	1 5	2 6		4 7	4 8	3 8	
03	2 5	2 6	1 6	4 7	4 8	3 8	
04	1 6	2 6	2 5	3 7	4 8		
05	2 6	1 5		3 7	4 8		
06	1 6	2 6	2 5	4 7	4 8	3 8	
07	2 6	1 5		4 7	4 8	3 8	
08	1 5	2 6		3 8	4 8	4 7	
09	2 5	2 6	1 6	3 8	4 8	4 7	
10	1 5	2 6		4 8	3 7		
11	2 5	2 6	1 6	4 8	3 7		
12	1 6	2 6	2 5	3 8	4 8	4 7	
13	2 6	1 5		3 8	4 8	4 7	
14	1 6	2 6	2 5	4 8	3 7		
15	2 6	1 5		4 8	3 7		

Intersection Name ..... Int #4,6 **Ellington Parkway** AT **Ellington Parkway & Franklin**

**COORD DATA MODE**

<b>Control</b>		Codes:	0	1	2	3	4	5
Operation	..... : <u>1</u>		FRE	AUT	MAN	-	-	-
Mode	..... : <u>1</u>		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : <u>0</u>		INH	MX1	MX2	-	-	-
Correction	..... : <u>2</u>		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : <u>1</u>		BEGIN	END OF GREEN				
Force	..... : <u>1</u>		PLAN	CYCLE TIME				
Max Dwell Time	..... : <u>0</u>		Time in Seconds					
Yield Period	..... : <u>0</u>		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<b>Control</b>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	<u>75</u>	<u>100</u>	<u>85</u>	<u>85</u>	<u>85</u>			
Phase 01 Time/Mode	..... :	<u>19 /</u>	<u>20 /</u>	<u>20 /</u>	<u>20 /</u>	<u>20 /</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 02 Time/Mode	..... :	<u>34 / 1</u>	<u>52 / 1</u>	<u>45 / 1</u>	<u>45 / 1</u>	<u>45 / 1</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 03 Time/Mode	..... :	<u>22 /</u>	<u>28 /</u>	<u>20 /</u>	<u>20 /</u>	<u>20 /</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 04 Time/Mode	..... :	<u>53 /</u>	<u>72 /</u>	<u>65 /</u>	<u>65 /</u>	<u>65 /</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 05 Time/Mode	..... :	<u>18 /</u>	<u>18 /</u>	<u>20 /</u>	<u>20 /</u>	<u>20 /</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 06 Time/Mode	..... :	<u>37 / 1</u>	<u>62 / 1</u>	<u>45 / 1</u>	<u>45 / 1</u>	<u>45 / 1</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 07 Time/Mode	..... :	<u>20 /</u>	<u>20 /</u>	<u>20 /</u>	<u>20 /</u>	<u>20 /</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 08 Time/Mode	..... :	<u>55 /</u>	<u>80 /</u>	<u>65 /</u>	<u>65 /</u>	<u>65 /</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 09 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 10 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 11 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 12 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 13 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 14 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 15 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Phase 16 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>
Offset 1	..... :	<u>54</u>	<u>38</u>	<u>23</u>	<u>23</u>	<u>23</u>			
Offset 1 Alt Sequence	..... :								
Offset 1 Pattern Mode	..... :								
Offset 1 Ring 2 Lag	..... :	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>	<u>0</u>			
Offset 1 Ring 3 Lag	..... :	<u>3</u>	<u>13</u>	<u>10</u>	<u>1</u>	<u>1</u>			
Offset 1 Ring 4 Lag	..... :	<u>3</u>	<u>13</u>	<u>10</u>	<u>1</u>	<u>1</u>			
Offset 2	..... :								
Offset 2 Pattern Mode	..... :								
Offset 2 Ring 2 Lag	..... :								
Offset 2 Ring 3 Lag	..... :								
Offset 2 Ring 4 Lag	..... :								
Offset 3	..... :								
Offset 3 Pattern Mode	..... :								
Offset 3 Ring 2 Lag	..... :								
Offset 3 Ring 3 Lag	..... :								
Offset 3 Ring 4 Lag	..... :								

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name ..... Int #4,6 **Ellington Parkway** AT **ington Parkway & Franklin**

**COORD DATA TIMING PLANS**

Control	Timing Plan :								
Cycle Length	..... :	---	---	---	---	---	---	---	---
Phase 01 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 02 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 03 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 04 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 05 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 06 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 07 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 08 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 09 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 10 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 11 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 12 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 13 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 14 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 15 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 16 Time/Mode	..... :	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Offset 1	..... :	---	---	---	---	---	---	---	---
Offset 1 Alt Sequence	..... :	---	---	---	---	---	---	---	---
Offset 1 Pattern Mode	..... :	---	---	---	---	---	---	---	---
Offset 1 Ring 2 Lag	..... :	---	---	---	---	---	---	---	---
Offset 1 Ring 3 Lag	..... :	---	---	---	---	---	---	---	---
Offset 1 Ring 4 Lag	..... :	---	---	---	---	---	---	---	---
Offset 2	..... :	---	---	---	---	---	---	---	---
Offset 2 Pattern Mode	..... :	---	---	---	---	---	---	---	---
Offset 2 Ring 2 Lag	..... :	---	---	---	---	---	---	---	---
Offset 2 Ring 3 Lag	..... :	---	---	---	---	---	---	---	---
Offset 2 Ring 4 Lag	..... :	---	---	---	---	---	---	---	---
Offset 3	..... :	---	---	---	---	---	---	---	---
Offset 3 Pattern Mode	..... :	---	---	---	---	---	---	---	---
Offset 3 Ring 2 Lag	..... :	---	---	---	---	---	---	---	---
Offset 3 Ring 3 Lag	..... :	---	---	---	---	---	---	---	---
Offset 3 Ring 4 Lag	..... :	---	---	---	---	---	---	---	---

**Codes** .....

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1



Intersection Name ..... Int #4,6

**N Ellington Parkway** AT **Ellington Parkway & Franklin R**

TIME BASE DATA MISCELLANEOUS

DST: BEGIN MONTH 3 WEEK 2
DST: END MONTH 11 WEEK 1

DST: Daylight Savings Time
Month = 01 to 12 (Begin < End)
Week = 1 to 5 (5= Last Week)

COORD CYCLE ZERO 24 : 00

CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)

Table with columns for days 1-7 and rows for equated days, showing values like 1=, 2=3, 4, 5, 6, etc.

DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

TIME BASE DATA TRAFFIC EVENTS

Table with columns: DAY, PDAY, HH:MM, PATTERN, TRAFFIC EVENT FUNCTIONS MAX II PHASE(S), OMIT PHASE(S), REFERENCE DATA. Includes various time slots and patterns.

Intersection Name ..... Int #4,6 **N Ellington Parkway** AT **ington Parkway & Franklii**

**TIME BASE DATA - AUXILIARY EVENTS**

DAY PDAY	TIME HH : MM	AUXILIARY EVENT FUNCTIONS											REFERENCE DATA:								
		A: 1 2 3			D: 1 2 3			DIM	S: 1 2 3 4 5 6 7 8												
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**TIME BASE DATA - TIME OF YEAR EVENTS**

DATE		SPECIAL		DATE		SPECIAL		Reference Data:
MM / DD / YY		DAY	WEEK	MM / DD / YY		DAY	WEEK	
---	/	---		---	/	---		Special Day - Any Program Day 00-99 Special Week - Week 0 = Program Day 01-07 Week 1 = Program Day 11-17 Week 2 = Program Day 21-27       Week 9 = Program Day 91-97
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Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS											
00	1	5	2	6	3	7	4	8				
01	2	5	2	6	1	6	3	7	4	8		
02	1	5	2	6	4	7	4	8	3	8		
03	2	5	2	6	1	6	4	7	4	8	3	8
04	1	6	2	6	2	5	3	7	4	8		
05	2	6	1	5	3	7	4	8				
06	1	6	2	6	2	5	4	7	4	8	3	8
07	2	6	1	5	4	7	4	8	3	8		
08	1	5	2	6	3	8	4	8	4	7		
09	2	5	2	6	1	6	3	8	4	8	4	7
10	1	5	2	6	4	8	3	7				
11	2	5	2	6	1	6	4	8	3	7		
12	1	6	2	6	2	5	3	8	4	8	4	7
13	2	6	1	5	3	8	4	8	4	7		
14	1	6	2	6	2	5	4	8	3	7		
15	2	6	1	5	4	8	3	7				

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #5 : West Commerce AT 8th Avenue

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		---	15	---	10	---	---	---	---	---	---	---	---	---	---	---	---
Passage Time .....		---	0.2	---	0.2	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 1 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 2 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yellow Change .....		---	3.5	---	4.0	---	---	---	---	---	---	---	---	---	---	---	---
Red Clearance .....		---	2.0	---	2.0	---	---	---	---	---	---	---	---	---	---	---	---

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum Initial .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cars B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time To Reduce .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Minimum Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Clearance .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extended Pedestrian Clear .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Act Rest In Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

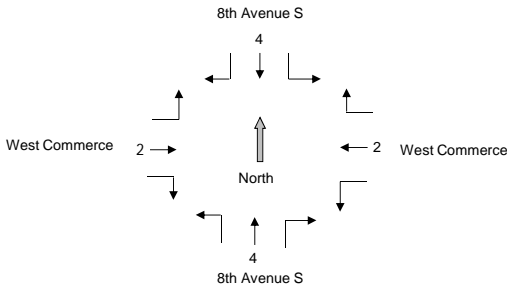
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

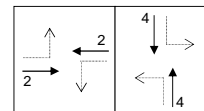
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dual Entry .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Last Car Passage .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Conditional Service .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
No Simultaneous Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**



Intersection Name ..... Int #5		West Commerce				AT	8th Avenue										
General Control Phase :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....		---	3	---	3	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes.....		0		1		2		3		4							
Initialization.....		NONE		INACTIVE		RED		YELLOW		GREEN							
Non-Act Response.....		NONE		TO NA I		TO NA II		TO BOTH		----							
Vehicle Recall.....		NONE		1 CALL		MINIMUM		MAXIMUM		SOFT							
Pedestrian Recall.....		NONE		1 CALL		PED		NA		NA+							

**PHASE DATA - SEQUENCE CONTROL**

Sequence Control Phase :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes .....		0		01 TO 16 (# - PHASE)													
Phase Omit.....		NONE		Phase Is Omitted By # - Phase On													
Phase - Yellow.....		NONE		Phase Yellow Is Omitted By # - Phase Yellow													

**PHASE DATA - VEH DETECTOR CONTROL**

Control Detector :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Control Detector :		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes.....		0		1		2		3		4							
Operation Mode.....		NORM VEH		NORM PED		ONE CALL		ST BAR A		ST BAR B							
Assigned Phase.....		NONE		Detector Is Assigned To # - Phase													
Switch.....		NONE		Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green													

Intersection Name ..... Int #5

**West Commerce**

AT

**8th Avenue**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS
00	1 5 2 6 3 7 4 8
01	2 5 2 6 1 6 3 7 4 8
02	1 5 2 6 4 7 4 8 3 8
03	2 5 2 6 1 6 4 7 4 8 3 8
04	1 6 2 6 2 5 3 7 4 8
05	2 6 1 5 3 7 4 8
06	1 6 2 6 2 5 4 7 4 8 3 8
07	2 6 1 5 4 7 4 8 3 8
08	1 5 2 6 3 8 4 8 4 7
09	2 5 2 6 1 6 3 8 4 8 4 7
10	1 5 2 6 4 8 3 7
11	2 5 2 6 1 6 4 8 3 7
12	1 6 2 6 2 5 3 8 4 8 4 7
13	2 6 1 5 3 8 4 8 4 7
14	1 6 2 6 2 5 4 8 3 7
15	2 6 1 5 4 8 3 7

Intersection Name ..... Int #5 West Commerce AT 8th Avenue

**COORD DATA MODE**

<b>Control</b>		Codes:	0	1	2	3	4	5
Operation	..... : <u>1</u>		FRE	AUT	MAN	-	-	-
Mode	..... : <u>1</u>		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : <u>0</u>		INH	MX1	MX2	-	-	-
Correction	..... : <u>2</u>		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : <u>1</u>		BEGIN	END OF GREEN				
Force	..... : <u>1</u>		PLAN	CYCLE TIME				
Max Dwell Time	..... : <u>0</u>		Time in Seconds					
Yield Period	..... : <u>0</u>		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<b>Control</b>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	<u>60</u>	<u>70</u>	<u>70</u>	<u>70</u>	<u>70</u>	_____	_____	_____
Phase 01 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	..... :	<u>40</u> / <u>1</u>	<u>50</u> / <u>1</u>	<u>50</u> / <u>1</u>	<u>50</u> / <u>1</u>	<u>50</u> / <u>1</u>	____/____	____/____	____/____
Phase 03 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	..... :	<u>20</u> /	<u>20</u> /	<u>20</u> /	<u>20</u> /	<u>20</u> /	____/____	____/____	____/____
Phase 05 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	..... :	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	..... :	<u>51</u>	<u>55</u>	<u>5</u>	<u>5</u>	<u>5</u>	_____	_____	_____
Offset 1 Alt Sequence	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	..... :	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	..... :	_____	_____	_____	_____	_____	_____	_____	_____

**Note: Dial, Split, and Offset are all shown in seconds**



Intersection Name ..... Int #5 West Commerce AT 8th Avenue

COORD DATA TIMING PLANS

Control	Timing Plan :								
Cycle Length	.....	---	---	---	---	---	---	---	---
Phase 01 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 02 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 03 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 04 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 05 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 06 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 07 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 08 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 09 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 10 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 11 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 12 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 13 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 14 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 15 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Phase 16 Time/Mode	.....	---/---	---/---	---/---	---/---	---/---	---/---	---/---	---/---
Offset 1	.....	---	---	---	---	---	---	---	---
Offset 1 Alt Sequence	.....	---	---	---	---	---	---	---	---
Offset 1 Pattern Mode	.....	---	---	---	---	---	---	---	---
Offset 1 Ring 2 Lag	.....	---	---	---	---	---	---	---	---
Offset 1 Ring 3 Lag	.....	---	---	---	---	---	---	---	---
Offset 1 Ring 4 Lag	.....	---	---	---	---	---	---	---	---
Offset 2	.....	---	---	---	---	---	---	---	---
Offset 2 Pattern Mode	.....	---	---	---	---	---	---	---	---
Offset 2 Ring 2 Lag	.....	---	---	---	---	---	---	---	---
Offset 2 Ring 3 Lag	.....	---	---	---	---	---	---	---	---
Offset 2 Ring 4 Lag	.....	---	---	---	---	---	---	---	---
Offset 3	.....	---	---	---	---	---	---	---	---
Offset 3 Pattern Mode	.....	---	---	---	---	---	---	---	---
Offset 3 Ring 2 Lag	.....	---	---	---	---	---	---	---	---
Offset 3 Ring 3 Lag	.....	---	---	---	---	---	---	---	---
Offset 3 Ring 4 Lag	.....	---	---	---	---	---	---	---	---

**Codes** .....

Phase Mode ..... 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... 00-15 (Unit Data Has Definition)

Pattern Mode ..... 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #5 West Commerce AT 8th Avenue

TIME BASE DATA MISCELLANEOUS

DST: BEGIN MONTH 3 WEEK 2
DST: END MONTH 11 WEEK 1
COORD CYCLE ZERO 24 : 00

DST: Daylight Savings Time
Month = 01 to 12 (Begin < End)
Week = 1 to 5 (5= Last Week)
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)
Table with columns for days 1 through 7 and rows for equating days.

DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

TIME BASE DATA TRAFFIC EVENTS

Table with columns: DAY, PDAY, HH:MM, PATTERN, TRAFFIC EVENT FUNCTIONS, MAX II PHASE(S), OMIT PHASE(S). Contains event data for various days and times.

REFERENCE DATA:
PDAY - 01-99 Program Day
HH:MM - 24 Hour Clock
PATTERN : (D/S/O)
Flash - 5 / 5 / 0
Free - 0 / 0 / 4
MAX 2 & OMITs: Call Free,
Set Pattern To 0 / 0 / 0

Intersection Name ..... Int #5 West Commerce AT 8th Avenue

TIME BASE DATA - AUXILIARY EVENTS

DAY PDAY	TIME HH : MM	AUXILIARY EVENT FUNCTIONS														
		A: 1	A: 2	A: 3	D: 1	D: 2	D: 3	DIM	S: 1	S: 2	S: 3	S: 4	S: 5	S: 6	S: 7	S: 8
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REFERENCE DATA:  
 PDAY - 01-99 Program Day  
 HH:MM - 24 Hour Clock  
 A.123 - Auxiliary Output  
 D.123 - Detector  
 1 - Det Diag Vaule  
 2 - Enables Report  
 3 - Rep Multiplier  
 DIM - Dimming Enable  
 S.1>8 - Special Function Output  
 ALL - 0-OFF / 1-ON

TIME BASE DATA - TIME OF YEAR EVENTS

DATE MM / DD / YY	SPECIAL DAY WEEK	DATE MM / DD / YY	SPECIAL DAY WEEK
---/---/---	---	---/---/---	---
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Reference Data:  
 Special Day - Any Program Day 00-99  
 Special Week -  
 Week 0 = Program Day 01-07  
 Week 1 = Program Day 11-17  
 Week 2 = Program Day 21-27  
 |           |           |  
 Week 9 = Program Day 91-97

Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS											
00	1	5	2	6	3	7	4	8				
01	2	5	2	6	1	6	3	7	4	8		
02	1	5	2	6	4	7	4	8	3	8		
03	2	5	2	6	1	6	4	7	4	8	3	8
04	1	6	2	6	2	5	3	7	4	8		
05	2	6	1	5	3	7	4	8				
06	1	6	2	6	2	5	4	7	4	8	3	8
07	2	6	1	5	4	7	4	8	3	8		
08	1	5	2	6	3	8	4	8	4	7		
09	2	5	2	6	1	6	3	8	4	8	4	7
10	1	5	2	6	4	8	3	7				
11	2	5	2	6	1	6	4	8	3	7		
12	1	6	2	6	2	5	3	8	4	8	4	7
13	2	6	1	5	3	8	4	8	4	7		
14	1	6	2	6	2	5	4	8	3	7		
15	2	6	1	5	4	8	3	7				

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #7 : West Commerce Street AT 5th Avenue

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		—	15	8	8	—	—	—	—	—	—	—	—	—	—	—	—
Passage Time .....		—	0.2	2.2	2.2	—	—	—	—	—	—	—	—	—	—	—	—
Maximum No 1 .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Maximum No 2 .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yellow Change .....		—	4.0	3.5	3.0	—	—	—	—	—	—	—	—	—	—	—	—
Red Clearance .....		—	5.0	3.5	3.5	—	—	—	—	—	—	—	—	—	—	—	—

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Maximum Initial .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Time B4 Reduction .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cars B4 Reduction .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Time To Reduce .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Minimum Gap .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pedestrian Clearance .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Extended Pedestrian Clear .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Act Rest In Walk .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

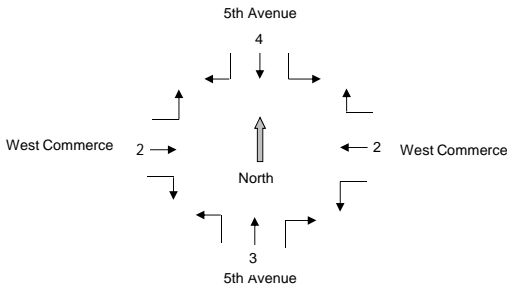
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

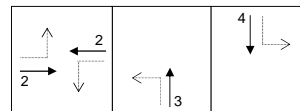
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dual Entry .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Last Car Passage .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Conditional Service .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Simultaneous Gap .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**



Intersection Name ..... Int #7		<u>Vest Commerce Stree</u>				AT	<u>5th Avenue</u>										
<u>General Control</u>	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....	:	---	2	0	0	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Codes</u> .....	:	0		1		2		3		4							
Initialization.....	:	NONE		INACTIVE		RED		YELLOW		GREEN							
Non-Act Response.....	:	NONE		TO NA I		TO NA II		TO BOTH		----							
Vehicle Recall.....	:	NONE		1 CALL		MINIMUM		MAXIMUM		SOFT							
Pedestrian Recall.....	:	NONE		1 CALL		PED		NA		NA+							

**PHASE DATA - SEQUENCE CONTROL**

<u>Sequence Control</u>	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Codes</u> .....	:	0		01 TO 16 (# - PHASE)													
Phase Omit.....	:	NONE		Phase Is Omitted By # - Phase On													
Phase - Yellow.....	:	NONE		Phase Yellow Is Omitted By # - Phase Yellow													

**PHASE DATA - VEH DETECTOR CONTROL**

<u>Control</u>	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Control</u>	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Codes</u> .....	:	0		1		2		3		4							
Operation Mode.....	:	NORM VEH		NORM PED		ONE CALL		ST BAR A		ST BAR B							
Assigned Phase.....	:	NONE		Detector Is Assigned To # - Phase													
Switch.....	:	NONE		Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green													

Intersection Name ..... Int #7

**Vest Commerce Stree** AT

**5th Avenue**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS						
00	1 5	2 6		3 7	4 8		
01	2 5	2 6	1 6	3 7	4 8		
02	1 5	2 6		4 7	4 8	3 8	
03	2 5	2 6	1 6	4 7	4 8	3 8	
04	1 6	2 6	2 5	3 7	4 8		
05	2 6	1 5		3 7	4 8		
06	1 6	2 6	2 5	4 7	4 8	3 8	
07	2 6	1 5		4 7	4 8	3 8	
08	1 5	2 6		3 8	4 8	4 7	
09	2 5	2 6	1 6	3 8	4 8	4 7	
10	1 5	2 6		4 8	3 7		
11	2 5	2 6	1 6	4 8	3 7		
12	1 6	2 6	2 5	3 8	4 8	4 7	
13	2 6	1 5		3 8	4 8	4 7	
14	1 6	2 6	2 5	4 8	3 7		
15	2 6	1 5		4 8	3 7		



Intersection Name ..... Int #7 **est Commerce Stre** AT **5th Avenue**

**COORD DATA MODE**

<u>Control</u>		Codes:	0	1	2	3	4	5
Operation	..... : <u>1</u>		FRE	AUT	MAN	-	-	-
Mode	..... : <u>1</u>		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : <u>0</u>		INH	MX1	MX2	-	-	-
Correction	..... : <u>2</u>		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : <u>1</u>		BEGIN	END OF GREEN				
Force	..... : <u>1</u>		PLAN	CYCLE TIME				
Max Dwell Time	..... : <u>0</u>			Time in Seconds				
Yield Period	..... : <u>0</u>			Time in Seconds				
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<u>Control</u>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	<u>60</u>	<u>70</u>	<u>70</u>	<u>70</u>	<u>70</u>			
Phase 01 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 02 Time/Mode	..... :	<u>26</u> / <u>1</u>	<u>34</u> / <u>1</u>	<u>34</u> / <u>1</u>	<u>34</u> / <u>1</u>	<u>34</u> / <u>1</u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 03 Time/Mode	..... :	<u>17</u> / <u>   </u>	<u>18</u> / <u>   </u>	<u>18</u> / <u>   </u>	<u>18</u> / <u>   </u>	<u>18</u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 04 Time/Mode	..... :	<u>17</u> / <u>   </u>	<u>18</u> / <u>   </u>	<u>18</u> / <u>   </u>	<u>18</u> / <u>   </u>	<u>18</u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 05 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 06 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 07 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 08 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 09 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 10 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 11 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 12 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 13 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 14 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 15 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 16 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Offset 1	..... :	<u>57</u>	<u>47</u>	<u>69</u>	<u>69</u>	<u>69</u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Alt Sequence	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Pattern Mode	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Ring 2 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Ring 3 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Ring 4 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Pattern Mode	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Ring 2 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Ring 3 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Ring 4 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Pattern Mode	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Ring 2 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Ring 3 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Ring 4 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name ..... Int #7 **est Commerce Stre** AT **5th Avenue**

**COORD DATA TIMING PLANS**

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #7 West Commerce Street AT 5th Avenue

**TIME BASE DATA MISCELLANEOUS**

DST: BEGIN MONTH 3 WEEK 2  
 DST: END MONTH 11 WEEK 1

DST: Daylight Savings Time  
 Month = 01 to 12 (Begin < End)  
 Week = 1 to 5 (5= Last Week)

COORD CYCLE ZERO 24 : 00

CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync  
 00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)

1	=					
2	=	3	4	5	6	
7	=					
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DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

**TIME BASE DATA TRAFFIC EVENTS**

DAY	HH : MM	PATTERN	TRAFFIC EVENT FUNCTIONS MAX II PHASE(S)	OMIT PHASE(S)	REFERENCE DATA:
1	0 : 00	0 / 0 / 4	---	---	PDAY - 01-99 Program Day
1	8 : 00	3 / 3 / 1	---	---	HH:MM - 24 Hour Clock
1	17 : 00	0 / 0 / 4	---	---	PATTERN : (D/S/O)
2	0 : 00	0 / 0 / 4	---	---	Flash - 5 / 5 / 0
2	6 : 00	1 / 1 / 1	---	---	Free - 0 / 0 / 4
2	8 : 00	3 / 1 / 1	---	---	MAX 2 & OMTS: Call Free,
2	14 : 00	2 / 1 / 1	---	---	Set Pattern To 0 / 0 / 0
2	18 : 00	3 / 1 / 1	---	---	
2	20 : 00	0 / 0 / 4	---	---	
7	0 : 00	0 / 0 / 4	---	---	
7	9 : 00	3 / 2 / 1	---	---	
7	19 : 00	0 / 0 / 4	---	---	
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Intersection Name ..... Int #7 West Commerce Street AT 5th Avenue

TIME BASE DATA - AUXILIARY EVENTS

DAY	TIME	AUXILIARY EVENT FUNCTIONS															
		A: 1 2 3			D: 1 2 3			DIM	S: 1 2 3 4 5 6 7 8								
PDAY	HH : MM																
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REFERENCE DATA:  
PDAY - 01-99 Program Day  
HH:MM - 24 Hour Clock  
A.123 - Auxiliary Output  
D.123 - Detector  
1 - Det Diag Vaule  
2 - Enables Report  
3 - Rep Multiplier  
DIM - Dimming Enable  
S.1>8 - Special Function Output  
ALL - 0-OFF / 1-ON

TIME BASE DATA - TIME OF YEAR EVENTS

DATE		SPECIAL		DATE		SPECIAL			
MM	DD	YY	DAY	WEEK	MM	DD	YY	DAY	WEEK
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Reference Data:  
Special Day - Any Program Day 00-99  
Special Week -  
Week 0 = Program Day 01-07  
Week 1 = Program Day 11-17  
Week 2 = Program Day 21-27  
| | |  
Week 9 = Program Day 91-97

Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                    0 - NO                    1 - YES                    Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS							
00	1	5	2	6	3	7	4	8
01	2	5	2	6	1	6	3	7
02	1	5	2	6	4	7	4	8
03	2	5	2	6	1	6	4	7
04	1	6	2	6	2	5	3	7
05	2	6	1	5	3	7	4	8
06	1	6	2	6	2	5	4	7
07	2	6	1	5	4	7	4	8
08	1	5	2	6	3	8	4	8
09	2	5	2	6	1	6	3	8
10	1	5	2	6	4	8	3	7
11	2	5	2	6	1	6	4	8
12	1	6	2	6	2	5	3	8
13	2	6	1	5	3	8	4	8
14	1	6	2	6	2	5	4	8
15	2	6	1	5	4	8	3	7

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #8 : N Ellington Parkway AT Walmart Entrance

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		6	15		6		15										
Passage Time .....		3.0	4.0		3.5		4.0										
Maximum No 1 .....																	
Maximum No 2 .....																	
Yellow Change .....		5.0	5.0		3.0		5.0										
Red Clearance .....		1.5	1.5		1.5		1.5										

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....																	
Maximum Initial .....																	
Time B4 Reduction .....																	
Cars B4 Reduction .....																	
Time To Reduce .....																	
Minimum Gap .....																	

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....																	
Pedestrian Clearance .....																	

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....																	
Extended Pedestrian Clear .....																	
Act Rest In Walk .....																	

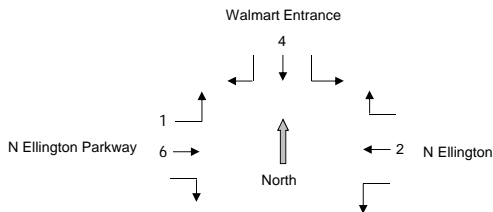
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

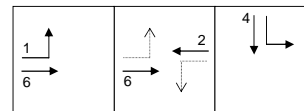
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....																	
Dual Entry .....																	
Last Car Passage .....																	
Conditional Service .....																	
No Simultaneous Gap .....																	

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**



Intersection Name ..... Int #8		N Ellington Parkway				AT	Walmart Entrance												
General Control		Phase :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....				0	2		0		2										
Pedestrian Recall .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes.....				0		1		2		3		4							
Initialization.....				NONE		INACTIVE		RED		YELLOW		GREEN							
Non-Act Response.....				NONE		TO NA I		TO NA II		TO BOTH		----							
Vehicle Recall.....				NONE		1 CALL		MINIMUM		MAXIMUM		SOFT							
Pedestrian Recall.....				NONE		1 CALL		PED		NA		NA+							

PHASE DATA - SEQUENCE CONTROL

Sequence Control		Phase :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes .....				0		01 TO 16 (# - PHASE)													
Phase Omit.....				NONE		Phase Is Omitted By # - Phase On													
Phase - Yellow.....				NONE		Phase Yellow Is Omitted By # - Phase Yellow													

PHASE DATA - VEH DETECTOR CONTROL

Control		Detector :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Control		Detector :		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes.....				0		1		2		3		4							
Operation Mode.....				NORM VEH		NORM PED		ONE CALL		ST BAR A		ST BAR B							
Assigned Phase.....				NONE		Detector Is Assigned To # - Phase													
Switch.....				NONE		Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green													



Intersection Name ..... Int #8

**N Ellington Parkway**

AT

**Walmart Entrance**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS
00	1 5 2 6 3 7 4 8
01	2 5 2 6 1 6 3 7 4 8
02	1 5 2 6 4 7 4 8 3 8
03	2 5 2 6 1 6 4 7 4 8 3 8
04	1 6 2 6 2 5 3 7 4 8
05	2 6 1 5 3 7 4 8
06	1 6 2 6 2 5 4 7 4 8 3 8
07	2 6 1 5 4 7 4 8 3 8
08	1 5 2 6 3 8 4 8 4 7
09	2 5 2 6 1 6 3 8 4 8 4 7
10	1 5 2 6 4 8 3 7
11	2 5 2 6 1 6 4 8 3 7
12	1 6 2 6 2 5 3 8 4 8 4 7
13	2 6 1 5 3 8 4 8 4 7
14	1 6 2 6 2 5 4 8 3 7
15	2 6 1 5 4 8 3 7

Intersection Name ..... Int #8 **N Ellington Parkway** AT **Walmart Entrance**

**COORD DATA MODE**

<b>Control</b>		Codes:	0	1	2	3	4	5
Operation	..... : <u>1</u>		FRE	AUT	MAN	-	-	-
Mode	..... : <u>1</u>		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : <u>0</u>		INH	MX1	MX2	-	-	-
Correction	..... : <u>2</u>		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : <u>1</u>		BEGIN	END OF GREEN				
Force	..... : <u>1</u>		PLAN	CYCLE TIME				
Max Dwell Time	..... : <u>0</u>		Time in Seconds					
Yield Period	..... : <u>0</u>		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<b>Control</b>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	<u>75</u>	<u>100</u>	<u>85</u>	<u>85</u>	<u>85</u>			
Phase 01 Time/Mode	..... :	<u>15</u> /	<u>20</u> /	<u>20</u> /	<u>20</u> /	<u>20</u> /			
Phase 02 Time/Mode	..... :	<u>42</u> /	<u>56</u> /	<u>40</u> /	<u>40</u> /	<u>40</u> /			
Phase 03 Time/Mode	..... :								
Phase 04 Time/Mode	..... :	<u>18</u> /	<u>24</u> /	<u>25</u> /	<u>25</u> /	<u>25</u> /			
Phase 05 Time/Mode	..... :								
Phase 06 Time/Mode	..... :	<u>57</u> / <u>1</u>	<u>76</u> / <u>1</u>	<u>60</u> / <u>1</u>	<u>60</u> / <u>1</u>	<u>60</u> / <u>1</u>			
Phase 07 Time/Mode	..... :								
Phase 08 Time/Mode	..... :								
Phase 09 Time/Mode	..... :								
Phase 10 Time/Mode	..... :								
Phase 11 Time/Mode	..... :								
Phase 12 Time/Mode	..... :								
Phase 13 Time/Mode	..... :								
Phase 14 Time/Mode	..... :								
Phase 15 Time/Mode	..... :								
Phase 16 Time/Mode	..... :								
Offset 1	..... :	<u>21</u>	<u>54</u>	<u>31</u>	<u>31</u>	<u>31</u>			
Offset 1 Alt Sequence	..... :								
Offset 1 Pattern Mode	..... :								
Offset 1 Ring 2 Lag	..... :								
Offset 1 Ring 3 Lag	..... :								
Offset 1 Ring 4 Lag	..... :								
Offset 2	..... :								
Offset 2 Pattern Mode	..... :								
Offset 2 Ring 2 Lag	..... :								
Offset 2 Ring 3 Lag	..... :								
Offset 2 Ring 4 Lag	..... :								
Offset 3	..... :								
Offset 3 Pattern Mode	..... :								
Offset 3 Ring 2 Lag	..... :								
Offset 3 Ring 3 Lag	..... :								
Offset 3 Ring 4 Lag	..... :								

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name ..... Int #8 **N Ellington Parkway** AT **Walmart Entrance**

**COORD DATA TIMING PLANS**

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #8  N Ellington Parkway  AT  Walmart Entrance

**TIME BASE DATA MISCELLANEOUS**

DST: BEGIN MONTH  3  WEEK  2   
DST: END MONTH  11  WEEK  1   
COORD CYCLE ZERO  24  :  00

DST: Daylight Savings Timng  
Month = 01 to 12 (Begin < End)  
Week = 1 to 5 (5= Last Week)  
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync  
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)  
1 = \_\_\_\_\_  
2 =  3   4   5   6  \_\_\_\_\_  
7 = \_\_\_\_\_  
\_\_\_\_\_ = \_\_\_\_\_  
\_\_\_\_\_ = \_\_\_\_\_  
\_\_\_\_\_ = \_\_\_\_\_  
\_\_\_\_\_ = \_\_\_\_\_  
\_\_\_\_\_ = \_\_\_\_\_  
\_\_\_\_\_ = \_\_\_\_\_  
\_\_\_\_\_ = \_\_\_\_\_  
\_\_\_\_\_ = \_\_\_\_\_

DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

**TIME BASE DATA TRAFFIC EVENTS**

DAY	PDAY	HH : MM	PATTERN	TRAFFIC EVENT FUNCTIONS MAX II PHASE(S)	OMIT PHASE(S)
	1	0 : 00	5 / 5 / 0	_____	_____
	1	4 : 00	0 / 0 / 4	_____	_____
	1	8 : 00	3 / 3 / 1	_____	_____
	1	17 : 00	0 / 0 / 4	_____	_____
	2	0 : 00	5 / 5 / 0	_____	_____
	2	4 : 00	0 / 0 / 4	_____	_____
	2	6 : 00	1 / 1 / 1	_____	_____
	2	8 : 30	3 / 1 / 1	_____	_____
	2	14 : 00	2 / 1 / 1	_____	_____
	2	18 : 30	3 / 1 / 1	_____	_____
	2	21 : 00	0 / 0 / 4	_____	_____
	7	0 : 00	5 / 5 / 0	_____	_____
	7	4 : 00	0 / 0 / 4	_____	_____
	7	9 : 00	3 / 2 / 1	_____	_____
	7	19 : 00	0 / 0 / 4	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____
			/ /	_____	_____

REFERENCE DATA:  
PDAY - 01-99 Program Day  
HH:MM - 24 Hour Clock  
PATTERN : (D/S/O)  
Flash - 5 / 5 / 0  
Free - 0 / 0 / 4  
MAX 2 & OMTS: Call Free,  
Set Pattern To 0 / 0 / 0

Intersection Name ..... Int #8 N Ellington Parkway AT Walmart Entrance

TIME BASE DATA - AUXILIARY EVENTS

DAY	TIME	AUXILIARY EVENT FUNCTIONS												REFERENCE DATA:			
		A: 1 2 3			D: 1 2 3			DIM	S: 1 2 3 4 5 6 7 8								
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
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___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
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___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
___	__:	___	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

TIME BASE DATA - TIME OF YEAR EVENTS

DATE		SPECIAL		DATE		SPECIAL		Reference Data:
MM / DD / YY		DAY	WEEK	MM / DD / YY		DAY	WEEK	
___/___/___		---	---	___/___/___		---	---	Special Day - Any Program Day 00-99 Special Week - Week 0 = Program Day 01-07 Week 1 = Program Day 11-17 Week 2 = Program Day 21-27       Week 9 = Program Day 91-97
___/___/___		---	---	___/___/___		---	---	
___/___/___		---	---	___/___/___		---	---	
___/___/___		---	---	___/___/___		---	---	
___/___/___		---	---	___/___/___		---	---	
___/___/___		---	---	___/___/___		---	---	
___/___/___		---	---	___/___/___		---	---	
___/___/___		---	---	___/___/___		---	---	
___/___/___		---	---	___/___/___		---	---	
___/___/___		---	---	___/___/___		---	---	

Intersection Name ..... #REF! :                     #REF!                     AT                     #REF!                    

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS											
00	1	5	2	6	3	7	4	8				
01	2	5	2	6	1	6	3	7	4	8		
02	1	5	2	6	4	7	4	8	3	8		
03	2	5	2	6	1	6	4	7	4	8	3	8
04	1	6	2	6	2	5	3	7	4	8		
05	2	6	1	5	3	7	4	8				
06	1	6	2	6	2	5	4	7	4	8	3	8
07	2	6	1	5	4	7	4	8	3	8		
08	1	5	2	6	3	8	4	8	4	7		
09	2	5	2	6	1	6	3	8	4	8	4	7
10	1	5	2	6	4	8	3	7				
11	2	5	2	6	1	6	4	8	3	7		
12	1	6	2	6	2	5	3	8	4	8	4	7
13	2	6	1	5	3	8	4	8	4	7		
14	1	6	2	6	2	5	4	8	3	7		
15	2	6	1	5	4	8	3	7				

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D



**14 EPAC300 PROGRAM LOG**

Date: 5 / 3 / 2016

Intersection Name ..... Int #9 : West Commerce Street AT North 3rd Avenue

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		—	15	—	10	—	—	—	—	—	—	—	—	—	—	—	—
Passage Time .....		—	1.0	—	1.0	—	—	—	—	—	—	—	—	—	—	—	—
Maximum No 1 .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Maximum No 2 .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yellow Change .....		—	3.5	—	3.5	—	—	—	—	—	—	—	—	—	—	—	—
Red Clearance .....		—	2.0	—	2.5	—	—	—	—	—	—	—	—	—	—	—	—

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Maximum Initial .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Time B4 Reduction .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cars B4 Reduction .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Time To Reduce .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Minimum Gap .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		—	7	—	7	—	—	—	—	—	—	—	—	—	—	—	—
Pedestrian Clearance .....		—	8	—	12	—	—	—	—	—	—	—	—	—	—	—	—

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		—	0	—	0	—	—	—	—	—	—	—	—	—	—	—	—
Extended Pedestrian Clear .....		—	0	—	0	—	—	—	—	—	—	—	—	—	—	—	—
Act Rest In Walk .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

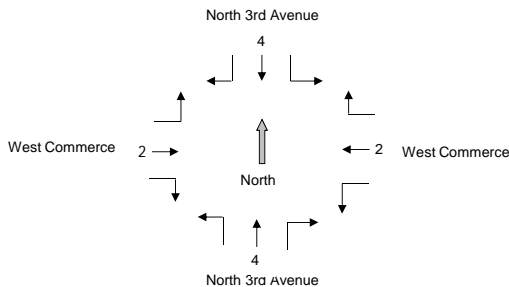
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

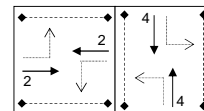
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dual Entry .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Last Car Passage .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Conditional Service .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Simultaneous Gap .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**





Intersection Name ..... Int #9		<u>Vest Commerce Stree</u>				AT	<u>North 3rd Avenue</u>										
<u>General Control</u>	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....	:	---	2	---	2	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Codes</u> .....	:	0		1		2		3		4							
Initialization.....	:	NONE		INACTIVE		RED		YELLOW		GREEN							
Non-Act Response.....	:	NONE		TO NA I		TO NA II		TO BOTH		----							
Vehicle Recall.....	:	NONE		1 CALL		MINIMUM		MAXIMUM		SOFT							
Pedestrian Recall.....	:	NONE		1 CALL		PED		NA		NA+							

**PHASE DATA - SEQUENCE CONTROL**

<u>Sequence Control</u>	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Codes</u> .....	:	0		01 TO 16 (# - PHASE)													
Phase Omit.....	:	NONE		Phase Is Omitted By # - Phase On													
Phase - Yellow.....	:	NONE		Phase Yellow Is Omitted By # - Phase Yellow													

**PHASE DATA - VEH DETECTOR CONTROL**

<u>Control</u>	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Control</u>	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
<u>Codes</u> .....	:	0		1		2		3		4							
Operation Mode.....	:	NORM VEH		NORM PED		ONE CALL		ST BAR A		ST BAR B							
Assigned Phase.....	:	NONE		Detector Is Assigned To # - Phase													
Switch.....	:	NONE		Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green													

Intersection Name ..... Int #9

**Vest Commerce Stree** AT

**North 3rd Avenue**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS						
00	1 5	2 6		3 7	4 8		
01	2 5	2 6	1 6	3 7	4 8		
02	1 5	2 6		4 7	4 8	3 8	
03	2 5	2 6	1 6	4 7	4 8	3 8	
04	1 6	2 6	2 5	3 7	4 8		
05	2 6	1 5		3 7	4 8		
06	1 6	2 6	2 5	4 7	4 8	3 8	
07	2 6	1 5		4 7	4 8	3 8	
08	1 5	2 6		3 8	4 8	4 7	
09	2 5	2 6	1 6	3 8	4 8	4 7	
10	1 5	2 6		4 8	3 7		
11	2 5	2 6	1 6	4 8	3 7		
12	1 6	2 6	2 5	3 8	4 8	4 7	
13	2 6	1 5		3 8	4 8	4 7	
14	1 6	2 6	2 5	4 8	3 7		
15	2 6	1 5		4 8	3 7		

Intersection Name ..... Int #9 **est Commerce Stre** AT **North 3rd Avenue**

**COORD DATA MODE**

<b>Control</b>		Codes:	0	1	2	3	4	5
Operation	..... : <u>1</u>		FRE	AUT	MAN	-	-	-
Mode	..... : <u>1</u>		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : <u>0</u>		INH	MX1	MX2	-	-	-
Correction	..... : <u>2</u>		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : <u>1</u>		BEGIN	END OF GREEN				
Force	..... : <u>1</u>		PLAN	CYCLE TIME				
Max Dwell Time	..... : <u>0</u>		Time in Seconds					
Yield Period	..... : <u>0</u>		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<b>Control</b>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	<u>60</u>	<u>70</u>	<u>70</u>	<u>70</u>	<u>70</u>			
Phase 01 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 02 Time/Mode	..... :	<u>34</u> / <u>1</u>	<u>44</u> / <u>1</u>	<u>44</u> / <u>1</u>	<u>44</u> / <u>1</u>	<u>44</u> / <u>1</u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 03 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 04 Time/Mode	..... :	<u>26</u> / <u>   </u>	<u>26</u> / <u>   </u>	<u>26</u> / <u>   </u>	<u>26</u> / <u>   </u>	<u>26</u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 05 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 06 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 07 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 08 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 09 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 10 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 11 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 12 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 13 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 14 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 15 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 16 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Offset 1	..... :	<u>52</u>	<u>39</u>	<u>63</u>	<u>63</u>	<u>63</u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Alt Sequence	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Pattern Mode	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Ring 2 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Ring 3 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Ring 4 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Pattern Mode	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Ring 2 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Ring 3 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Ring 4 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Pattern Mode	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Ring 2 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Ring 3 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Ring 4 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name .....Int #9 **est Commerce Stre** AT **North 3rd Avenue**

**COORD DATA TIMING PLANS**

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 02 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 03 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 04 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 05 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 06 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 07 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 08 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 09 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 10 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 11 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 12 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 13 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 14 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 15 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 16 Time/Mode	.....	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #9 West Commerce Street AT North 3rd Avenue

TIME BASE DATA MISCELLANEOUS

DST: BEGIN MONTH 3 WEEK 2
DST: END MONTH 11 WEEK 1
COORD CYCLE ZERO 24 : 00

DST: Daylight Savings Timng
Month = 01 to 12 (Begin < End)
Week = 1 to 5 (5= Last Week)
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)
Table with 7 columns representing days of the week and rows for equated days.

DAY EQUATES: Care Must Be Used To Insure Days Are Not
Equated To Undefined Days Or Days That Are Equated To
Other Days. The Rest Will Be A Day Without Events To Run.

TIME BASE DATA TRAFFIC EVENTS

Table with columns: DAY, PDAY, HH : MM, PATTERN, TRAFFIC EVENT FUNCTIONS, MAX II PHASE(S), OMIT PHASE(S). Contains event data for various times of day.

REFERENCE DATA:
PDAY - 01-99 Program Day
HH:MM - 24 Hour Clock
PATTERN : (D/S/O)
Flash - 5 / 5 / 0
Free - 0 / 0 / 4
MAX 2 & OMITs: Call Free,
Set Pattern To 0 / 0 / 0

Intersection Name ..... Int #9 West Commerce Street AT North 3rd Avenue

TIME BASE DATA - AUXILIARY EVENTS

DAY PDAY	TIME HH : MM	AUXILIARY EVENT FUNCTIONS																				
		A: 1 2 3			D: 1 2 3			DIM	S: 1 2 3 4 5 6 7 8													
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REFERENCE DATA:  
 PDAY - 01-99 Program Day  
 HH:MM - 24 Hour Clock  
 A.123 - Auxiliary Output  
 D.123 - Detector  
 1 - Det Diag Vaule  
 2 - Enables Report  
 3 - Rep Multiplier  
 DIM - Dimming Enable  
 S.1>8 - Special Function Output  
 ALL - 0-OFF / 1-ON

TIME BASE DATA - TIME OF YEAR EVENTS

DATE MM / DD / YY	SPECIAL DAY WEEK	DATE MM / DD / YY	SPECIAL DAY WEEK
___/___/___	___ ___	___/___/___	___ ___
___/___/___	___ ___	___/___/___	___ ___
___/___/___	___ ___	___/___/___	___ ___
___/___/___	___ ___	___/___/___	___ ___
___/___/___	___ ___	___/___/___	___ ___
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___/___/___	___ ___	___/___/___	___ ___
___/___/___	___ ___	___/___/___	___ ___
___/___/___	___ ___	___/___/___	___ ___

Reference Data:  
 Special Day - Any Program Day 00-99  
 Special Week -  
 Week 0 = Program Day 01-07  
 Week 1 = Program Day 11-17  
 Week 2 = Program Day 21-27  
 | | |  
 Week 9 = Program Day 91-97

Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS
00	1 5    2 6                    3 7    4 8
01	2 5    2 6    1 6    3 7    4 8
02	1 5    2 6                    4 7    4 8    3 8
03	2 5    2 6    1 6    4 7    4 8    3 8
04	1 6    2 6    2 5    3 7    4 8
05	2 6    1 5                    3 7    4 8
06	1 6    2 6    2 5    4 7    4 8    3 8
07	2 6    1 5                    4 7    4 8    3 8
08	1 5    2 6                    3 8    4 8    4 7
09	2 5    2 6    1 6    3 8    4 8    4 7
10	1 5    2 6                    4 8    3 7
11	2 5    2 6    1 6    4 8    3 7
12	1 6    2 6    2 5    3 8    4 8    4 7
13	2 6    1 5                    3 8    4 8    4 7
14	1 6    2 6    2 5    4 8    3 7
15	2 6    1 5                    4 8    3 7

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D



**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #10 :           N Ellington Parkway           AT           5th Avenue / Rock Crusher Road          

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		6	15	---	6	6	15	---	6	---	---	---	---	---	---	---	---
Passage Time .....		3.0	4.0	---	3.5	3.0	4.0	---	3.5	---	---	---	---	---	---	---	---
Maximum No 1 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 2 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yellow Change .....		4.5	4.5	---	3.5	4.5	4.5	---	3.5	---	---	---	---	---	---	---	---
Red Clearance .....		1.0	1.5	---	2.0	1.5	1.5	---	2.0	---	---	---	---	---	---	---	---

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum Initial .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cars B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time To Reduce .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Minimum Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Clearance .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extended Pedestrian Clear .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Act Rest In Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

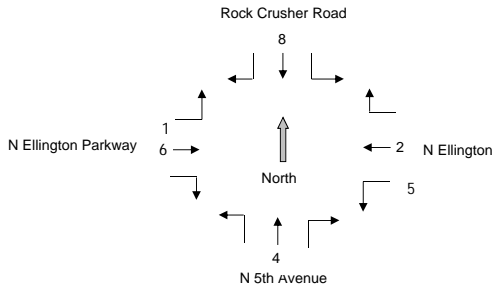
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

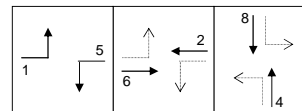
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dual Entry .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Last Car Passage .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Conditional Service .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
No Simultaneous Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**



Intersection Name ..... Int #10 **N Ellington Parkway** AT **1 Avenue / Rock Crusher Ro**

General Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....	:	---	2	---	---	---	2	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Initialization.....	:	NONE	INACTIVE	RED	YELLOW	GREEN
Non-Act Response.....	:	NONE	TO NA I	TO NA II	TO BOTH	----
Vehicle Recall.....	:	NONE	1 CALL	MINIMUM	MAXIMUM	SOFT
Pedestrian Recall.....	:	NONE	1 CALL	PED	NA	NA+

**PHASE DATA - SEQUENCE CONTROL**

Sequence Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes .....	:	0	01 TO 16 (# - PHASE)
Phase Omit.....	:	NONE	Phase Is Omitted By # - Phase On
Phase - Yellow.....	:	NONE	Phase Yellow Is Omitted By # - Phase Yellow

**PHASE DATA - VEH DETECTOR CONTROL**

Control	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Control	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Operation Mode.....	:	NORM VEH	NORM PED	ONE CALL	ST BAR A	ST BAR B
Assigned Phase.....	:	NONE	Detector Is Assigned To # - Phase			
Switch.....	:	NONE	Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green			

Intersection Name ..... Int #10

**N Ellington Parkway** AT **5th Avenue / Rock Crusher Roac**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS						
00	1 5	2 6		3 7	4 8		
01	2 5	2 6	1 6	3 7	4 8		
02	1 5	2 6		4 7	4 8	3 8	
03	2 5	2 6	1 6	4 7	4 8	3 8	
04	1 6	2 6	2 5	3 7	4 8		
05	2 6	1 5		3 7	4 8		
06	1 6	2 6	2 5	4 7	4 8	3 8	
07	2 6	1 5		4 7	4 8	3 8	
08	1 5	2 6		3 8	4 8	4 7	
09	2 5	2 6	1 6	3 8	4 8	4 7	
10	1 5	2 6		4 8	3 7		
11	2 5	2 6	1 6	4 8	3 7		
12	1 6	2 6	2 5	3 8	4 8	4 7	
13	2 6	1 5		3 8	4 8	4 7	
14	1 6	2 6	2 5	4 8	3 7		
15	2 6	1 5		4 8	3 7		

Intersection Name ..... Int #10 **Ellington Parkwa** AT **Avenue / Rock Crusher Rc**

**COORD DATA MODE**

<b>Control</b>		Codes:	0	1	2	3	4	5
Operation	..... : <u>1</u>		FRE	AUT	MAN	-	-	-
Mode	..... : <u>1</u>		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : <u>0</u>		INH	MX1	MX2	-	-	-
Correction	..... : <u>2</u>		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : <u>1</u>		BEGIN	END OF GREEN				
Force	..... : <u>1</u>		PLAN	CYCLE TIME				
Max Dwell Time	..... : <u>0</u>		Time in Seconds					
Yield Period	..... : <u>0</u>		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<b>Control</b>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	<u>75</u>	<u>100</u>	<u>85</u>	<u>85</u>	<u>85</u>			
Phase 01 Time/Mode	..... :	<u>15 /</u>	<u>15 /</u>	<u>20 /</u>	<u>20 /</u>	<u>20 /</u>			
Phase 02 Time/Mode	..... :	<u>45 / 1</u>	<u>52 / 1</u>	<u>43 / 1</u>	<u>43 / 1</u>	<u>43 / 1</u>			
Phase 03 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 04 Time/Mode	..... :	<u>15 /</u>	<u>33 /</u>	<u>22 /</u>	<u>22 /</u>	<u>22 /</u>			
Phase 05 Time/Mode	..... :	<u>15 /</u>	<u>15 /</u>	<u>20 /</u>	<u>20 /</u>	<u>20 /</u>			
Phase 06 Time/Mode	..... :	<u>45 / 1</u>	<u>52 / 1</u>	<u>43 / 1</u>	<u>43 / 1</u>	<u>43 / 1</u>			
Phase 07 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 08 Time/Mode	..... :	<u>15 /</u>	<u>33 /</u>	<u>22 /</u>	<u>22 /</u>	<u>22 /</u>			
Phase 09 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 10 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 11 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 12 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 13 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 14 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 15 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 16 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Offset 1	..... :	<u>23</u>	<u>59</u>	<u>33</u>	<u>33</u>	<u>33</u>			
Offset 1 Alt Sequence	..... :								
Offset 1 Pattern Mode	..... :								
Offset 1 Ring 2 Lag	..... :								
Offset 1 Ring 3 Lag	..... :								
Offset 1 Ring 4 Lag	..... :								
Offset 2	..... :								
Offset 2 Pattern Mode	..... :								
Offset 2 Ring 2 Lag	..... :								
Offset 2 Ring 3 Lag	..... :								
Offset 2 Ring 4 Lag	..... :								
Offset 3	..... :								
Offset 3 Pattern Mode	..... :								
Offset 3 Ring 2 Lag	..... :								
Offset 3 Ring 3 Lag	..... :								
Offset 3 Ring 4 Lag	..... :								

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name ..... Int #10 **↓ Ellington Parkwa** AT **↓ Avenue / Rock Crusher Rc**

**COORD DATA TIMING PLANS**

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #10 N Ellington Parkway AT th Avenue / Rock Crusher Roa

TIME BASE DATA MISCELLANEOUS

DST: BEGIN MONTH 3 WEEK 2  
DST: END MONTH 11 WEEK 1  
COORD CYCLE ZERO 24 : 00

DST: Daylight Savings Timng  
Month = 01 to 12 (Begin < End)  
Week = 1 to 5 (5= Last Week)  
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync  
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)

Table with 7 columns and 10 rows for equated days. Row 1: 1 = 3 4 5 6. Row 2: 2 = 3 4 5 6. Row 3: 7 = 3 4 5 6. Subsequent rows are blank.

DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

TIME BASE DATA TRAFFIC EVENTS

Table with 6 columns: DAY, PDAY, HH:MM, PATTERN, TRAFFIC EVENT FUNCTIONS (MAX II PHASE(S)), OMIT PHASE(S), and REFERENCE DATA. Includes event details for days 1, 2, 7 and various times.

Intersection Name ..... Int #10 **N Ellington Parkway** AT **Avenue / Rock Crusher F**

**TIME BASE DATA - AUXILIARY EVENTS**

DAY	TIME	AUXILIARY EVENT FUNCTIONS															
		A: 1 2 3			D: 1 2 3			DIM	S. 1 2 3 4 5 6 7 8								
PDAY	HH : MM																
---	---																
---	---																
---	---																
---	---																
---	---																
---	---																
---	---																
---	---																
---	---																
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---	---																
---	---																
---	---																
---	---																

REFERENCE DATA:  
 PDAY - 01-99 Program Day  
 HH:MM - 24 Hour Clock  
 A.123 - Auxiliary Output  
 D.123 - Detector  
 1 - Det Diag Vaule  
 2 - Enables Report  
 3 - Rep Multiplier  
 DIM - Dimming Enable  
 S.1>8 - Special Function Output  
 ALL - 0-OFF / 1-ON

**TIME BASE DATA - TIME OF YEAR EVENTS**

DATE		SPECIAL		DATE		SPECIAL	
MM / DD / YY		DAY	WEEK	MM / DD / YY		DAY	WEEK
--- / --- / ---		---	---	--- / --- / ---		---	---
--- / --- / ---		---	---	--- / --- / ---		---	---
--- / --- / ---		---	---	--- / --- / ---		---	---
--- / --- / ---		---	---	--- / --- / ---		---	---
--- / --- / ---		---	---	--- / --- / ---		---	---
--- / --- / ---		---	---	--- / --- / ---		---	---
--- / --- / ---		---	---	--- / --- / ---		---	---
--- / --- / ---		---	---	--- / --- / ---		---	---
--- / --- / ---		---	---	--- / --- / ---		---	---
--- / --- / ---		---	---	--- / --- / ---		---	---

Reference Data:  
 Special Day - Any Program Day 00-99  
 Special Week -  
 Week 0 = Program Day 01-07  
 Week 1 = Program Day 11-17  
 Week 2 = Program Day 21-27  
 | | |  
 Week 9 = Program Day 91-97

Intersection Name ..... #REF! :                     #REF!                     AT                     #REF!                    

**UNIT DATA RING STRUCTURE**

Control	Channel :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                    0 - NO                    1 - YES                    Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS							
00	1	5	2	6	3	7	4	8
01	2	5	2	6	1	6	3	7
02	1	5	2	6	4	7	4	8
03	2	5	2	6	1	6	4	7
04	1	6	2	6	2	5	3	7
05	2	6	1	5	3	7	4	8
06	1	6	2	6	2	5	4	7
07	2	6	1	5	4	7	4	8
08	1	5	2	6	3	8	4	8
09	2	5	2	6	1	6	3	8
10	1	5	2	6	4	8	3	7
11	2	5	2	6	1	6	4	8
12	1	6	2	6	2	5	3	8
13	2	6	1	5	3	8	4	8
14	1	6	2	6	2	5	4	8
15	2	6	1	5	4	8	3	7



Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #11 : East Commerce Street AT Legion Avenue and Martin Avenue

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		—	25	—	10	—	—	—	—	—	—	—	—	—	—	—	—
Passage Time .....		—	1.0	—	3.0	—	—	—	—	—	—	—	—	—	—	—	—
Maximum No 1 .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Maximum No 2 .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yellow Change .....		—	3.5	—	3.5	—	—	—	—	—	—	—	—	—	—	—	—
Red Clearance .....		—	1.5	—	1.5	—	—	—	—	—	—	—	—	—	—	—	—

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Maximum Initial .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Time B4 Reduction .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cars B4 Reduction .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Time To Reduce .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Minimum Gap .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pedestrian Clearance .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Extended Pedestrian Clear .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Act Rest In Walk .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

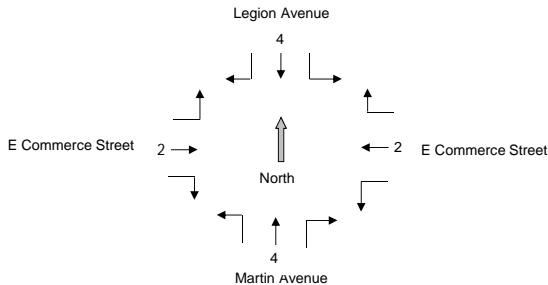
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

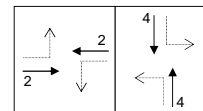
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dual Entry .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Last Car Passage .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Conditional Service .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Simultaneous Gap .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**



Intersection Name ..... Int #11 **East Commerce Street** AT **Union Avenue and Martin Ave**

General Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....	:	---	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Initialization.....	:	NONE	INACTIVE	RED	YELLOW	GREEN
Non-Act Response.....	:	NONE	TO NA I	TO NA II	TO BOTH	----
Vehicle Recall.....	:	NONE	1 CALL	MINIMUM	MAXIMUM	SOFT
Pedestrian Recall.....	:	NONE	1 CALL	PED	NA	NA+

**PHASE DATA - SEQUENCE CONTROL**

Sequence Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes .....	:	0	01 TO 16 (# - PHASE)
Phase Omit.....	:	NONE	Phase Is Omitted By # - Phase On
Phase - Yellow.....	:	NONE	Phase Yellow Is Omitted By # - Phase Yellow

**PHASE DATA - VEH DETECTOR CONTROL**

Control	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Control	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Operation Mode.....	:	NORM VEH	NORM PED	ONE CALL	ST BAR A	ST BAR B
Assigned Phase.....	:	NONE	Detector Is Assigned To # - Phase			
Switch.....	:	NONE	Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green			

Intersection Name ..... Int #11

**East Commerce Street** AT **egion Avenue and Martin Avenue**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS						
00	1 5	2 6		3 7	4 8		
01	2 5	2 6	1 6	3 7	4 8		
02	1 5	2 6		4 7	4 8	3 8	
03	2 5	2 6	1 6	4 7	4 8	3 8	
04	1 6	2 6	2 5	3 7	4 8		
05	2 6	1 5		3 7	4 8		
06	1 6	2 6	2 5	4 7	4 8	3 8	
07	2 6	1 5		4 7	4 8	3 8	
08	1 5	2 6		3 8	4 8	4 7	
09	2 5	2 6	1 6	3 8	4 8	4 7	
10	1 5	2 6		4 8	3 7		
11	2 5	2 6	1 6	4 8	3 7		
12	1 6	2 6	2 5	3 8	4 8	4 7	
13	2 6	1 5		3 8	4 8	4 7	
14	1 6	2 6	2 5	4 8	3 7		
15	2 6	1 5		4 8	3 7		

Intersection Name ..... Int #11 **ast Commerce Stre** AT **ion Avenue and Martin Ave**

**COORD DATA MODE**

<u>Control</u>		Codes:	0	1	2	3	4	5
Operation	..... : 0		FRE	AUT	MAN	-	-	-
Mode	..... : 1		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : 0		INH	MX1	MX2	-	-	-
Correction	..... : 2		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : 1		BEGIN	END OF GREEN				
Force	..... : 1		PLAN	CYCLE TIME				
Max Dwell Time	..... : 0		Time in Seconds					
Yield Period	..... : 0		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<u>Control</u>	Timing Plan :	AM	PM	MID	Saturday	Sunday		
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3		
Cycle Length	..... :	___	___	___	___	___	___	___
Phase 01 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 02 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 03 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 04 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 05 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 06 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 07 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 08 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 09 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 10 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 11 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 12 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 13 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 14 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 15 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 16 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Offset 1	..... :	___	___	___	___	___	___	___
Offset 1 Alt Sequence	..... :	___	___	___	___	___	___	___
Offset 1 Pattern Mode	..... :	___	___	___	___	___	___	___
Offset 1 Ring 2 Lag	..... :	___	___	___	___	___	___	___
Offset 1 Ring 3 Lag	..... :	___	___	___	___	___	___	___
Offset 1 Ring 4 Lag	..... :	___	___	___	___	___	___	___
Offset 2	..... :	___	___	___	___	___	___	___
Offset 2 Pattern Mode	..... :	___	___	___	___	___	___	___
Offset 2 Ring 2 Lag	..... :	___	___	___	___	___	___	___
Offset 2 Ring 3 Lag	..... :	___	___	___	___	___	___	___
Offset 2 Ring 4 Lag	..... :	___	___	___	___	___	___	___
Offset 3	..... :	___	___	___	___	___	___	___
Offset 3 Pattern Mode	..... :	___	___	___	___	___	___	___
Offset 3 Ring 2 Lag	..... :	___	___	___	___	___	___	___
Offset 3 Ring 3 Lag	..... :	___	___	___	___	___	___	___
Offset 3 Ring 4 Lag	..... :	___	___	___	___	___	___	___

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name .....Int #11 **ast Commerce Stre** AT **ion Avenue and Martin Ave**

**COORD DATA TIMING PLANS**

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #11 East Commerce Street AT Region Avenue and Martin Avenue

**TIME BASE DATA MISCELLANEOUS**

DST: BEGIN MONTH 3 WEEK 2  
DST: END MONTH 11 WEEK 1  
COORD CYCLE ZERO 24 : 00

DST: Daylight Savings Time  
Month = 01 to 12 (Begin < End)  
Week = 1 to 5 (5= Last Week)  
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync  
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)

Table with 7 columns and 10 rows of dashes and equals signs for equated day definition.

DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

**TIME BASE DATA TRAFFIC EVENTS**

Table with columns: DAY, PDAY, HH:MM, PATTERN, TRAFFIC EVENT FUNCTIONS, MAX II PHASE(S), OMIT PHASE(S). Contains multiple rows of dashes for data entry.

REFERENCE DATA:  
PDAY - 01-99 Program Day  
HH:MM - 24 Hour Clock  
PATTERN : (D/S/O)  
Flash - 5 / 5 / 0  
Free - 0 / 0 / 4  
MAX 2 & OMITs: Call Free,  
Set Pattern To 0 / 0 / 0

Intersection Name ..... Int #11 East Commerce Street AT ..... n Avenue and Martin Av

TIME BASE DATA - AUXILIARY EVENTS

DAY	TIME	AUXILIARY EVENT FUNCTIONS										REFERENCE DATA:								
		A: 1 2 3			D: 1 2 3			DIM	S. 1 2 3 4 5 6 7 8											
PDAY	HH : MM																			
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TIME BASE DATA - TIME OF YEAR EVENTS

DATE		SPECIAL		DATE		SPECIAL		Reference Data:
MM / DD / YY		DAY	WEEK	MM / DD / YY		DAY	WEEK	
--- / --- / ---		---	---	--- / --- / ---		---	---	Special Day - Any Program Day 00-99
--- / --- / ---		---	---	--- / --- / ---		---	---	Special Week -
--- / --- / ---		---	---	--- / --- / ---		---	---	Week 0 = Program Day 01-07
--- / --- / ---		---	---	--- / --- / ---		---	---	Week 1 = Program Day 11-17
--- / --- / ---		---	---	--- / --- / ---		---	---	Week 2 = Program Day 21-27
--- / --- / ---		---	---	--- / --- / ---		---	---	
--- / --- / ---		---	---	--- / --- / ---		---	---	Week 9 = Program Day 91-97
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Intersection Name ..... #REF! : #REF! AT #REF!

UNIT DATA RING STRUCTURE

Table with 24 columns (Control Channel 1-24) and rows for Ped and Veh channels for Phases 12, 13, 14, 15, and 16.

Codes: 0 - NO 1 - YES Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

UNIT DATA ALTERNATE SEQUENCE

Table with 16 rows (Alternate Sequence 00-15) and 8 columns for phase assignments.

Reverse Phases Must be In the Same Ring And Next To Each Other

Table with columns 'Alt Seq' and 'MOVEMENTS' showing sequence patterns for 16 alternate sequences.

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #12 :           N Ellington Parkway           AT           Nashville Highway          

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		<u>6</u>	<u>10</u>	<u>6</u>	<u>7</u>	<u>6</u>	<u>10</u>	<u>6</u>	<u>7</u>	---	---	---	---	---	---	---	---
Passage Time .....		<u>2.2</u>	<u>3.0</u>	<u>2.2</u>	<u>3.0</u>	<u>2.2</u>	<u>3.0</u>	<u>2.2</u>	<u>3.0</u>	---	---	---	---	---	---	---	---
Maximum No 1 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 2 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yellow Change .....		<u>4.0</u>	<u>4.5</u>	<u>3.5</u>	<u>4.5</u>	<u>4.5</u>	<u>4.5</u>	<u>4.5</u>	<u>4.5</u>	---	---	---	---	---	---	---	---
Red Clearance .....		<u>1.5</u>	<u>1.5</u>	<u>2.0</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	<u>1.5</u>	---	---	---	---	---	---	---	---

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum Initial .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cars B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time To Reduce .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Minimum Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Clearance .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extended Pedestrian Clear .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Act Rest In Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

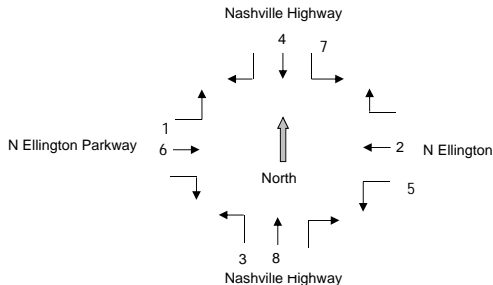
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

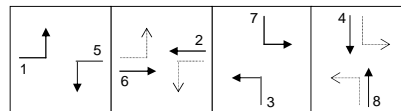
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dual Entry .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Last Car Passage .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Conditional Service .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
No Simultaneous Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**



Intersection Name ..... Int #12		N Ellington Parkway				AT	Nashville Highway												
General Control		Phase :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....				2	3	---	---	2	3	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes.....				0	1				2		3		4						
Initialization.....				NONE	INACTIVE				RED		YELLOW		GREEN						
Non-Act Response.....				NONE	TO NA I				TO NA II		TO BOTH		----						
Vehicle Recall.....				NONE	1 CALL				MINIMUM		MAXIMUM		SOFT						
Pedestrian Recall.....				NONE	1 CALL				PED		NA		NA+						

PHASE DATA - SEQUENCE CONTROL

Sequence Control		Phase :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes .....				0	01 TO 16 (# - PHASE)														
Phase Omit.....				NONE	Phase Is Omitted By # - Phase On														
Phase - Yellow.....				NONE	Phase Yellow Is Omitted By # - Phase Yellow														

PHASE DATA - VEH DETECTOR CONTROL

Control		Detector :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Control		Detector :		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes.....				0	1				2		3		4						
Operation Mode.....				NORM VEH	NORM PED				ONE CALL		ST BAR A		ST BAR B						
Assigned Phase.....				NONE	Detector Is Assigned To # - Phase														
Switch.....				NONE	Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green														

Intersection Name ..... Int #12

**N Ellington Parkway**

AT

**Nashville Highway**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS						
00	1 5	2 6		3 7	4 8		
01	2 5	2 6	1 6	3 7	4 8		
02	1 5	2 6		4 7	4 8	3 8	
03	2 5	2 6	1 6	4 7	4 8	3 8	
04	1 6	2 6	2 5	3 7	4 8		
05	2 6	1 5		3 7	4 8		
06	1 6	2 6	2 5	4 7	4 8	3 8	
07	2 6	1 5		4 7	4 8	3 8	
08	1 5	2 6		3 8	4 8	4 7	
09	2 5	2 6	1 6	3 8	4 8	4 7	
10	1 5	2 6		4 8	3 7		
11	2 5	2 6	1 6	4 8	3 7		
12	1 6	2 6	2 5	3 8	4 8	4 7	
13	2 6	1 5		3 8	4 8	4 7	
14	1 6	2 6	2 5	4 8	3 7		
15	2 6	1 5		4 8	3 7		

Intersection Name ..... Int #12 **Ellington Parkwa** AT **Nashville Highway**

**COORD DATA MODE**

<u>Control</u>		Codes:	0	1	2	3	4	5
Operation	..... : <u>1</u>		FRE	AUT	MAN	-	-	-
Mode	..... : <u>1</u>		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : <u>0</u>		INH	MX1	MX2	-	-	-
Correction	..... : <u>2</u>		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : <u>1</u>		BEGIN	END OF GREEN				
Force	..... : <u>1</u>		PLAN	CYCLE TIME				
Max Dwell Time	..... : <u>0</u>		Time in Seconds					
Yield Period	..... : <u>0</u>		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<u>Control</u>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	<u>75</u>	<u>100</u>	<u>85</u>	<u>85</u>	<u>85</u>			
Phase 01 Time/Mode	..... :	<u>15 /</u>	<u>21 /</u>	<u>16 /</u>	<u>16 /</u>	<u>16 /</u>			
Phase 02 Time/Mode	..... :	<u>28 / 1</u>	<u>39 / 1</u>	<u>31 / 1</u>	<u>31 / 1</u>	<u>31 / 1</u>			
Phase 03 Time/Mode	..... :	<u>15 /</u>	<u>17 /</u>	<u>16 /</u>	<u>16 /</u>	<u>16 /</u>			
Phase 04 Time/Mode	..... :	<u>17 /</u>	<u>23 /</u>	<u>22 /</u>	<u>22 /</u>	<u>22 /</u>			
Phase 05 Time/Mode	..... :	<u>15 /</u>	<u>18 /</u>	<u>17 /</u>	<u>17 /</u>	<u>17 /</u>			
Phase 06 Time/Mode	..... :	<u>28 / 1</u>	<u>42 / 1</u>	<u>30 / 1</u>	<u>30 / 1</u>	<u>30 / 1</u>			
Phase 07 Time/Mode	..... :	<u>17 /</u>	<u>20 /</u>	<u>19 /</u>	<u>19 /</u>	<u>19 /</u>			
Phase 08 Time/Mode	..... :	<u>15 /</u>	<u>20 /</u>	<u>19 /</u>	<u>19 /</u>	<u>19 /</u>			
Phase 09 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 10 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 11 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 12 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 13 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 14 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 15 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 16 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Offset 1	..... :	<u>41</u>	<u>5</u>	<u>65</u>	<u>65</u>	<u>65</u>			
Offset 1 Alt Sequence	..... :								
Offset 1 Pattern Mode	..... :								
Offset 1 Ring 2 Lag	..... :								
Offset 1 Ring 3 Lag	..... :								
Offset 1 Ring 4 Lag	..... :								
Offset 2	..... :								
Offset 2 Pattern Mode	..... :								
Offset 2 Ring 2 Lag	..... :								
Offset 2 Ring 3 Lag	..... :								
Offset 2 Ring 4 Lag	..... :								
Offset 3	..... :								
Offset 3 Pattern Mode	..... :								
Offset 3 Ring 2 Lag	..... :								
Offset 3 Ring 3 Lag	..... :								
Offset 3 Ring 4 Lag	..... :								

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name ..... Int #12 **↓ Ellington Parkwa** AT **Nashville Highway**

**COORD DATA TIMING PLANS**

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #12   N Ellington Parkway   AT   Nashville Highway  

**TIME BASE DATA MISCELLANEOUS**

DST: BEGIN        MONTH          3          WEEK          2    
DST: END         MONTH         11         WEEK          1   
  
COORD CYCLE ZERO         24  :  00 

DST: Daylight Savings Timng  
Month = 01 to 12 (Begin < End)  
Week = 1 to 5 (5= Last Week)  
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync  
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)

<u>  1 </u>	=								
<u>  2 </u>	=	<u>  3 </u>	<u>  4 </u>	<u>  5 </u>	<u>  6 </u>				
<u>  7 </u>	=								
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DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

**TIME BASE DATA TRAFFIC EVENTS**

DAY	PDAY	HH : MM	PATTERN	TRAFFIC EVENT FUNCTIONS MAX II PHASE(S)	OMIT PHASE(S)	REFERENCE DATA:
	<u>  1 </u>	<u>  0 </u> : <u> 00 </u>	<u>  5 </u> / <u> 5 </u> / <u> 0 </u>			PDAY - 01-99 Program Day
	<u>  1 </u>	<u>  4 </u> : <u> 00 </u>	<u>  0 </u> / <u> 0 </u> / <u> 4 </u>			HH:MM - 24 Hour Clock
	<u>  1 </u>	<u>  8 </u> : <u> 00 </u>	<u>  3 </u> / <u> 3 </u> / <u> 1 </u>			PATTERN : (D/S/O)
	<u>  1 </u>	<u> 17 </u> : <u> 00 </u>	<u>  0 </u> / <u> 0 </u> / <u> 4 </u>			Flash - 5 / 5 / 0
	<u>  2 </u>	<u>  0 </u> : <u> 00 </u>	<u>  5 </u> / <u> 5 </u> / <u> 0 </u>			Free - 0 / 0 / 4
	<u>  2 </u>	<u>  4 </u> : <u> 00 </u>	<u>  0 </u> / <u> 0 </u> / <u> 4 </u>			MAX 2 & OMITs: Call Free, Set Pattern To 0 / 0 / 0
	<u>  2 </u>	<u>  6 </u> : <u> 00 </u>	<u>  1 </u> / <u> 1 </u> / <u> 1 </u>			
	<u>  2 </u>	<u>  8 </u> : <u> 30 </u>	<u>  3 </u> / <u> 1 </u> / <u> 1 </u>			
	<u>  2 </u>	<u> 14 </u> : <u> 00 </u>	<u>  2 </u> / <u> 1 </u> / <u> 1 </u>			
	<u>  2 </u>	<u> 18 </u> : <u> 30 </u>	<u>  3 </u> / <u> 1 </u> / <u> 1 </u>			
	<u>  2 </u>	<u> 21 </u> : <u> 00 </u>	<u>  0 </u> / <u> 0 </u> / <u> 4 </u>			
	<u>  7 </u>	<u>  0 </u> : <u> 00 </u>	<u>  5 </u> / <u> 5 </u> / <u> 0 </u>			
	<u>  7 </u>	<u>  4 </u> : <u> 00 </u>	<u>  0 </u> / <u> 0 </u> / <u> 4 </u>			
	<u>  7 </u>	<u>  9 </u> : <u> 00 </u>	<u>  3 </u> / <u> 2 </u> / <u> 1 </u>			
	<u>  7 </u>	<u> 19 </u> : <u> 00 </u>	<u>  0 </u> / <u> 0 </u> / <u> 4 </u>			
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Intersection Name ..... Int #12 **N Ellington Parkway** AT **Nashville Highway**

TIME BASE DATA - AUXILIARY EVENTS

DAY PDAY	TIME HH : MM	AUXILIARY EVENT FUNCTIONS											REFERENCE DATA:				
		A: 1	A: 2	A: 3	D: 1	D: 2	D: 3	DIM	S: 1	S: 2	S: 3	S: 4		S: 5	S: 6	S: 7	S: 8
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TIME BASE DATA - TIME OF YEAR EVENTS

DATE MM / DD / YY	SPECIAL DAY WEEK	DATE MM / DD / YY	SPECIAL DAY WEEK	Reference Data:
---/---/---	--- --	---/---/---	--- --	
---/---/---	--- --	---/---/---	--- --	Special Week -
---/---/---	--- --	---/---/---	--- --	Week 0 = Program Day 01-07
---/---/---	--- --	---/---/---	--- --	Week 1 = Program Day 11-17
---/---/---	--- --	---/---/---	--- --	Week 2 = Program Day 21-27
---/---/---	--- --	---/---/---	--- --	
---/---/---	--- --	---/---/---	--- --	Week 9 = Program Day 91-97

Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS
00	1 5    2 6                    3 7    4 8
01	2 5    2 6    1 6    3 7    4 8
02	1 5    2 6                    4 7    4 8    3 8
03	2 5    2 6    1 6    4 7    4 8    3 8
04	1 6    2 6    2 5    3 7    4 8
05	2 6    1 5                    3 7    4 8
06	1 6    2 6    2 5    4 7    4 8    3 8
07	2 6    1 5                    4 7    4 8    3 8
08	1 5    2 6                    3 8    4 8    4 7
09	2 5    2 6    1 6    3 8    4 8    4 7
10	1 5    2 6                    4 8    3 7
11	2 5    2 6    1 6    4 8    3 7
12	1 6    2 6    2 5    3 8    4 8    4 7
13	2 6    1 5                    3 8    4 8    4 7
14	1 6    2 6    2 5    4 8    3 7
15	2 6    1 5                    4 8    3 7

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #13 : **Commerce and Fayetteville Hi** AT **Creekside Drive and Garrett Parkway**

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		15	10	10	---	---	---	---	---	---	---	---	---	---	---	---	---
Passage Time .....		6.0	6.0	3.0	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 1 .....		40	30	15	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 2 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yellow Change .....		4.5	3.5	3.0	---	---	---	---	---	---	---	---	---	---	---	---	---
Red Clearance .....		2.0	2.0	2.0	---	---	---	---	---	---	---	---	---	---	---	---	---

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum Initial .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cars B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time To Reduce .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Minimum Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Clearance .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extended Pedestrian Clear .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Act Rest In Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

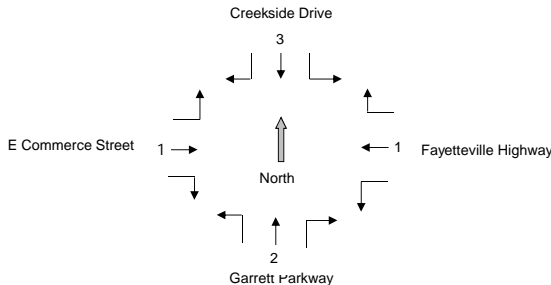
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

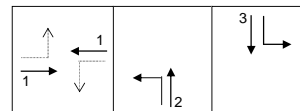
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dual Entry .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Last Car Passage .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Conditional Service .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
No Simultaneous Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**



Intersection Name ..... Int #13 **merce and Fayettevill** AT **kside Drive and Garrett Parl**

General Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....	:	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Initialization.....	:	NONE	INACTIVE	RED	YELLOW	GREEN
Non-Act Response.....	:	NONE	TO NA I	TO NA II	TO BOTH	----
Vehicle Recall.....	:	NONE	1 CALL	MINIMUM	MAXIMUM	SOFT
Pedestrian Recall.....	:	NONE	1 CALL	PED	NA	NA+

**PHASE DATA - SEQUENCE CONTROL**

Sequence Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes .....	:	0	01 TO 16 (# - PHASE)
Phase Omit.....	:	NONE	Phase Is Omitted By # - Phase On
Phase - Yellow.....	:	NONE	Phase Yellow Is Omitted By # - Phase Yellow

**PHASE DATA - VEH DETECTOR CONTROL**

Control	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Control	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Operation Mode.....	:	NORM VEH	NORM PED	ONE CALL	ST BAR A	ST BAR B
Assigned Phase.....	:	NONE	Detector Is Assigned To # - Phase			
Switch.....	:	NONE	Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green			

Intersection Name ..... Int #13

Mercede and Fayetteville AT Seaside Drive and Garrett Parkw

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS							
00	1 5	2 6		3 7	4 8			
01	2 5	2 6	1 6	3 7	4 8			
02	1 5	2 6		4 7	4 8	3 8		
03	2 5	2 6	1 6	4 7	4 8	3 8		
04	1 6	2 6	2 5	3 7	4 8			
05	2 6	1 5		3 7	4 8			
06	1 6	2 6	2 5	4 7	4 8	3 8		
07	2 6	1 5		4 7	4 8	3 8		
08	1 5	2 6		3 8	4 8	4 7		
09	2 5	2 6	1 6	3 8	4 8	4 7		
10	1 5	2 6		4 8	3 7			
11	2 5	2 6	1 6	4 8	3 7			
12	1 6	2 6	2 5	3 8	4 8	4 7		
13	2 6	1 5		3 8	4 8	4 7		
14	1 6	2 6	2 5	4 8	3 7			
15	2 6	1 5		4 8	3 7			

Intersection Name ..... Int #13 **erce and Fayettevi** AT **kside Drive and Garrett Par**

**COORD DATA MODE**

<b>Control</b>		Codes:	0	1	2	3	4	5
Operation	..... : 0		FRE	AUT	MAN	-	-	-
Mode	..... : 1		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : 0		INH	MX1	MX2	-	-	-
Correction	..... : 2		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : 1		BEGIN	END OF GREEN				
Force	..... : 1		PLAN	CYCLE TIME				
Max Dwell Time	..... : 0		Time in Seconds					
Yield Period	..... : 0		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<b>Control</b>	<b>Timing Plan :</b>	<b>AM</b>	<b>PM</b>	<b>MID</b>	<b>Saturday</b>	<b>Sunday</b>		
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3		
Cycle Length	..... :	___	___	___	___	___	___	___
Phase 01 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 02 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 03 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 04 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 05 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 06 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 07 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 08 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 09 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 10 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 11 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 12 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 13 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 14 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 15 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 16 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Offset 1	..... :	___	___	___	___	___	___	___
Offset 1 Alt Sequence	..... :	___	___	___	___	___	___	___
Offset 1 Pattern Mode	..... :	___	___	___	___	___	___	___
Offset 1 Ring 2 Lag	..... :	___	___	___	___	___	___	___
Offset 1 Ring 3 Lag	..... :	___	___	___	___	___	___	___
Offset 1 Ring 4 Lag	..... :	___	___	___	___	___	___	___
Offset 2	..... :	___	___	___	___	___	___	___
Offset 2 Pattern Mode	..... :	___	___	___	___	___	___	___
Offset 2 Ring 2 Lag	..... :	___	___	___	___	___	___	___
Offset 2 Ring 3 Lag	..... :	___	___	___	___	___	___	___
Offset 2 Ring 4 Lag	..... :	___	___	___	___	___	___	___
Offset 3	..... :	___	___	___	___	___	___	___
Offset 3 Pattern Mode	..... :	___	___	___	___	___	___	___
Offset 3 Ring 2 Lag	..... :	___	___	___	___	___	___	___
Offset 3 Ring 3 Lag	..... :	___	___	___	___	___	___	___
Offset 3 Ring 4 Lag	..... :	___	___	___	___	___	___	___

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name .....Int #13 **erce and Fayettevil** AT **kside Drive and Garrett Par**

COORD DATA TIMING PLANS

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1



Intersection Name ..... Int #13 merce and Fayetteville AT ekside Drive and Garrett Parkv

TIME BASE DATA MISCELLANEOUS

DST: BEGIN MONTH 3 WEEK 2
DST: END MONTH 11 WEEK 1
COORD CYCLE ZERO 24 : 00

DST: Daylight Savings Timng
Month = 01 to 12 (Begin < End)
Week = 1 to 5 (5= Last Week)
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)
Grid of lines for defining equated days.

DAY EQUATES: Care Must Be Used To Insure Days Are Not
Equated To Undefined Days Or Days That Are Equated To
Other Days. The Rest Will Be A Day Without Events To Run.

TIME BASE DATA TRAFFIC EVENTS

Table with columns: DAY, PDAY, HH : MM, PATTERN, TRAFFIC EVENT FUNCTIONS, MAX II PHASE(S), OMIT PHASE(S). Contains multiple rows of dashes for data entry.

REFERENCE DATA:
PDAY - 01-99 Program Day
HH:MM - 24 Hour Clock
PATTERN : (D/S/O)
Flash - 5 / 5 / 0
Free - 0 / 0 / 4
MAX 2 & OMITs: Call Free,
Set Pattern To 0 / 0 / 0



Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS
00	1 5 2 6 3 7 4 8
01	2 5 2 6 1 6 3 7 4 8
02	1 5 2 6 4 7 4 8 3 8
03	2 5 2 6 1 6 4 7 4 8 3 8
04	1 6 2 6 2 5 3 7 4 8
05	2 6 1 5 3 7 4 8
06	1 6 2 6 2 5 4 7 4 8 3 8
07	2 6 1 5 4 7 4 8 3 8
08	1 5 2 6 3 8 4 8 4 7
09	2 5 2 6 1 6 3 8 4 8 4 7
10	1 5 2 6 4 8 3 7
11	2 5 2 6 1 6 4 8 3 7
12	1 6 2 6 2 5 3 8 4 8 4 7
13	2 6 1 5 3 8 4 8 4 7
14	1 6 2 6 2 5 4 8 3 7
15	2 6 1 5 4 8 3 7

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

14 EPAC300 PROGRAM LOG



Date: 5 / 3 / 2016

Intersection Name ..... Int #14 : N Ellington Parkway AT Finley Beech Road

UTILITIES ACCESS

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

PHASE DATA VEHICLE TIMINGS

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		6	10	---	10	6	10	6	6	---	---	---	---	---	---	---	---
Passage Time .....		4.0	5.0	---	4.0	4.0	5.0	4.0	4.0	---	---	---	---	---	---	---	---
Maximum No 1 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 2 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yellow Change .....		4.0	4.0	---	3.5	4.0	4.0	3.0	3.5	---	---	---	---	---	---	---	---
Red Clearance .....		2.0	2.0	---	3.5	2.0	2.0	2.5	3.5	---	---	---	---	---	---	---	---

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum Initial .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cars B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time To Reduce .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Minimum Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

PHASE DATA PEDESTRIAN TIMINGS & CONTROL

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		---	7	---	7	---	7	---	7	---	---	---	---	---	---	---	---
Pedestrian Clearance .....		---	12	---	20	---	16	---	20	---	---	---	---	---	---	---	---

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extended Pedestrian Clear .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Act Rest In Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

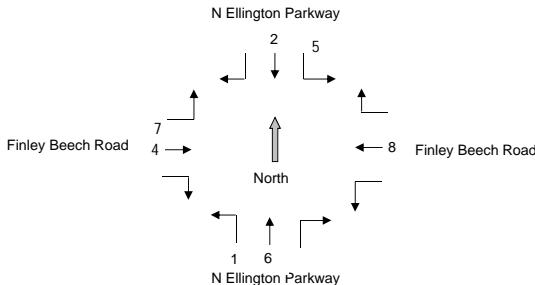
Pedestrian Control Entry : "1" = Yes & "0" = No

PHASE DATA VEHICLE CONTROL

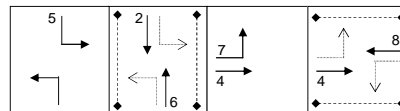
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dual Entry .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Last Car Passage .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Conditional Service .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
No Simultaneous Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Vehicle Control Entry : "1" = Yes & "0" = No

PHASING SCHEMATIC



PHASING SEQUENCE



Intersection Name ..... Int #14		N Ellington Parkway				AT	Finley Beech Road												
General Control		Phase :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....				---	2	---	---	---	2	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....				---	2	---	---	---	2	---	---	---	---	---	---	---	---	---	---
Recall Delay.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes.....				0		1		2		3		4							
Initialization.....				NONE		INACTIVE		RED		YELLOW		GREEN							
Non-Act Response.....				NONE		TO NA I		TO NA II		TO BOTH		----							
Vehicle Recall.....				NONE		1 CALL		MINIMUM		MAXIMUM		SOFT							
Pedestrian Recall.....				NONE		1 CALL		PED		NA		NA+							

PHASE DATA - SEQUENCE CONTROL

Sequence Control		Phase :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes .....				0		01 TO 16 (# - PHASE)													
Phase Omit.....				NONE		Phase Is Omitted By # - Phase On													
Phase - Yellow.....				NONE		Phase Yellow Is Omitted By # - Phase Yellow													

PHASE DATA - VEH DETECTOR CONTROL

Control		Detector :		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Control		Detector :		17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....				---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Codes.....				0		1		2		3		4							
Operation Mode.....				NORM VEH		NORM PED		ONE CALL		ST BAR A		ST BAR B							
Assigned Phase.....				NONE		Detector Is Assigned To # - Phase													
Switch.....				NONE		Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green													

Intersection Name ..... Int #14

**N Ellington Parkway**

AT

**Finley Beech Road**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS							
00	1 5	2 6		3 7	4 8			
01	2 5	2 6	1 6	3 7	4 8			
02	1 5	2 6		4 7	4 8	3 8		
03	2 5	2 6	1 6	4 7	4 8	3 8		
04	1 6	2 6	2 5	3 7	4 8			
05	2 6	1 5		3 7	4 8			
06	1 6	2 6	2 5	4 7	4 8	3 8		
07	2 6	1 5		4 7	4 8	3 8		
08	1 5	2 6		3 8	4 8	4 7		
09	2 5	2 6	1 6	3 8	4 8	4 7		
10	1 5	2 6		4 8	3 7			
11	2 5	2 6	1 6	4 8	3 7			
12	1 6	2 6	2 5	3 8	4 8	4 7		
13	2 6	1 5		3 8	4 8	4 7		
14	1 6	2 6	2 5	4 8	3 7			
15	2 6	1 5		4 8	3 7			

Intersection Name ..... Int #14 **Ellington Parkwa** AT **Finley Beech Road**

**COORD DATA MODE**

<b>Control</b>		Codes:	0	1	2	3	4	5
Operation	..... : <u>1</u>		FRE	AUT	MAN	-	-	-
Mode	..... : <u>1</u>		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : <u>0</u>		INH	MX1	MX2	-	-	-
Correction	..... : <u>2</u>		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : <u>1</u>		BEGIN	END OF GREEN				
Force	..... : <u>1</u>		PLAN	CYCLE TIME				
Max Dwell Time	..... : <u>0</u>		Time in Seconds					
Yield Period	..... : <u>0</u>		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<b>Control</b>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	<u>75</u>	<u>100</u>	<u>85</u>	<u>85</u>	<u>85</u>			
Phase 01 Time/Mode	..... :	<u>15 /</u>	<u>18 /</u>	<u>15 /</u>	<u>15 /</u>	<u>15 /</u>			
Phase 02 Time/Mode	..... :	<u>30 / 1</u>	<u>40 / 1</u>	<u>35 / 1</u>	<u>35 / 1</u>	<u>35 / 1</u>			
Phase 03 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 04 Time/Mode	..... :	<u>30 /</u>	<u>42 /</u>	<u>35 /</u>	<u>35 /</u>	<u>35 /</u>			
Phase 05 Time/Mode	..... :	<u>15 /</u>	<u>18 /</u>	<u>15 /</u>	<u>15 /</u>	<u>15 /</u>			
Phase 06 Time/Mode	..... :	<u>30 / 1</u>	<u>40 / 1</u>	<u>35 / 1</u>	<u>35 / 1</u>	<u>35 / 1</u>			
Phase 07 Time/Mode	..... :	<u>15 /</u>	<u>18 /</u>	<u>15 /</u>	<u>15 /</u>	<u>15 /</u>			
Phase 08 Time/Mode	..... :	<u>15 /</u>	<u>24 /</u>	<u>20 /</u>	<u>20 /</u>	<u>20 /</u>			
Phase 09 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 10 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 11 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 12 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 13 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 14 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 15 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Phase 16 Time/Mode	..... :	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>	<u>/</u>			
Offset 1	..... :	<u>28</u>	<u>59</u>	<u>71</u>	<u>71</u>	<u>71</u>			
Offset 1 Alt Sequence	..... :								
Offset 1 Pattern Mode	..... :								
Offset 1 Ring 2 Lag	..... :								
Offset 1 Ring 3 Lag	..... :								
Offset 1 Ring 4 Lag	..... :								
Offset 2	..... :								
Offset 2 Pattern Mode	..... :								
Offset 2 Ring 2 Lag	..... :								
Offset 2 Ring 3 Lag	..... :								
Offset 2 Ring 4 Lag	..... :								
Offset 3	..... :								
Offset 3 Pattern Mode	..... :								
Offset 3 Ring 2 Lag	..... :								
Offset 3 Ring 3 Lag	..... :								
Offset 3 Ring 4 Lag	..... :								

**Note: Dial, Split, and Offset are all shown in seconds**



Intersection Name ..... Int #14 **↓ Ellington Parkwa** AT **Finley Beech Road**

**COORD DATA TIMING PLANS**

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1



Intersection Name ..... Int #14 N Ellington Parkway AT Finley Beech Road

TIME BASE DATA - AUXILIARY EVENTS

DAY PDAY	TIME HH : MM	AUXILIARY EVENT FUNCTIONS											REFERENCE DATA:	
		A: 1 2 3	D: 1 2 3	DIM	S: 1 2 3 4 5 6 7 8									
---	---	---	---	---	---	---	---	---	---	---	---	---	---	PDAY - 01-99 Program Day HH:MM - 24 Hour Clock A.123 - Auxiliary Output D.123 - Detector 1 - Det Diag Vaule 2 - Enables Report 3 - Rep Multiplier DIM - Dimming Enable S.1>8 - Special Function Output ALL - 0-OFF / 1-ON
---	---	---	---	---	---	---	---	---	---	---	---	---	---	
---	---	---	---	---	---	---	---	---	---	---	---	---	---	
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TIME BASE DATA - TIME OF YEAR EVENTS

DATE MM / DD / YY	SPECIAL DAY WEEK	DATE MM / DD / YY	SPECIAL DAY WEEK	Reference Data:
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Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS
00	1 5 2 6 3 7 4 8
01	2 5 2 6 1 6 3 7 4 8
02	1 5 2 6 4 7 4 8 3 8
03	2 5 2 6 1 6 4 7 4 8 3 8
04	1 6 2 6 2 5 3 7 4 8
05	2 6 1 5 3 7 4 8
06	1 6 2 6 2 5 4 7 4 8 3 8
07	2 6 1 5 4 7 4 8 3 8
08	1 5 2 6 3 8 4 8 4 7
09	2 5 2 6 1 6 3 8 4 8 4 7
10	1 5 2 6 4 8 3 7
11	2 5 2 6 1 6 4 8 3 7
12	1 6 2 6 2 5 3 8 4 8 4 7
13	2 6 1 5 3 8 4 8 4 7
14	1 6 2 6 2 5 4 8 3 7
15	2 6 1 5 4 8 3 7

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name .....Int #15,1: West Ewing Street AT US-31 Alt Business & Franklin Road

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		15	7	10	7	---	---	---	---	---	---	---	---	---	---	---	---
Passage Time .....		0.2	0.2	0.2	0.2	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 1 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 2 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yellow Change .....		3.5	3.5	3.5	3.5	---	---	---	---	---	---	---	---	---	---	---	---
Red Clearance .....		2.0	1.5	2.0	2.0	---	---	---	---	---	---	---	---	---	---	---	---

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum Initial .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cars B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time To Reduce .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Minimum Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Clearance .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extended Pedestrian Clear .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Act Rest In Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

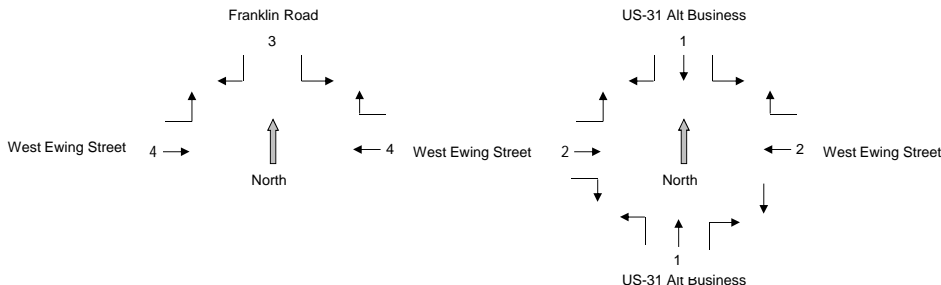
Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

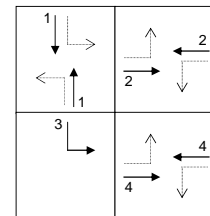
Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dual Entry .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Last Car Passage .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Conditional Service .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
No Simultaneous Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Vehicle Control Entry : "1" = Yes & "0" = No

**PHASING SCHEMATIC**



**PHASING SEQUENCE**



Intersection Name ..... Int #15,17      **West Ewing Street**      AT      **31 Alt Business & Franklin R**

General Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....	:	3	3	2	2	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Initialization.....	:	NONE	INACTIVE	RED	YELLOW	GREEN
Non-Act Response.....	:	NONE	TO NA I	TO NA II	TO BOTH	----
Vehicle Recall.....	:	NONE	1 CALL	MINIMUM	MAXIMUM	SOFT
Pedestrian Recall.....	:	NONE	1 CALL	PED	NA	NA+

**PHASE DATA - SEQUENCE CONTROL**

Sequence Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes .....	:	0	01 TO 16 (# - PHASE)
Phase Omit.....	:	NONE	Phase Is Omitted By # - Phase On
Phase - Yellow.....	:	NONE	Phase Yellow Is Omitted By # - Phase Yellow

**PHASE DATA - VEH DETECTOR CONTROL**

Control	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Control	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Operation Mode.....	:	NORM VEH	NORM PED	ONE CALL	ST BAR A	ST BAR B
Assigned Phase.....	:	NONE	Detector Is Assigned To # - Phase			
Switch.....	:	NONE	Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green			

Intersection Name ..... Int #15,17

**West Ewing Street** AT **3-31 Alt Business & Franklin Ro**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS						
00	1 5	2 6		3 7	4 8		
01	2 5	2 6	1 6	3 7	4 8		
02	1 5	2 6		4 7	4 8	3 8	
03	2 5	2 6	1 6	4 7	4 8	3 8	
04	1 6	2 6	2 5	3 7	4 8		
05	2 6	1 5		3 7	4 8		
06	1 6	2 6	2 5	4 7	4 8	3 8	
07	2 6	1 5		4 7	4 8	3 8	
08	1 5	2 6		3 8	4 8	4 7	
09	2 5	2 6	1 6	3 8	4 8	4 7	
10	1 5	2 6		4 8	3 7		
11	2 5	2 6	1 6	4 8	3 7		
12	1 6	2 6	2 5	3 8	4 8	4 7	
13	2 6	1 5		3 8	4 8	4 7	
14	1 6	2 6	2 5	4 8	3 7		
15	2 6	1 5		4 8	3 7		



Intersection Name ..... Int #15,17 **West Ewing Street** AT **I1 Alt Business & Franklin F**

**COORD DATA MODE**

<u>Control</u>		Codes:	0	1	2	3	4	5
Operation	..... :		FRE	AUT	MAN	-	-	-
Mode	..... :		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... :		INH	MX1	MX2	-	-	-
Correction	..... :		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... :		BEGIN	END OF GREEN				
Force	..... :		PLAN	CYCLE TIME				
Max Dwell Time	..... :		Time in Seconds					
Yield Period	..... :		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	..... :							
			<u>3</u>	<u>1</u>	<u>1</u>			

**COORD DATA TIMING PLANS**

<u>Control</u>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	___	___	___	___	___	___	___	___
Phase 01 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 02 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 03 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 04 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 05 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 06 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 07 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 08 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 09 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 10 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 11 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 12 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 13 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 14 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 15 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Phase 16 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___	___/___	___/___	___/___
Offset 1	..... :	___	___	___	___	___	___	___	___
Offset 1 Alt Sequence	..... :	___	___	___	___	___	___	___	___
Offset 1 Pattern Mode	..... :	___	___	___	___	___	___	___	___
Offset 1 Ring 2 Lag	..... :	___	___	___	___	___	___	___	___
Offset 1 Ring 3 Lag	..... :	___	___	___	___	___	___	___	___
Offset 1 Ring 4 Lag	..... :	___	___	___	___	___	___	___	___
Offset 2	..... :	___	___	___	___	___	___	___	___
Offset 2 Pattern Mode	..... :	___	___	___	___	___	___	___	___
Offset 2 Ring 2 Lag	..... :	___	___	___	___	___	___	___	___
Offset 2 Ring 3 Lag	..... :	___	___	___	___	___	___	___	___
Offset 2 Ring 4 Lag	..... :	___	___	___	___	___	___	___	___
Offset 3	..... :	___	___	___	___	___	___	___	___
Offset 3 Pattern Mode	..... :	___	___	___	___	___	___	___	___
Offset 3 Ring 2 Lag	..... :	___	___	___	___	___	___	___	___
Offset 3 Ring 3 Lag	..... :	___	___	___	___	___	___	___	___
Offset 3 Ring 4 Lag	..... :	___	___	___	___	___	___	___	___

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name .....Int #15,17 **West Ewing Street** AT **11 Alt Business & Franklin F**

**COORD DATA TIMING PLANS**

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name .....Int #15,17 West Ewing Street AT -31 Alt Business & Franklin Rc

**TIME BASE DATA MISCELLANEOUS**

DST: BEGIN MONTH 3 WEEK 2  
 DST: END MONTH 11 WEEK 1

DST: Daylight Savings Timng  
 Month = 01 to 12 (Begin < End)  
 Week = 1 to 5 (5= Last Week)

COORD CYCLE ZERO 24 : 00

CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync  
 00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)

_____	=	_____	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____	_____

DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

**TIME BASE DATA TRAFFIC EVENTS**

DAY	PDAY	HH	:	MM	PATTERN	TRAFFIC EVENT FUNCTIONS				OMIT PHASE(S)				REFERENCE DATA:					
						MAX II PHASE(S)								PDAY - 01-99 Program Day					
														HH:MM - 24 Hour Clock					
														PATTERN : (D/S/O)					
														Flash - 5 / 5 / 0					
														Free - 0 / 0 / 4					
														MAX 2 & OMTS: Call Free,					
														Set Pattern To 0 / 0 / 0					
_____			:		/														
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Intersection Name ..... Int #15,17 West Ewing Street AT US-31 Alt Business

TIME BASE DATA - AUXILIARY EVENTS

DAY PDAY	TIME HH : MM	AUXILIARY EVENT FUNCTIONS											REFERENCE DATA:					
		A: 1	A: 2	A: 3	D: 1	D: 2	D: 3	DIM	S: 1	S: 2	S: 3	S: 4		S: 5	S: 6	S: 7	S: 8	
---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
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TIME BASE DATA - TIME OF YEAR EVENTS

DATE MM / DD / YY	SPECIAL DAY WEEK	DATE MM / DD / YY	SPECIAL DAY WEEK	Reference Data:
--- / --- / ---	--- ---	--- / --- / ---	--- ---	Special Day - Any Program Day 00-99
--- / --- / ---	--- ---	--- / --- / ---	--- ---	Special Week -
--- / --- / ---	--- ---	--- / --- / ---	--- ---	Week 0 = Program Day 01-07
--- / --- / ---	--- ---	--- / --- / ---	--- ---	Week 1 = Program Day 11-17
--- / --- / ---	--- ---	--- / --- / ---	--- ---	Week 2 = Program Day 21-27
--- / --- / ---	--- ---	--- / --- / ---	--- ---	
--- / --- / ---	--- ---	--- / --- / ---	--- ---	Week 9 = Program Day 91-97
--- / --- / ---	--- ---	--- / --- / ---	--- ---	
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--- / --- / ---	--- ---	--- / --- / ---	--- ---	

Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS											
00	1	5	2	6	3	7	4	8				
01	2	5	2	6	1	6	3	7	4	8		
02	1	5	2	6	4	7	4	8	3	8		
03	2	5	2	6	1	6	4	7	4	8	3	8
04	1	6	2	6	2	5	3	7	4	8		
05	2	6	1	5	3	7	4	8				
06	1	6	2	6	2	5	4	7	4	8	3	8
07	2	6	1	5	4	7	4	8	3	8		
08	1	5	2	6	3	8	4	8	4	7		
09	2	5	2	6	1	6	3	8	4	8	4	7
10	1	5	2	6	4	8	3	7				
11	2	5	2	6	1	6	4	8	3	7		
12	1	6	2	6	2	5	3	8	4	8	4	7
13	2	6	1	5	3	8	4	8	4	7		
14	1	6	2	6	2	5	4	8	3	7		
15	2	6	1	5	4	8	3	7				

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

INTERSECTION NUMBER:

16

ZONE:

A

INTERSECTION:

Ellington Parkway at East Commerce Street

INSTALLATION DATE:

PROGRAMMED BY:

NOTES:

LOCAL CONTROLLER PROGRAMMING



Cobalt by Econolite

MASTER TYPE:

MASTER LOCATION:

CONFIGURATION

Table with 9 columns (PHASE 1-8) and 3 rows (PHASES IN USE, EXCLUSIVE PED).

CONTROLLER TIMING DATA

Table with 9 columns (PHASE 1-8) and 14 rows (MIN GRN, WALK, PED CLR, VEH EXT, MAX EXT, MAX 1-3, DET MAX, YELLOW, RED CLR).

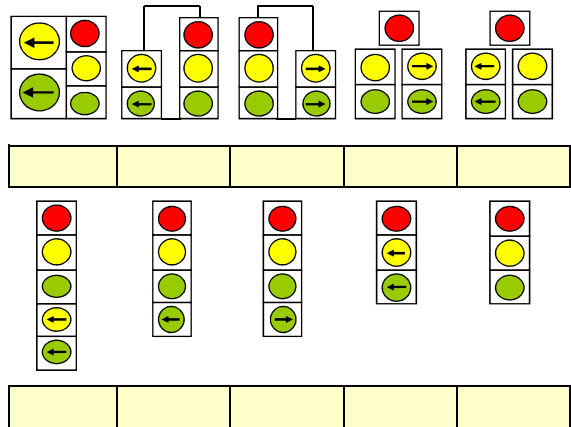
CONTROLLER RECALL DATA

Table with 9 columns (PHASE 1-8) and 5 rows (LOCKING MEMORY, VEHICLE RECALL, PED RECALL, RECALL TO MAX, SOFT RECALL).

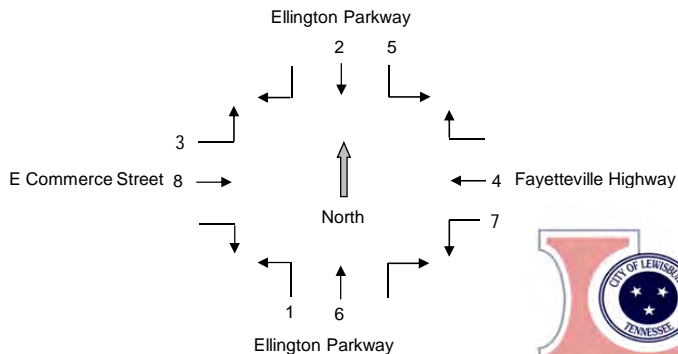
CONTROLLER START/FLASH DATA

Table with 9 columns (PHASE 1-8) and 10 rows (POWER START, EXTERNAL START, ENTRY REM, EXIT REM, FLASH REM, FLASH YEL, POWER START, EXTERNAL START).

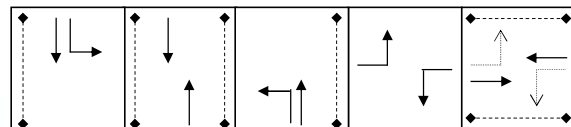
SIGNAL DISPLAYS



PHASING SCHEMATIC



PHASING SEQUENCE



INTERSECTION NUMBER: **16**                      ZONE: **A**  
 INTERSECTION: **Ellington Parkway at East Commerce Street**  
 INSTALLATION DATE: \_\_\_\_\_  
 PROGRAMMED BY: \_\_\_\_\_  
 NOTES: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**CONTROLLER & COORDINATOR OPTIONS**



COBALT BY ECONOLITE

**CONTROLLER OVERLAP DATA**

OVERLAP A	1	2	3	4	5	6	7	8
STANDARD								
PROTECTED								
PERMITTED								
ENABLE LAG								
ENABLE LEAD								
SPARE								
ADVANCE GREEN TIMER								
LAG/LEAD GREEN TIMER								
LAG/LEAD YELLOW TIMER								
LAG/LEAD RED TIMER								

**CONTROLLER OPTION DATA**

PHASE	1	2	3	4	5	6	7	8
GUAR PASSAGE								
NON-ACTUATED I								
NON-ACTUATED II								
DUAL ENTRY								
COND SERVICE								
COND RESERVICE								
ACT REST IN WALK								
FLASHING WALK								
<b>FIVE SECTION LEFT TURN HEADS</b>								
5-2		7-4		1-6				
3-8		11-10		9-12				

OVERLAP B	1	2	3	4	5	6	7	8
STANDARD								
PROTECTED								
PERMITTED								
ENABLE LAG								
ENABLE LEAD								
SPARE								
ADVANCE GREEN TIMER								
LAG/LEAD GREEN TIMER								
LAG/LEAD YELLOW TIMER								
LAG/LEAD RED TIMER								

**COORDINATOR OPTIONS**

SPLIT UNITS		ACT CRD PHASE				
OFFSET UNITS		ACT WALK/REST				
INTERCNT FMT		INHIBIT MAX				
INTERCNT SRC		MAX2 SELECT				
RESYNC COUNT		MULTISYNC				
TRANSITION		FLOAT FORCE				
DWELL PERIOD						
FREE ALTERNATE SEQUENCE	A	B	C	D	E	F





INTERSECTION NUMBER: **16**                      ZONE: **A**  
 INTERSECTION: **Ellington Parkway at East Commerce Street**  
 INSTALLATION DATE: \_\_\_\_\_  
 PROGRAMMED BY: \_\_\_\_\_  
 NOTES: \_\_\_\_\_  
 \_\_\_\_\_  
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**PATTERN DATA**



**COBALT BY ECONOLITE**

EVENT PLAN	<b>9-FREE</b>
EVENT PLAN	<b>10-FLASH</b>

**PATTERN DATA**

EVENT PLAN	<b>1</b>	OFFSET	<b>59</b>					
CYCLE LENGTH	<b>75</b>	C/O/S	<b>1/1/1</b>					
PHASE	1	2	3	4	5	6	7	8
SPLITS	<b>15</b>	<b>28</b>	<b>15</b>	<b>17</b>	<b>17</b>	<b>24</b>	<b>15</b>	<b>17</b>
PHASE	1	2	3	4	5	6	7	8
COORD PHASES		<b>X</b>				<b>X</b>		
VEHICLE RECALL		<b>X</b>						
VEH MAX RECALL								
PED RECALL								

EVENT PLAN	<b>2</b>	OFFSET	<b>9</b>					
CYCLE LENGTH	<b>100</b>	C/O/S	<b>2/1/1</b>					
PHASE	1	2	3	4	5	6	7	8
SPLITS	<b>20</b>	<b>43</b>	<b>15</b>	<b>22</b>	<b>20</b>	<b>43</b>	<b>15</b>	<b>22</b>
PHASE	1	2	3	4	5	6	7	8
COORD PHASES		<b>X</b>				<b>X</b>		
VEHICLE RECALL		<b>X</b>						
VEH MAX RECALL								
PED RECALL								

**PATTERN DATA**

COORD PATTERN	<b>3</b>	OFFSET	<b>20</b>					
CYCLE LENGTH	<b>85</b>	C/O/S	<b>3/1/1</b>					
PHASE	1	2	3	4	5	6	7	8
SPLITS	<b>17</b>	<b>33</b>	<b>15</b>	<b>20</b>	<b>17</b>	<b>33</b>	<b>15</b>	<b>20</b>
PHASE	1	2	3	4	5	6	7	8
COORD PHASES		<b>X</b>				<b>X</b>		
VEHICLE RECALL		<b>X</b>						
VEH MAX RECALL								
PED RECALL								

COORD PATTERN	<b>4</b>	OFFSET	<b>20</b>					
CYCLE LENGTH	<b>85</b>	C/O/S	<b>3/1/2</b>					
PHASE	1	2	3	4	5	6	7	8
SPLITS	<b>17</b>	<b>33</b>	<b>15</b>	<b>20</b>	<b>17</b>	<b>33</b>	<b>15</b>	<b>20</b>
PHASE	1	2	3	4	5	6	7	8
COORD PHASES		<b>X</b>				<b>X</b>		
VEHICLE RECALL		<b>X</b>						
VEH MAX RECALL								
PED RECALL								



INTERSECTION NUMBER: **16**

ZONE: **A**

**PATTERN DATA**

INTERSECTION: **Ellington Parkway at East Commerce Street**

INSTALLATION DATE: \_\_\_\_\_

PROGRAMMED BY: \_\_\_\_\_

NOTES: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



**COBALT BY ECONOLITE**

EVENT PLAN	<b>9-FREE</b>
EVENT PLAN	<b>10-FLASH</b>

**EVENT PLAN**

EVENT PLAN	<b>5</b>	OFFSET	<b>20</b>					
CYCLE LENGTH	<b>85</b>	C/O/S	<b>3/1/3</b>					
PHASE	1	2	3	4	5	6	7	8
SPLITS	<b>17</b>	<b>33</b>	<b>15</b>	<b>20</b>	<b>17</b>	<b>33</b>	<b>15</b>	<b>20</b>
PHASE	1	2	3	4	5	6	7	8
COORD PHASES		X				X		
VEHICLE RECALL		X						
VEH MAX RECALL								
PED RECALL								

EVENT PLAN		OFFSET						
CYCLE LENGTH		C/O/S						
PHASE	1	2	3	4	5	6	7	8
SPLITS								
PHASE	1	2	3	4	5	6	7	8
COORD PHASES								
VEHICLE RECALL								
VEH MAX RECALL								
PED RECALL								

**PATTERN DATA**

COORD PATTERN		OFFSET						
CYCLE LENGTH		C/O/S						
PHASE	1	2	3	4	5	6	7	8
SPLITS								
PHASE	1	2	3	4	5	6	7	8
COORD PHASES								
VEHICLE RECALL								
VEH MAX RECALL								
PED RECALL								

COORD PATTERN		OFFSET						
CYCLE LENGTH		C/O/S						
PHASE	1	2	3	4	5	6	7	8
SPLITS								
PHASE	1	2	3	4	5	6	7	8
COORD PHASES								
VEHICLE RECALL								
VEH MAX RECALL								
PED RECALL								



INTERSECTION NUMBER: **16**

ZONE: **A**

**EVENT PROGRAMMING**



**COBALT BY ECONOLITE**

INTERSECTION: **Ellington Parkway at East Commerce Street**

INSTALLATION DATE: \_\_\_\_\_

PROGRAMMED BY: \_\_\_\_\_

NOTES: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_

**DAY PLAN 1 - Sunday**

EVENT	EVENT PLAN	START TIME
1	9	00:00
2	3	08:00
3	9	17:00
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

**DAY PLAN 2 - Weekday**

EVENT	EVENT PLAN	START TIME
1	9	00:00
2	1	06:00
3	3	08:30
4	2	14:00
5	3	18:30
6	9	21:00
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

**DAY PLAN 3 - Saturday**

EVENT	EVENT PLAN	START TIME
1	9	00:00
2	3	09:00
3	9	19:00
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

**DAY PLAN 4 - Sunday**

EVENT	EVENT PLAN	START TIME
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

**DAY PLAN SCHEDULE**

SCHEDULE	DAY PLAN	DAY OF WEEK							MONTH	DAY OF MONTH
		SUN	MON	TUE	WED	THU	FRI	SAT		
1	1	X								
2	2		X	X	X	X	X			
3	3							X		
4										
5										
6										
7										
8										
9										
10										



INTERSECTION NUMBER:

18

ZONE:

A

INTERSECTION:

South Ellington Parkway at Higgs Road

INSTALLATION DATE:

PROGRAMMED BY:

NOTES:

LOCAL CONTROLLER PROGRAMMING



Cobalt by Econolite

MASTER TYPE:

MASTER LOCATION:

CONFIGURATION

Table with 9 columns (PHASE 1-8) and 3 rows (PHASES IN USE, EXCLUSIVE PED)

CONTROLLER TIMING DATA

Table with 9 columns (PHASE 1-8) and 13 rows (MIN GRN, WALK, PED CLR, VEH EXT, MAX EXT, MAX 1, MAX 2, MAX 3, DET MAX, YELLOW, RED CLR)

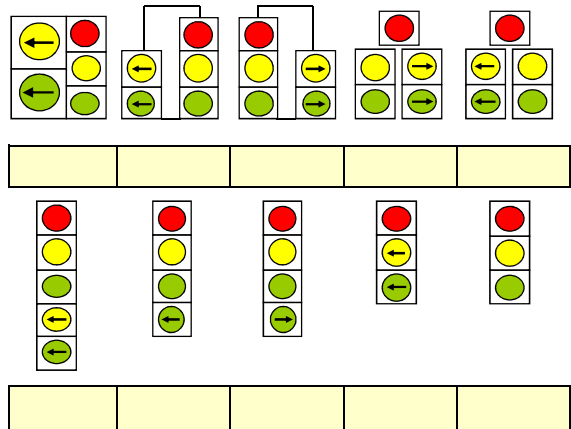
CONTROLLER RECALL DATA

Table with 9 columns (PHASE 1-8) and 5 rows (LOCKING MEMORY, VEHICLE RECALL, PED RECALL, RECALL TO MAX, SOFT RECALL)

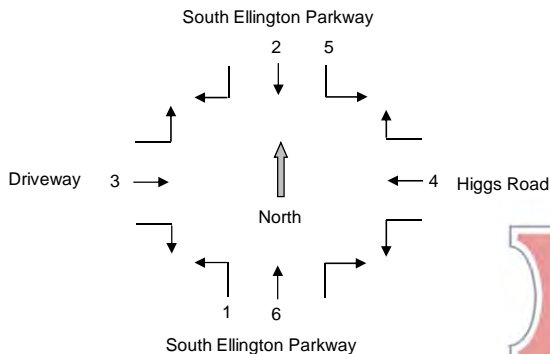
CONTROLLER START/FLASH DATA

Table with 9 columns (PHASE 1-8) and 10 rows (POWER START, EXTERNAL START, ENTRY REM, EXIT REM, FLASH REM, FLASH YEL, POWER START, EXTERNAL START)

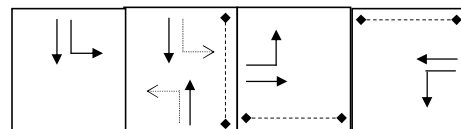
SIGNAL DISPLAYS



PHASING SCHEMATIC



PHASING SEQUENCE



INTERSECTION NUMBER: **18**

ZONE: **A**

INTERSECTION: **South Ellington Parkway at Higgs Road**

INSTALLATION DATE: \_\_\_\_\_

PROGRAMMED BY: \_\_\_\_\_

NOTES: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

**CONTROLLER & COORDINATOR OPTIONS**



COBALT BY ECONOLITE

**CONTROLLER OVERLAP DATA**

OVERLAP A	1	2	3	4	5	6	7	8
STANDARD								
PROTECTED								
PERMITTED								
ENABLE LAG								
ENABLE LEAD								
SPARE								
ADVANCE GREEN TIMER								
LAG/LEAD GREEN TIMER								
LAG/LEAD YELLOW TIMER								
LAG/LEAD RED TIMER								

**CONTROLLER OPTION DATA**

PHASE	1	2	3	4	5	6	7	8
GUAR PASSAGE								
NON-ACTUATED I								
NON-ACTUATED II								
DUAL ENTRY								
COND SERVICE								
COND RESERVICE								
ACT REST IN WALK								
FLASHING WALK								
<b>FIVE SECTION LEFT TURN HEADS</b>								
5-2		7-4		1-6				
3-8		11-10		9-12				

OVERLAP B	1	2	3	4	5	6	7	8
STANDARD								
PROTECTED								
PERMITTED								
ENABLE LAG								
ENABLE LEAD								
SPARE								
ADVANCE GREEN TIMER								
LAG/LEAD GREEN TIMER								
LAG/LEAD YELLOW TIMER								
LAG/LEAD RED TIMER								

**COORDINATOR OPTIONS**

SPLIT UNITS		ACT CRD PHASE				
OFFSET UNITS		ACT WALK/REST				
INTERCNT FMT		INHIBIT MAX				
INTERCNT SRC		MAX2 SELECT				
RESYNC COUNT		MULTISYNC				
TRANSITION		FLOAT FORCE				
DWELL PERIOD						
FREE ALTERNATE SEQUENCE	A	B	C	D	E	F



INTERSECTION NUMBER: **18**                      ZONE: **A**  
 INTERSECTION: **South Ellington Parkway at Higgs Road**  
 INSTALLATION DATE: \_\_\_\_\_  
 PROGRAMMED BY: \_\_\_\_\_  
 NOTES: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**PATTERN DATA**



**COBALT BY ECONOLITE**

EVENT PLAN	<b>9-FREE</b>
EVENT PLAN	<b>10-FLASH</b>

**PATTERN DATA**

EVENT PLAN	<b>1</b>	OFFSET	<b>36</b>					
CYCLE LENGTH	<b>75</b>	C/O/S	<b>1/1/1</b>					
PHASE	1	2	3	4	5	6	7	8
SPLITS		<b>44</b>	<b>15</b>	<b>16</b>	<b>15</b>	<b>29</b>		
PHASE	1	2	3	4	5	6	7	8
COORD PHASES		<b>X</b>				<b>X</b>		
VEHICLE RECALL								
VEH MAX RECALL								
PED RECALL						<b>X</b>		

EVENT PLAN	<b>2</b>	OFFSET	<b>57</b>					
CYCLE LENGTH	<b>100</b>	C/O/S	<b>2/1/1</b>					
PHASE	1	2	3	4	5	6	7	8
SPLITS		<b>65</b>	<b>15</b>	<b>20</b>	<b>20</b>	<b>45</b>		
PHASE	1	2	3	4	5	6	7	8
COORD PHASES		<b>X</b>					<b>X</b>	
VEHICLE RECALL								
VEH MAX RECALL								
PED RECALL							<b>X</b>	

**PATTERN DATA**

COORD PATTERN	<b>3</b>	OFFSET	<b>13</b>					
CYCLE LENGTH	<b>85</b>	C/O/S	<b>3/1/1</b>					
PHASE	1	2	3	4	5	6	7	8
SPLITS		<b>50</b>	<b>15</b>	<b>20</b>	<b>20</b>	<b>30</b>		
PHASE	1	2	3	4	5	6	7	8
COORD PHASES		<b>X</b>				<b>X</b>		
VEHICLE RECALL								
VEH MAX RECALL								
PED RECALL						<b>X</b>		

COORD PATTERN	<b>4</b>	OFFSET	<b>13</b>					
CYCLE LENGTH	<b>85</b>	C/O/S	<b>3/1/2</b>					
PHASE	1	2	3	4	5	6	7	8
SPLITS		<b>50</b>	<b>15</b>	<b>20</b>	<b>20</b>	<b>30</b>		
PHASE	1	2	3	4	5	6	7	8
COORD PHASES		<b>X</b>					<b>X</b>	
VEHICLE RECALL								
VEH MAX RECALL								
PED RECALL							<b>X</b>	



INTERSECTION NUMBER: **18**                      ZONE: **A**  
 INTERSECTION: **South Ellington Parkway at Higgs Road**  
 INSTALLATION DATE: \_\_\_\_\_  
 PROGRAMMED BY: \_\_\_\_\_  
 NOTES: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**PATTERN DATA**



**COBALT BY ECONOLITE**

EVENT PLAN	<b>9-FREE</b>
EVENT PLAN	<b>10-FLASH</b>

**EVENT PLAN**

EVENT PLAN	<b>5</b>								OFFSET	<b>13</b>							
CYCLE LENGTH	<b>85</b>								C/O/S	<b>3/1/3</b>							
PHASE	1	2	3	4	5	6	7	8									
SPLITS		50	15	20	20	30											
PHASE	1	2	3	4	5	6	7	8									
COORD PHASES		X				X											
VEHICLE RECALL																	
VEH MAX RECALL																	
PED RECALL						X											

EVENT PLAN									OFFSET								
CYCLE LENGTH									C/O/S								
PHASE	1	2	3	4	5	6	7	8									
SPLITS																	
PHASE	1	2	3	4	5	6	7	8									
COORD PHASES																	
VEHICLE RECALL																	
VEH MAX RECALL																	
PED RECALL																	

**PATTERN DATA**

COORD PATTERN									OFFSET								
CYCLE LENGTH									C/O/S								
PHASE	1	2	3	4	5	6	7	8									
SPLITS																	
PHASE	1	2	3	4	5	6	7	8									
COORD PHASES																	
VEHICLE RECALL																	
VEH MAX RECALL																	
PED RECALL																	

COORD PATTERN									OFFSET								
CYCLE LENGTH									C/O/S								
PHASE	1	2	3	4	5	6	7	8									
SPLITS																	
PHASE	1	2	3	4	5	6	7	8									
COORD PHASES																	
VEHICLE RECALL																	
VEH MAX RECALL																	
PED RECALL																	



INTERSECTION NUMBER: **18**

ZONE: **A**

**EVENT PROGRAMMING**



**COBALT BY ECONOLITE**

INTERSECTION: **South Ellington Parkway at Higgs Road**

INSTALLATION DATE: \_\_\_\_\_

PROGRAMMED BY: \_\_\_\_\_

NOTES: \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

**DAY PLAN 1 - Sunday**

EVENT	EVENT PLAN	START TIME
1	10	0:00
2	9	4:00
3	3	8:00
4	9	17:00
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

**DAY PLAN 2 - Weekday**

EVENT	EVENT PLAN	START TIME
1	10	0:00
2	9	4:00
3	1	6:00
4	3	8:30
5	2	14:00
6	3	18:30
7	9	21:00
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

**DAY PLAN 3 - Saturday**

EVENT	EVENT PLAN	START TIME
1	10	00:00
2	9	04:00
3	3	09:00
4	9	19:00
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

**DAY PLAN 4 - Sunday**

EVENT	EVENT PLAN	START TIME
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

**DAY PLAN SCHEDULE**

SCHEDULE	DAY PLAN	DAY OF WEEK							MONTH	DAY OF MONTH
		SUN	MON	TUE	WED	THU	FRI	SAT		
1	1	X								
2	2		X	X	X	X	X			
3	3							X		
4										
5										
6										
7										
8										
9										
10										





**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #19 : N 2nd Avenue & US-431 AT Water Street

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		—	15	—	10	—	—	—	—	—	—	—	—	—	—	—	—
Passage Time .....		—	2.5	—	4.0	—	—	—	—	—	—	—	—	—	—	—	—
Maximum No 1 .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Maximum No 2 .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Yellow Change .....		—	4.0	—	3.5	—	—	—	—	—	—	—	—	—	—	—	—
Red Clearance .....		—	2.0	—	1.5	—	—	—	—	—	—	—	—	—	—	—	—

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Maximum Initial .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Time B4 Reduction .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cars B4 Reduction .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Time To Reduce .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Minimum Gap .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Pedestrian Clearance .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

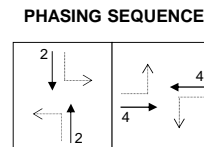
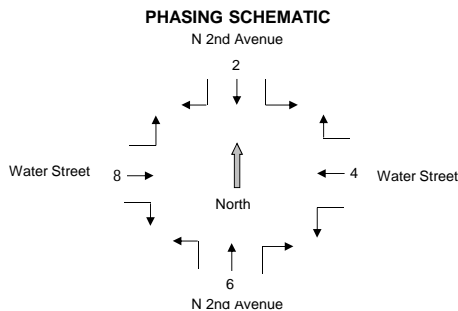
Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Extended Pedestrian Clear .....		—	0	—	0	—	0	—	0	—	—	—	—	—	—	—	—
Act Rest In Walk .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dual Entry .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Last Car Passage .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Conditional Service .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
No Simultaneous Gap .....		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Vehicle Control Entry : "1" = Yes & "0" = No



Intersection Name ..... Int #19 | **2nd Avenue & US-43** AT **Water Street**

General Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....		0															
Non-Act Response .....																	
Vehicle Recall .....			2		2												
Pedestrian Recall .....																	
Recall Delay.....																	

Codes.....		0	1	2	3	4
Initialization.....		NONE	INACTIVE	RED	YELLOW	GREEN
Non-Act Response.....		NONE	TO NA I	TO NA II	TO BOTH	----
Vehicle Recall.....		NONE	1 CALL	MINIMUM	MAXIMUM	SOFT
Pedestrian Recall.....		NONE	1 CALL	PED	NA	NA+

**PHASE DATA - SEQUENCE CONTROL**

Sequence Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....																	
Phase - Yellow.....																	

Codes .....		0	01 TO 16 (# - PHASE)
Phase Omit.....		NONE	Phase Is Omitted By # - Phase On
Phase - Yellow.....		NONE	Phase Yellow Is Omitted By # - Phase Yellow

**PHASE DATA - VEH DETECTOR CONTROL**

Control	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....																	
Operation Mode.....																	
Switch.....																	
Extend Time.....																	
Delay Time.....																	

Control	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....																	
Operation Mode.....																	
Switch.....																	
Extend Time.....																	
Delay Time.....																	

Codes.....		0	1	2	3	4
Operation Mode.....		NORM VEH	NORM PED	ONE CALL	ST BAR A	ST BAR B
Assigned Phase.....		NONE	Detector Is Assigned To # - Phase			
Switch.....		NONE	Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green			

Intersection Name ..... Int #19 | **2nd Avenue & US-43** AT **Water Street**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS						
00	1 5	2 6		3 7	4 8		
01	2 5	2 6	1 6	3 7	4 8		
02	1 5	2 6		4 7	4 8	3 8	
03	2 5	2 6	1 6	4 7	4 8	3 8	
04	1 6	2 6	2 5	3 7	4 8		
05	2 6	1 5		3 7	4 8		
06	1 6	2 6	2 5	4 7	4 8	3 8	
07	2 6	1 5		4 7	4 8	3 8	
08	1 5	2 6		3 8	4 8	4 7	
09	2 5	2 6	1 6	3 8	4 8	4 7	
10	1 5	2 6		4 8	3 7		
11	2 5	2 6	1 6	4 8	3 7		
12	1 6	2 6	2 5	3 8	4 8	4 7	
13	2 6	1 5		3 8	4 8	4 7	
14	1 6	2 6	2 5	4 8	3 7		
15	2 6	1 5		4 8	3 7		

Intersection Name ..... Int #19 **2nd Avenue & US-4** AT **Water Street**

**COORD DATA MODE**

<u>Control</u>		Codes:	0	1	2	3	4	5
Operation	..... :		FRE	AUT	MAN	-	-	-
Mode	..... :		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... :		INH	MX1	MX2	-	-	-
Correction	..... :		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... :		BEGIN	END OF GREEN				
Force	..... :		PLAN	CYCLE TIME				
Max Dwell Time	..... :			Time in Seconds				
Yield Period	..... :			Time in Seconds				
Manual Pattern (Dial/Split/Offset)	..... :							

**COORD DATA TIMING PLANS**

<u>Control</u>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	60	70	70	70	70			
Phase 01 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 02 Time/Mode	..... :	42 / 1	52 / 1	52 / 1	52 / 1	52 / 1	/	/	/
Phase 03 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 04 Time/Mode	..... :	18 /	18 /	18 /	18 /	18 /	/	/	/
Phase 05 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 06 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 07 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 08 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 09 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 10 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 11 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 12 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 13 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 14 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 15 Time/Mode	..... :	/	/	/	/	/	/	/	/
Phase 16 Time/Mode	..... :	/	/	/	/	/	/	/	/
Offset 1	..... :	19	45	63	63	63			
Offset 1 Alt Sequence	..... :								
Offset 1 Pattern Mode	..... :								
Offset 1 Ring 2 Lag	..... :								
Offset 1 Ring 3 Lag	..... :								
Offset 1 Ring 4 Lag	..... :								
Offset 2	..... :								
Offset 2 Pattern Mode	..... :								
Offset 2 Ring 2 Lag	..... :								
Offset 2 Ring 3 Lag	..... :								
Offset 2 Ring 4 Lag	..... :								
Offset 3	..... :								
Offset 3 Pattern Mode	..... :								
Offset 3 Ring 2 Lag	..... :								
Offset 3 Ring 3 Lag	..... :								
Offset 3 Ring 4 Lag	..... :								

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name .....Int #19 **2nd Avenue & US-4** AT **Water Street**

COORD DATA TIMING PLANS

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #19 2nd Avenue & US-43 AT Water Street

TIME BASE DATA MISCELLANEOUS

DST: BEGIN MONTH 3 WEEK 2  
DST: END MONTH 11 WEEK 1  
COORD CYCLE ZERO 24 : 00

DST: Daylight Savings Timng  
Month = 01 to 12 (Begin < End)  
Week = 1 to 5 (5= Last Week)  
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync  
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)

Table with 7 columns and 10 rows for equated days. Row 1: 1 = 3 4 5 6. Row 2: 2 = 3 4 5 6. Row 3: 7 = 3 4 5 6. Subsequent rows are blank.

DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

TIME BASE DATA TRAFFIC EVENTS

Table with 6 columns: DAY, PDAY, HH:MM, PATTERN, TRAFFIC EVENT FUNCTIONS (MAX II PHASE(S)), OMIT PHASE(S), and REFERENCE DATA. Includes event details for days 1, 2, and 7.

Intersection Name ..... Int #19 **2nd Avenue & US-45** AT **Water Street**

**TIME BASE DATA - AUXILIARY EVENTS**

DAY PDAY	TIME HH : MM	AUXILIARY EVENT FUNCTIONS											REFERENCE DATA:
		A: 1 2 3	D: 1 2 3	DIM	S: 1 2 3 4 5 6 7 8								
____	____	____	____	____	____	____	____	____	____	____	____	____	PDAY - 01-99 Program Day HH:MM - 24 Hour Clock A.123 - Auxiliary Output D.123 - Detector 1 - Det Diag Vaule 2 - Enables Report 3 - Rep Multiplier DIM - Dimming Enable S.1>8 - Special Function Output ALL - 0-OFF / 1-ON
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	
____	____	____	____	____	____	____	____	____	____	____	____	____	

**TIME BASE DATA - TIME OF YEAR EVENTS**

DATE MM / DD / YY		SPECIAL DAY WEEK		DATE MM / DD / YY		SPECIAL DAY WEEK	
___/___/___	___/___/___	___	___	___/___/___	___/___/___	___	___
___/___/___	___/___/___	___	___	___/___/___	___/___/___	___	___
___/___/___	___/___/___	___	___	___/___/___	___/___/___	___	___
___/___/___	___/___/___	___	___	___/___/___	___/___/___	___	___
___/___/___	___/___/___	___	___	___/___/___	___/___/___	___	___
___/___/___	___/___/___	___	___	___/___/___	___/___/___	___	___
___/___/___	___/___/___	___	___	___/___/___	___/___/___	___	___
___/___/___	___/___/___	___	___	___/___/___	___/___/___	___	___
___/___/___	___/___/___	___	___	___/___/___	___/___/___	___	___
___/___/___	___/___/___	___	___	___/___/___	___/___/___	___	___

Reference Data:

Special Day - Any Program Day 00-99

Special Week -

Week 0 = Program Day 01-07

Week 1 = Program Day 11-17

Week 2 = Program Day 21-27

Week 9 = Program Day 91-97

Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control Channel :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS											
00	1	5	2	6	3	7	4	8				
01	2	5	2	6	1	6	3	7	4	8		
02	1	5	2	6		4	7	4	8	3	8	
03	2	5	2	6	1	6	4	7	4	8	3	8
04	1	6	2	6	2	5	3	7	4	8		
05	2	6	1	5		3	7	4	8			
06	1	6	2	6	2	5	4	7	4	8	3	8
07	2	6	1	5		4	7	4	8	3	8	
08	1	5	2	6		3	8	4	8	4	7	
09	2	5	2	6	1	6	3	8	4	8	4	7
10	1	5	2	6		4	8	3	7			
11	2	5	2	6	1	6	4	8	3	7		
12	1	6	2	6	2	5	3	8	4	8	4	7
13	2	6	1	5		3	8	4	8	4	7	
14	1	6	2	6	2	5	4	8	3	7		
15	2	6	1	5		4	8	3	7			



Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #21 : N 2nd Avenue & US-431 AT College Street

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		---	15	7	7	---	---	---	---	---	---	---	---	---	---	---	---
Passage Time .....		---	5.0	4.0	4.0	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 1 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 2 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yellow Change .....		---	3.5	3.5	3.0	---	---	---	---	---	---	---	---	---	---	---	---
Red Clearance .....		---	3.5	3.0	3.0	---	---	---	---	---	---	---	---	---	---	---	---

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum Initial .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cars B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time To Reduce .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Minimum Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Clearance .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

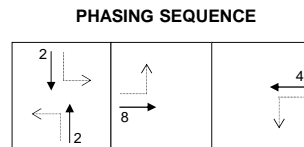
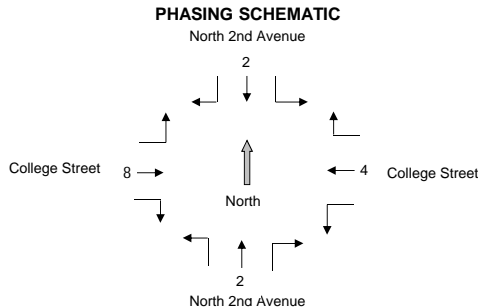
Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extended Pedestrian Clear .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Act Rest In Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dual Entry .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Last Car Passage .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Conditional Service .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
No Simultaneous Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Vehicle Control Entry : "1" = Yes & "0" = No



Intersection Name ..... Int #21 | **2nd Avenue & US-43** AT **College Street**

General Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....	:	---	2	2	2	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Initialization.....	:	NONE	INACTIVE	RED	YELLOW	GREEN
Non-Act Response.....	:	NONE	TO NA I	TO NA II	TO BOTH	----
Vehicle Recall.....	:	NONE	1 CALL	MINIMUM	MAXIMUM	SOFT
Pedestrian Recall.....	:	NONE	1 CALL	PED	NA	NA+

**PHASE DATA - SEQUENCE CONTROL**

Sequence Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes .....	:	0	01 TO 16 (# - PHASE)
Phase Omit.....	:	NONE	Phase Is Omitted By # - Phase On
Phase - Yellow.....	:	NONE	Phase Yellow Is Omitted By # - Phase Yellow

**PHASE DATA - VEH DETECTOR CONTROL**

Control	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Control	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Operation Mode.....	:	NORM VEH	NORM PED	ONE CALL	ST BAR A	ST BAR B
Assigned Phase.....	:	NONE	Detector Is Assigned To # - Phase			
Switch.....	:	NONE	Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green			

Intersection Name ..... Int #21 | **2nd Avenue & US-43** AT **College Street**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS
00	1 5 2 6 3 7 4 8
01	2 5 2 6 1 6 3 7 4 8
02	1 5 2 6 4 7 4 8 3 8
03	2 5 2 6 1 6 4 7 4 8 3 8
04	1 6 2 6 2 5 3 7 4 8
05	2 6 1 5 3 7 4 8
06	1 6 2 6 2 5 4 7 4 8 3 8
07	2 6 1 5 4 7 4 8 3 8
08	1 5 2 6 3 8 4 8 4 7
09	2 5 2 6 1 6 3 8 4 8 4 7
10	1 5 2 6 4 8 3 7
11	2 5 2 6 1 6 4 8 3 7
12	1 6 2 6 2 5 3 8 4 8 4 7
13	2 6 1 5 3 8 4 8 4 7
14	1 6 2 6 2 5 4 8 3 7
15	2 6 1 5 4 8 3 7

Intersection Name ..... Int #21 **2nd Avenue & US-4** AT **College Street**

**COORD DATA MODE**

<u>Control</u>		Codes:	0	1	2	3	4	5
Operation	..... : <u>1</u>		FRE	AUT	MAN	-	-	-
Mode	..... : <u>1</u>		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... : <u>0</u>		INH	MX1	MX2	-	-	-
Correction	..... : <u>2</u>		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... : <u>1</u>		BEGIN	END OF GREEN				
Force	..... : <u>1</u>		PLAN	CYCLE TIME				
Max Dwell Time	..... : <u>0</u>		Time in Seconds					
Yield Period	..... : <u>0</u>		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	<u>3</u> <u>1</u> <u>1</u>							

**COORD DATA TIMING PLANS**

<u>Control</u>	Timing Plan :	AM	PM	MID	Saturday	Sunday			
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3			
Cycle Length	..... :	<u>60</u>	<u>70</u>	<u>70</u>	<u>70</u>	<u>70</u>			
Phase 01 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 02 Time/Mode	..... :	<u>30</u> / <u>1</u>	<u>40</u> / <u>1</u>	<u>40</u> / <u>1</u>	<u>40</u> / <u>1</u>	<u>40</u> / <u>1</u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 03 Time/Mode	..... :	<u>15</u> / <u>   </u>	<u>15</u> / <u>   </u>	<u>15</u> / <u>   </u>	<u>15</u> / <u>   </u>	<u>15</u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 04 Time/Mode	..... :	<u>15</u> / <u>   </u>	<u>15</u> / <u>   </u>	<u>15</u> / <u>   </u>	<u>15</u> / <u>   </u>	<u>15</u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 05 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 06 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 07 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 08 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 09 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 10 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 11 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 12 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 13 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 14 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 15 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Phase 16 Time/Mode	..... :	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>	<u>   </u> / <u>   </u>
Offset 1	..... :	<u>49</u>	<u>24</u>	<u>36</u>	<u>36</u>	<u>36</u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Alt Sequence	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Pattern Mode	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Ring 2 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Ring 3 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 1 Ring 4 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Pattern Mode	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Ring 2 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Ring 3 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 2 Ring 4 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Pattern Mode	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Ring 2 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Ring 3 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>
Offset 3 Ring 4 Lag	..... :	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>	<u>   </u>

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name ..... Int #21 **2nd Avenue & US-4** AT **College Street**

**COORD DATA TIMING PLANS**

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

Phase Mode ..... : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec  
 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase

Alternate Sequence ..... : 00-15 (Unit Data Has Definition)

Pattern Mode ..... : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act

R# LAG ..... : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #21 2nd Avenue & US-43 AT College Street

TIME BASE DATA MISCELLANEOUS

DST: BEGIN MONTH 3 WEEK 2
DST: END MONTH 11 WEEK 1
COORD CYCLE ZERO 24 : 00

DST: Daylight Savings Timng
Month = 01 to 12 (Begin < End)
Week = 1 to 5 (5= Last Week)
CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync
00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)
Table with 7 columns and 10 rows of dashes representing equated days.

DAY EQUATES: Care Must Be Used To Insure Days Are Not
Equated To Undefined Days Or Days That Are Equated To
Other Days. The Rest Will Be A Day Without Events To Run.

TIME BASE DATA TRAFFIC EVENTS

Table with columns: DAY, PDAY, HH:MM, PATTERN, TRAFFIC EVENT FUNCTIONS, MAX II PHASE(S), OMIT PHASE(S). Contains multiple rows of event data.

REFERENCE DATA:
PDAY - 01-99 Program Day
HH:MM - 24 Hour Clock
PATTERN : (D/S/O)
Flash - 5 / 5 / 0
Free - 0 / 0 / 4
MAX 2 & OMITs: Call Free,
Set Pattern To 0 / 0 / 0

Intersection Name ..... Int #21 **2nd Avenue & US-43** AT **College Street**

**TIME BASE DATA - AUXILIARY EVENTS**

DAY PDAY	TIME		AUXILIARY EVENT FUNCTIONS														REFERENCE DATA:	
	HH	MM	A: 1	A: 2	A: 3	D: 1	D: 2	D: 3	DIM	S: 1	S: 2	S: 3	S: 4	S: 5	S: 6	S: 7		S: 8
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**TIME BASE DATA - TIME OF YEAR EVENTS**

DATE		SPECIAL		DATE		SPECIAL		Reference Data:
MM	DD / YY	DAY	WEEK	MM	DD / YY	DAY	WEEK	
---	---/---/---	---	---	---	---/---/---	---	---	Special Day - Any Program Day 00-99 Special Week - Week 0 = Program Day 01-07 Week 1 = Program Day 11-17 Week 2 = Program Day 21-27                           Week 9 = Program Day 91-97
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Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS											
00	1	5	2	6	3	7	4	8				
01	2	5	2	6	1	6	3	7	4	8		
02	1	5	2	6	4	7	4	8	3	8		
03	2	5	2	6	1	6	4	7	4	8	3	8
04	1	6	2	6	2	5	3	7	4	8		
05	2	6	1	5	3	7	4	8				
06	1	6	2	6	2	5	4	7	4	8	3	8
07	2	6	1	5	4	7	4	8	3	8		
08	1	5	2	6	3	8	4	8	4	7		
09	2	5	2	6	1	6	3	8	4	8	4	7
10	1	5	2	6	4	8	3	7				
11	2	5	2	6	1	6	4	8	3	7		
12	1	6	2	6	2	5	3	8	4	8	4	7
13	2	6	1	5	3	8	4	8	4	7		
14	1	6	2	6	2	5	4	8	3	7		
15	2	6	1	5	4	8	3	7				

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**14 EPAC300 PROGRAM LOG**



Date: 5 / 3 / 2016

Intersection Name ..... Int #23 : Heil Quaker Avenue AT Franklin Road & Dodson Drive

**UTILITIES ACCESS**

Access Code..... : \_\_\_\_\_ Codes: Four Digits (0000-9999)

**PHASE DATA VEHICLE TIMINGS**

Basic Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Minimum Green .....		---	30	---	6	---	---	---	---	---	---	---	---	---	---	---	---
Passage Time .....		---	3.0	---	3.0	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 1 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum No 2 .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Yellow Change .....		---	3.0	---	3.5	---	---	---	---	---	---	---	---	---	---	---	---
Red Clearance .....		---	2.5	---	1.5	---	---	---	---	---	---	---	---	---	---	---	---

Density Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Seconds/Actuation .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Maximum Initial .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Cars B4 Reduction .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Time To Reduce .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Minimum Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

**PHASE DATA PEDESTRIAN TIMINGS & CONTROL**

Pedestrian Times	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Clearance .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

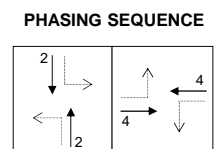
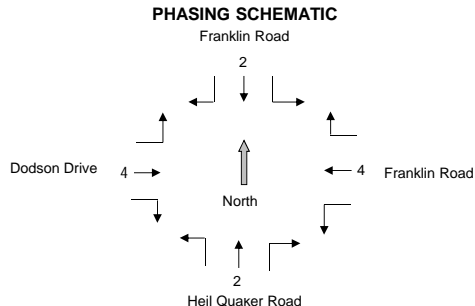
Pedestrian Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Flashing Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extended Pedestrian Clear .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Act Rest In Walk .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Pedestrian Control Entry : "1" = Yes & "0" = No

**PHASE DATA VEHICLE CONTROL**

Veh Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Non-Lock Memory .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Dual Entry .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Last Car Passage .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Conditional Service .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
No Simultaneous Gap .....		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Vehicle Control Entry : "1" = Yes & "0" = No



Intersection Name ..... Int #23 **Heil Quaker Avenue** AT **ranklin Road & Dodson Driv**

General Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Initialization .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Non-Act Response .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Vehicle Recall .....	:	---	2	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Pedestrian Recall .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Recall Delay.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Initialization.....	:	NONE	INACTIVE	RED	YELLOW	GREEN
Non-Act Response.....	:	NONE	TO NA I	TO NA II	TO BOTH	----
Vehicle Recall.....	:	NONE	1 CALL	MINIMUM	MAXIMUM	SOFT
Pedestrian Recall.....	:	NONE	1 CALL	PED	NA	NA+

**PHASE DATA - SEQUENCE CONTROL**

Sequence Control	Phase :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Phase Omit.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Phase - Yellow.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes .....	:	0	01 TO 16 (# - PHASE)
Phase Omit.....	:	NONE	Phase Is Omitted By # - Phase On
Phase - Yellow.....	:	NONE	Phase Yellow Is Omitted By # - Phase Yellow

**PHASE DATA - VEH DETECTOR CONTROL**

Control	Detector :	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Control	Detector :	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32
Assigned Phase .....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Operation Mode.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Switch.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Extend Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Delay Time.....	:	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes.....	:	0	1	2	3	4
Operation Mode.....	:	NORM VEH	NORM PED	ONE CALL	ST BAR A	ST BAR B
Assigned Phase.....	:	NONE	Detector Is Assigned To # - Phase			
Switch.....	:	NONE	Detector Is Switched To # - Phase When The Assigned Phase Is Yellow / Red & # - Phase Is Green			

Intersection Name ..... Int #23

**Heil Quaker Avenue** AT **Franklin Road & Dodson Drive**

**UNIT DATA - STARTUP & MISC**

Startup Time ..... : \_\_\_\_\_ Time in Seconds  
 Startup State ..... : \_\_\_\_\_ 0-Flash 1-Red  
 Red Revert ..... : \_\_\_\_\_ Time in Tenth Second  
 Auto Pedestrian Clear ..... : \_\_\_\_\_ 0-No 1-Yes  
 Stop Time Reset ..... : \_\_\_\_\_ 0-No 1-Yes  
 Alternate Sequence ..... : \_\_\_\_\_ 00-15 Alt Sequence ##

**UNIT DATA - AUTOMATIC FLASH**

TST A = Flash..... : \_\_\_\_\_ 0 - NO / 1 - YES for TEST A Input For An Automatic Flash Input

Control Channel : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 Flash ..... : \_\_\_\_\_  
 Alt Flash..... : \_\_\_\_\_

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16  
 Flash Entry Phase..... : \_\_\_\_\_  
 Flash Exit Phase..... : \_\_\_\_\_

Codes ..... : 0 1 2  
 Flash ..... : NO RED YEL All = 0 Then Voltage Monitor Flash  
 Alt Flash ..... : NO YES -- Used To Provide Wig-Wag Flashing  
 Flash Entry Phase ..... : NO YES -- Phase(s) To Precede Automatic Flash  
 Flash Exit Phase ..... : NO YES -- Phase(s) To Follow Automatic Flash

**UNIT DATA - OVERLAP**

Control Phase : 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24  
 OL A Phase(s) ..... : \_\_\_\_\_  
 OL B Phase(s) ..... : \_\_\_\_\_  
 OL C Phase(s) ..... : \_\_\_\_\_  
 OL D Phase(s) ..... : \_\_\_\_\_  
 OL E Phase(s) ..... : \_\_\_\_\_  
 OL F Phase(s) ..... : \_\_\_\_\_  
 OL G Phase(s) ..... : \_\_\_\_\_  
 OL H Phase(s) ..... : \_\_\_\_\_  
 OL I Phase(s) ..... : \_\_\_\_\_  
 OL J Phase(s) ..... : \_\_\_\_\_  
 OL K Phase(s) ..... : \_\_\_\_\_  
 OL L Phase(s) ..... : \_\_\_\_\_  
 OL M Phase(s) ..... : \_\_\_\_\_  
 OL N Phase(s) ..... : \_\_\_\_\_  
 OL O Phase(s) ..... : \_\_\_\_\_  
 OL P Phase(s) ..... : \_\_\_\_\_  
 Codes: 0 - NO 1 - YES Phase Is Included In Overlap

Alt Seq	MOVEMENTS						
00	1 5	2 6		3 7	4 8		
01	2 5	2 6	1 6	3 7	4 8		
02	1 5	2 6		4 7	4 8	3 8	
03	2 5	2 6	1 6	4 7	4 8	3 8	
04	1 6	2 6	2 5	3 7	4 8		
05	2 6	1 5		3 7	4 8		
06	1 6	2 6	2 5	4 7	4 8	3 8	
07	2 6	1 5		4 7	4 8	3 8	
08	1 5	2 6		3 8	4 8	4 7	
09	2 5	2 6	1 6	3 8	4 8	4 7	
10	1 5	2 6		4 8	3 7		
11	2 5	2 6	1 6	4 8	3 7		
12	1 6	2 6	2 5	3 8	4 8	4 7	
13	2 6	1 5		3 8	4 8	4 7	
14	1 6	2 6	2 5	4 8	3 7		
15	2 6	1 5		4 8	3 7		

Intersection Name ..... Int #23 **Heil Quaker Avenue** AT **Franklin Road & Dodson Drive**

**COORD DATA MODE**

<u>Control</u>		Codes:	0	1	2	3	4	5
Operation	..... :		FRE	AUT	MAN	-	-	-
Mode	..... :		PRM	YLD	PYL	POM	SOM	FAC
Maximum	..... :		INH	MX1	MX2	-	-	-
Correction	..... :		DW	MDW	SWY	SW+	-	-
Offset (?? Of Green)	..... :		BEGIN	END OF GREEN				
Force	..... :		PLAN	CYCLE TIME				
Max Dwell Time	..... :		Time in Seconds					
Yield Period	..... :		Time in Seconds					
Manual Pattern (Dial/Split/Offset)	..... :							

3 1 1

**COORD DATA TIMING PLANS**

<u>Control</u>	Timing Plan :	AM	PM	MID	Saturday	Sunday
		D1/S1	D2/S1	D3/S1	D3/S2	D3/S3
Cycle Length	..... :	___	___	___	___	___
Phase 01 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 02 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 03 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 04 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 05 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 06 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 07 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 08 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 09 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 10 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 11 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 12 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 13 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 14 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 15 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Phase 16 Time/Mode	..... :	___/___	___/___	___/___	___/___	___/___
Offset 1	..... :	___	___	___	___	___
Offset 1 Alt Sequence	..... :	___	___	___	___	___
Offset 1 Pattern Mode	..... :	___	___	___	___	___
Offset 1 Ring 2 Lag	..... :	___	___	___	___	___
Offset 1 Ring 3 Lag	..... :	___	___	___	___	___
Offset 1 Ring 4 Lag	..... :	___	___	___	___	___
Offset 2	..... :	___	___	___	___	___
Offset 2 Pattern Mode	..... :	___	___	___	___	___
Offset 2 Ring 2 Lag	..... :	___	___	___	___	___
Offset 2 Ring 3 Lag	..... :	___	___	___	___	___
Offset 2 Ring 4 Lag	..... :	___	___	___	___	___
Offset 3	..... :	___	___	___	___	___
Offset 3 Pattern Mode	..... :	___	___	___	___	___
Offset 3 Ring 2 Lag	..... :	___	___	___	___	___
Offset 3 Ring 3 Lag	..... :	___	___	___	___	___
Offset 3 Ring 4 Lag	..... :	___	___	___	___	___

**Note: Dial, Split, and Offset are all shown in seconds**

Intersection Name ..... Int #23 **Heil Quaker Avenue** AT **Franklin Road & Dodson Drive**

COORD DATA TIMING PLANS

Control Timing Plan :

Cycle Length	.....	_____	_____	_____	_____	_____	_____	_____	_____
Phase 01 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 02 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 03 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 04 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 05 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 06 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 07 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 08 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 09 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 10 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 11 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 12 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 13 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 14 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 15 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Phase 16 Time/Mode	.....	____/____	____/____	____/____	____/____	____/____	____/____	____/____	____/____
Offset 1	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Alt Sequence	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 1 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 2 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Pattern Mode	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 2 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 3 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____
Offset 3 Ring 4 Lag	.....	_____	_____	_____	_____	_____	_____	_____	_____

Codes

- Phase Mode : 0 - Actuated      1 - Coord Phase      2 - Min Rec      3 - Max Rec
- 4 - Ped Rec      5 - Max+Ped Recall      6 - Phase Omitted      7 - Dual Coord Phase
- Alternate Sequence : 00-15 (Unit Data Has Definition)
- Pattern Mode : 0-Normal / 1-Perm / 2-Yield / 3-Perm Yield / 4-Perm Omit / 5-Seq Omit / 6-Full Act
- R# LAG : Time In Seconds Of The Ring Offset To Lci Cycle 0 When Not Barrier Locked To Ring 1

Intersection Name ..... Int #23     **Heil Quaker Avenue**     AT     **Franklin Road & Dodson Drive**

**TIME BASE DATA MISCELLANEOUS**

DST: BEGIN        MONTH           3          WEEK          2    
 DST: END         MONTH          11          WEEK          1  

DST: Daylight Savings Timng  
 Month = 01 to 12 (Begin < End)  
 Week = 1 to 5 (5= Last Week)

COORD CYCLE ZERO         24   :  00  

CYCLE ZERO: Time (HH:MM) Set Reference For Coord Sync  
 00:00 = Event Time / Other = That HH:MM

EQUATED DAY: (DEFINE DAY = DAY)

_____	=	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____
_____	=	_____	_____	_____	_____	_____	_____

DAY EQUATES: Care Must Be Used To Insure Days Are Not Equated To Undefined Days Or Days That Are Equated To Other Days. The Rest Will Be A Day Without Events To Run.

**TIME BASE DATA TRAFFIC EVENTS**

DAY PDAY	HH : MM	PATTERN	TRAFFIC EVENT FUNCTIONS MAX II PHASE(S)	OMIT PHASE(S)	
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
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_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
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_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____
_____	_____	____/____/____	_____	_____	_____

REFERENCE DATA:  
 PDAY - 01-99 Program Day  
 HH:MM - 24 Hour Clock  
 PATTERN : (D/S/O)  
           Flash - 5 / 5 / 0  
           Free - 0 / 0 / 4  
 MAX 2 & OMITs: Call Free,  
                   Set Pattern To 0 / 0 / 0



Intersection Name ..... Int #23 **Heil Quaker Avenue** AT **anklin Road & Dodson Dr**

TIME BASE DATA - AUXILIARY EVENTS

DAY PDAY	TIME HH : MM	AUXILIARY EVENT FUNCTIONS										
		A: 1 2 3	D: 1 2 3	DIM	S: 1 2 3 4 5 6 7 8							
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---	---	---	---	---	---	---	---	---	---	---	---	---

REFERENCE DATA:  
 PDAY - 01-99 Program Day  
 HH:MM - 24 Hour Clock  
 A.123 - Auxiliary Output  
 D.123 - Detector  
 1 - Det Diag Vaule  
 2 - Enables Report  
 3 - Rep Multiplier  
 DIM - Dimming Enable  
 S.1>8 - Special Function Output  
 ALL - 0-OFF / 1-ON

TIME BASE DATA - TIME OF YEAR EVENTS

DATE MM / DD / YY	SPECIAL DAY WEEK	DATE MM / DD / YY	SPECIAL DAY WEEK
---/---/---	---	---/---/---	---
---/---/---	---	---/---/---	---
---/---/---	---	---/---/---	---
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---/---/---	---	---/---/---	---
---/---/---	---	---/---/---	---
---/---/---	---	---/---/---	---

Reference Data:  
 Special Day - Any Program Day 00-99  
 Special Week -  
 Week 0 = Program Day 01-07  
 Week 1 = Program Day 11-17  
 Week 2 = Program Day 21-27  
 | | |  
 Week 9 = Program Day 91-97

Intersection Name ..... #REF! :                   #REF!                   AT                   #REF!                  

**UNIT DATA RING STRUCTURE**

Control	Channel	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Ph 12 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 12 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 13 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 14 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 15 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Ped Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Ph 16 Veh Channel(s)..... :		---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Codes:                   0 - NO                   1 - YES                   Phase Vehicle / Pedest Outputs to Channel

Phase Controls MUST First Be Assigned To Channels. Once Assigned, They Must Also Be Assigned to Hardware Output Pins.

**UNIT DATA ALTERNATE SEQUENCE**

Control	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
Alternate Sequence 00 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 01 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 02 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 03 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 04 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 05 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 06 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 07 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 08 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 09 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 10 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 11 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 12 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 13 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 14 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
Alternate Sequence 15 .....	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

Reverse Phases Must be In the Same Ring And Next To Each Other

Alt Seq	MOVEMENTS											
00	1	5	2	6	3	7	4	8				
01	2	5	2	6	1	6	3	7	4	8		
02	1	5	2	6		4	7	4	8	3	8	
03	2	5	2	6	1	6	4	7	4	8	3	8
04	1	6	2	6	2	5	3	7	4	8		
05	2	6	1	5		3	7	4	8			
06	1	6	2	6	2	5	4	7	4	8	3	8
07	2	6	1	5		4	7	4	8	3	8	
08	1	5	2	6		3	8	4	8	4	7	
09	2	5	2	6	1	6	3	8	4	8	4	7
10	1	5	2	6		4	8	3	7			
11	2	5	2	6	1	6	4	8	3	7		
12	1	6	2	6	2	5	3	8	4	8	4	7
13	2	6	1	5		3	8	4	8	4	7	
14	1	6	2	6	2	5	4	8	3	7		
15	2	6	1	5		4	8	3	7			

Intersection Name ..... ## at ##

- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##
- Select phasing sequence (option 1-16)  ##

ECONOLITE CODING

OPTIONS	MOVEMENTS	LAG PHASES
0	1 5 2 6 3 7 4 8	2,4,6,8
1	2 5 2 6 1 6 3 7 4 8	1,4,6,8
2	1 5 2 6 4 7 4 8 3 8	2,3,6,8
3	2 5 2 6 1 6 4 7 4 8 3 8	1,3,6,8
4	1 6 2 6 2 5 3 7 4 8	2,4,5,8
5	2 6 1 5 3 7 4 8	1,4,5,8
6	1 6 2 6 2 5 4 7 4 8 3 8	2,3,5,8
7	2 6 1 5 4 7 4 8 3 8	1,3,5,8
8	1 5 2 6 3 8 4 8 4 7	2,4,6,7
9	2 5 2 6 1 6 3 8 4 8 4 7	1,4,6,7
10	1 5 2 6 4 8 3 7	2,3,6,7
11	2 5 2 6 1 6 4 8 3 7	1,3,6,7
12	1 6 2 6 2 5 3 8 4 8 4 7	2,4,5,7
13	2 6 1 5 3 8 4 8 4 7	1,4,5,7
14	1 6 2 6 2 5 4 8 3 7	2,3,5,7
15	2 6 1 5 4 8 3 7	1,3,5,7

1	2	3	4	5	6	7	8
A		B		C		D	
	A	B		C		D	
A			B	C		D	
	A		B	C		D	
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D
A		B			C		D
	A	B			C		D
A			B		C		D
	A		B		C		D

**Appendix G:**

**Field Implementation Memorandum**

## MEMORANDUM

**PROJECT:** City of Lewisburg Community Transportation Planning Grant  
Traffic Signal Timing Optimization Program  
Federal Project Number: SPR-PR-12A(355)  
TDOT Project Number: 16SPR1-F7-013  
TDOT PIN: 104685.10  
Kimley-Horn Project Number: 118000037

**FROM:** Beth Ostrowski, Kimley-Horn  
Emily Harrison, Kimley-Horn

**PURPOSE:** Implementation Memorandum

**DATE:** May 13, 2016

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The following memorandum summarizes the field implementation for the Traffic Signal Timing Optimization Program for Lewisburg, Tennessee. Fourteen signalized intersections were coordinated as part of this implementation. These 14 intersections are part of two (2) systems which have three (3) timing plans. The implemented timing plans consist of AM, Midday and PM plans. On Saturday and Sunday, duplicate plans which mimic the Midday plan were implemented as well. Field implementation was performed by Kimley-Horn staff Tuesday, May 3<sup>rd</sup> through Friday, May 6<sup>th</sup>, 2016.

Listed below are the edits and observations made during field implementation.

### Zone A: Ellington Parkway

#### General Comments

- **Intersection 4: North Ellington Parkway (SR 106) at West Ellington Parkway (SR 417)**  
Phase 3 Passage changed from 4s to 5s (+1s)
- **Intersection 10: North Ellington Parkway (SR 106) at North 5th Avenue / Rock Crusher Road**  
Phase 1 Minimum Green changed from 10s to 6s (-4s)

- **Intersection 12: North Ellington Parkway (SR 106) at Nashville Highway (SR 11)**

Phase 2 Minimum Green changed from 6s to 10s (+4s)

Phase 4 Minimum Green changed from 6s to 7s (+1s)

Phase 6 Minimum Green changed from 6s to 10s (+4s)

Phase 8 Minimum Green changed from 6s to 7s (+1s)

**AM Peak**

- **Intersection 4: North Ellington Parkway (SR 106) at West Ellington Parkway (SR 417)**

Phase 1 Split changed from 20s to 19s (-1s)

Phase 2 Split changed from 30s to 34s (+4s)

Phase 3 Split changed from 25s to 22s (-3s)

Phase 4 Split changed from 50s to 53s (+3s)

- **Intersection 8: North Ellington Parkway (SR 106) at Walmart Entrance**

Phase 1 Split changed from 18s to 15s (-3s)

Phase 2 Split changed from 39s to 42s (+3s)

Offset changed from 36s to 21s (-15s) in order to account for a clock error

- **Intersection 10: North Ellington Parkway (SR 106) at North 5th Avenue / Rock Crusher Road**

Phase 1 Split changed from 18s to 15s (-3s)

Phase 2 Split changed from 39s to 45s (+6s)

Phase 4 Split changed from 18s to 15s (-3s)

Phase 5 Split changed from 18s to 15s (-3s)

Phase 6 Split changed from 39s to 45s (+6s)

Phase 8 Split changed from 18s to 15s (-3s)

- **Intersection 14: North Ellington Parkway (SR 11 / 106 / 272) at Finley Beech Road**

Phase 2 Split changed from 27s to 30s (+3s)

Phase 4 Split changed from 33s to 30s (-3s)

Phase 6 Split changed from 27s to 30s (+3s)

Phase 8 Split changed from 18s to 15s (-3s)

Offset changed from 25s to 28s (+3s)

- **Intersection 16: East Commerce Street (SR 50) / Fayetteville Highway at Ellington Parkway (SR 11/106/272)**

Phase 1 Split changed from 17s to 15s (-2s)

Phase 2 Split changed from 24s to 28s (+4s)

Phase 4 Split changed from 19s to 17s (-2s)

Phase 8 Split changed from 19s to 17s (-2s)

Offset changed from 52s to 59s (+7s)

**Midday Peak**

- **Intersection 4: North Ellington Parkway (SR 106) at West Ellington Parkway (SR 417)**

Offset changed from 82s to 23s (+26s)

- **Intersection 6: North Ellington Parkway (SR 373) at Franklin Road**  
Ring 3 Lag changed from 1s to 10s (+9s)
- **Intersection 8: North Ellington Parkway (SR 106) at Walmart Entrance**  
Offset changed from 46s to 31s (-15s) in order to account for a clock error
- **Intersection 10: North Ellington Parkway (SR 106) at North 5th Avenue / Rock Crusher Road**  
Phase 1 Split changed from 18s to 15s (-3s)  
Phase 2 Split changed from 39s to 45s (+6s)  
Phase 4 Split changed from 18s to 15s (-3s)  
Phase 5 Split changed from 18s to 15s (-3s)  
Phase 6 Split changed from 39s to 45s (+6s)  
Phase 8 Split changed from 18s to 15s (-3s)
- **Intersection 14: North Ellington Parkway (SR 11 / 106 / 272) at Finley Beech Road**  
Phase 1 Split changed from 15s to 17s (+2s)  
Phase 2 Split changed from 32s to 30s (-2s)
- **Intersection 16: East Commerce Street (SR 50) / Fayetteville Highway at Ellington Parkway (SR 11/106/272)**  
Phase 2 Split changed from 26s to 33s (+7s)  
Phase 4 Split changed from 27s to 20s (-7s)  
Phase 1 Split changed from 26s to 33s (+7s)  
Phase 8 Split changed from 27s to 20s (-7s)  
Offset changed from 16s to 20s (+4s)
- **Intersection 18: South Ellington Parkway (SR 11) at Higgs Road**  
Offset changed from 82s to 13s (+15s)

**PM Peak**

- **Intersection 4: North Ellington Parkway (SR 106) at West Ellington Parkway (SR 417)**  
Offset changed from 6s to 38s (+32s)
- **Intersection 6: North Ellington Parkway (SR 373) at Franklin Road**  
Ring 3 Lag changed from 12s to 13s (+1s)
- **Intersection 8: North Ellington Parkway (SR 106) at Walmart Entrance**  
Offset changed from 69s to 54s (-15s) in order to account for a clock error
- **Intersection 10: North Ellington Parkway (SR 106) at North 5th Avenue / Rock Crusher Road**  
Phase 1 Split changed from 18s to 15s (-3s)  
Phase 2 Split changed from 54s to 52s (-2s)  
Phase 4 Split changed from 28s to 33s (+5s)  
Phase 5 Split changed from 18s to 15s (-3s)  
Phase 6 Split changed from 54s to 52s (-2s)  
Phase 8 Split changed from 28s to 33s (+5s)

- **Intersection 12: North Ellington Parkway (SR 11 / 106 / 272) at Nashville Highway (SR 11)**  
Phase 1 Mode changed from NA to Max Recall
- **Intersection 14: North Ellington Parkway (SR 11 / 106 / 272) at Finley Beech Road**  
Phase 1 Split changed from 15s to 18s (+3s)  
Phase 2 Split changed from 45s to 42s (-3s)  
Offset changed from 50s to 59s (+9s)
- **Intersection 16: East Commerce Street (SR 50) / Fayetteville Highway at Ellington Parkway (SR 11/106/272)**  
Phase 2 Split changed from 36s to 43s (+7s)  
Phase 4 Split changed from 29s to 22s (-7s)  
Phase 1 Split changed from 36s to 43s (+7s)  
Phase 8 Split changed from 29s to 22s (-7s)  
Offset changed from 84s to 9s (+25s)

**Zone B: Downtown****General Comments**

- **Intersection 21: North 2nd Avenue / US-431 Business at College Street**  
Phase 3 Minimum Green changed from 10s to 7s (-3s)  
Phase 4 Minimum Green changed from 10s to 7s (-3s)
- **Intersection 5: West Commerce Street (SR 373) at 8th Avenue S**  
Phase 2 Recall changed from Minimum to Maximum  
Phase 4 Recall changed from Minimum to Maximum

**AM Peak**

- **Intersection 3: West Commerce Street (State Route (SR) 373) at Heil Quaker Avenue**  
Offset changed from 18s to 38s (+20s)
- **Intersection 5: West Commerce Street (SR 373) at 8th Avenue S**  
Phase 2 Split changed from 36s to 40s (+4s)  
Phase 4 Split changed from 24s to 20s (-4s)  
Offset changed from 36s to 51s (+15s)
- **Intersection 9: West Commerce Street (SR 373) at North 3rd Avenue / Franklin Road**  
Offset changed from 36s to 52s (+16s)
- **Intersection 21: North 2nd Avenue / US-431 Business at College Street**  
Phase 2 Split changed from 25s to 30s (+5s)  
Phase 3 Split changed from 18s to 15s (-3s)  
Phase 4 Split changed from 17s to 15s (-2s)  
Offset changed from 41s to 49s (+8s)



**Midday Peak**

- **Intersection 3: West Commerce Street (State Route (SR) 373) at Heil Quaker Avenue**  
Offset changed from 31s to 37s (+6s)
- **Intersection 7: West Commerce Street (SR 373) at 5th Avenue**  
Phase 2 Split changed from 20s to 69s (+49s)
- **Intersection 21: North 2nd Avenue / US-431 Business at College Street**  
Phase 2 Split changed from 35s to 40s (+5s)  
Phase 3 Split changed from 18s to 15s (-3s)  
Phase 4 Split changed from 17s to 15s (-2s)  
Offset changed from 26s to 36s (+10s)

**PM Peak**

- **Intersection 3: West Commerce Street (State Route (SR) 373) at Heil Quaker Avenue**  
Offset changed from 9s to 15s (+6s)
- **Intersection 5: West Commerce Street (SR 373) at 8th Avenue S**  
Offset changed from 31s to 55s (+24s)
- **Intersection 7: West Commerce Street (SR 373) at 5th Avenue**  
Phase 2 Split changed from 53s to 47s (-6s)
- **Intersection 9: West Commerce Street (SR 373) at North 3rd Avenue / Franklin Road**  
Offset changed from 61s to 39s (-22s)
- **Intersection 21: North 2nd Avenue / US-431 Business at College Street**  
Phase 2 Split changed from 35s to 40s (+5s)  
Phase 3 Split changed from 18s to 15s (-3s)  
Phase 4 Split changed from 17s to 15s (-2s)  
Offset changed from 7s to 24s (+17s)

**Other Intersections**

- **Intersection 13: East Commerce Street (SR 50) / Fayetteville Highway at Creekside Drive / Garrett Parkway**  
Phase 2 Minimum Green changed from 5s to 10s (+5s)  
Phase 2 Passage Time changed from 3s to 6s (+3s)  
Phase 3 Minimum Green changed from 5s to 10s (+5s)

We appreciate and have enjoyed this opportunity to serve the City of Lewisburg and its citizens. We will be working diligently on our final report. Please let us know of any questions or comments.

c: File

**Appendix H:**  
**Travel Time Study**

**Kimley-Horn and Associates, Inc.**

Commerce Street  
Travel Time Analysis

***PC-Travel Reports for study: Commerce AM EB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM EB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Commerce-AM-After-EB-002	05/10/16	07:13	3782	After	Secondary
Commerce-AM-After-EB-003	05/10/16	07:19	3776	After	Secondary
Commerce-AM-After-EB-006	05/10/16	07:38	3771	After	Secondary
Commerce-AM-After-EB-009	05/10/16	07:58	3777	After	Secondary
Commerce-AM-Before-EB-002	04/20/16	07:09	3780	Before	Secondary
Commerce-AM-Before-EB-003	04/20/16	07:17	3739	Before	Secondary
Commerce-AM-Before-EB-007	04/20/16	07:49	3734	Before	Secondary
Commerce-AM-Before-EB-008	04/20/16	07:55	3814	Before	Secondary

**Node Info**

#	Len	Name
1	0	Heil Quaker Avenue
2	1044	8th Avenue S
3	1780	N 5th Avenue
4	946	N 3rd Avenue

Length of Study Route = 3,770 feet

**Notes:**

TT: JYB  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM EB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 20 MPH	Time <= 40 MPH
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	<b>Before</b>	27.3	0.3	26.1	4.5	4.0	6.0	27.3
			<b>After</b>	22.5	0.0	31.6	0.0	0.0	0.0	22.5
			<b>Change</b>	-4.8	-0.3	5.5	-4.5	-4.0	-6.0	-4.8
3	1780	N 5th Avenue	<b>Before</b>	36.5	0.0	33.3	0.0	0.0	0.3	36.5
			<b>After</b>	45.5	0.5	26.7	5.5	3.3	8.0	45.5
			<b>Change</b>	9.0	0.5	-6.6	5.5	3.3	7.8	9.0
4	946	N 3rd Avenue	<b>Before</b>	35.8	0.5	18.0	15.0	11.8	17.3	35.3
			<b>After</b>	25.0	0.3	25.8	3.3	1.8	3.8	25.0
			<b>Change</b>	-10.8	-0.3	7.8	-11.8	-10.0	-13.5	-10.3
<b>Totals</b>	<b>3,770</b>		<b>Before</b>	<b>99.5</b>	<b>0.8</b>	<b>25.8</b>	<b>19.5</b>	<b>15.8</b>	<b>23.5</b>	<b>99.0</b>
			<b>After</b>	<b>93.0</b>	<b>0.8</b>	<b>27.6</b>	<b>8.8</b>	<b>5.0</b>	<b>11.8</b>	<b>93.0</b>
			<b>Change</b>	<b>-6.5</b>	<b>0.0</b>	<b>1.8</b>	<b>-10.8</b>	<b>-10.8</b>	<b>-11.8</b>	<b>-6.0</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM EB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Heil Quaker Avenue					
2	1044	8th Avenue S	<b>Before</b>	0.0102	0.9537	9.1691	0.5380
			<b>After</b>	0.0083	0.6831	7.3245	0.3089
			<b>Change</b>	-0.0018	-0.2706	-1.8446	-0.2291
3	1780	N 5th Avenue	<b>Before</b>	0.0144	1.2314	12.9975	0.6417
			<b>After</b>	0.0148	1.1238	9.9789	0.4045
			<b>Change</b>	0.0004	-0.1077	-3.0186	-0.2373
4	946	N 3rd Avenue	<b>Before</b>	0.0101	0.9081	7.9224	0.3719
			<b>After</b>	0.0087	0.8267	7.2424	0.4585
			<b>Change</b>	-0.0014	-0.0814	-0.6800	0.0866
<b>Totals</b>	<b>3,770</b>			<b>0.0347</b>	<b>3.0932</b>	<b>30.0890</b>	<b>1.5516</b>
				<b>0.0318</b>	<b>2.6335</b>	<b>24.5458</b>	<b>1.1719</b>
			<b>Change</b>	<b>-0.0029</b>	<b>-0.4597</b>	<b>-5.5432</b>	<b>-0.3797</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM EB**  
Study Date : **5/10/2016**  
Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

Commerce-AM-After-EB-002  
Commerce-AM-After-EB-003  
Commerce-AM-After-EB-006  
Commerce-AM-After-EB-009  
Commerce-AM-Before-EB-002  
Commerce-AM-Before-EB-003  
Commerce-AM-Before-EB-007

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	23	21	24	22	21	42	24	22
3	1780	N 5th Avenue	39	48	39	56	38	37	34	37
4	946	N 3rd Avenue	21	23	34	22	21	19	36	67
Totals	3770		83	92	97	100	80	98	94	126

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM EB**  
Study Date : **5/10/2016**  
Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

Commerce-AM-After-EB-002      Commerce-AM-After-EB-003      Commerce-AM-After-EB-006  
Commerce-AM-After-EB-009      Commerce-AM-Before-EB-002      Commerce-AM-Before-EB-003  
Commerce-AM-Before-EB-007

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	0	0	0	0	0	1	0	0
3	1780	N 5th Avenue	0	1	0	1	0	0	0	0
4	946	N 3rd Avenue	0	0	1	0	0	0	1	1
Totals	3770		0	1	1	1	0	1	1	1

Stops based on a Stop Speed of 5 MPH.



# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM EB**

Study Date : **5/10/2016**

Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

Commerce-AM-After-EB-002  
 Commerce-AM-After-EB-003  
 Commerce-AM-After-EB-006  
 Commerce-AM-After-EB-009  
 Commerce-AM-Before-EB-002  
 Commerce-AM-Before-EB-003  
 Commerce-AM-Before-EB-007

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	31.3	35.0	30.8	32.2	34.7	17.2	30.8	33.2
3	1780	N 5th Avenue	31.3	24.8	31.1	21.9	32.0	32.9	35.6	32.2
4	946	N 3rd Avenue	30.5	28.2	18.3	28.6	30.0	33.6	16.9	9.6
Totals	3770		31.1	28.0	26.5	25.7	32.2	26.2	27.3	20.3

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM EB**  
Study Date : **5/10/2016**  
Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Commerce-AM-After-EB-002      Commerce-AM-After-EB-003      Commerce-AM-After-EB-006  
Commerce-AM-After-EB-009      Commerce-AM-Before-EB-002      Commerce-AM-Before-EB-003      Commerce-AM-Before-EB-007

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	0	0	0	0	0	18	0	0
3	1780	N 5th Avenue	0	7	0	15	0	0	0	0
4	946	N 3rd Avenue	0	1	12	0	0	0	15	45
Totals	3770		0	8	12	15	0	18	15	45

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM EB**  
Study Date : **5/10/2016**  
Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

Commerce-AM-After-EB-002  
Commerce-AM-After-EB-003  
Commerce-AM-After-EB-006  
Commerce-AM-After-EB-009  
Commerce-AM-Before-EB-002  
Commerce-AM-Before-EB-003  
Commerce-AM-Before-EB-007

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	0	0	0	0	0	16	0	0
3	1780	N 5th Avenue	0	3	0	10	0	0	0	0
4	946	N 3rd Avenue	0	0	7	0	0	0	10	37
Totals	3770		0	3	7	10	0	16	10	37

**Kimley-Horn and Associates, Inc.**

Commerce Street  
Travel Time Analysis

***PC-Travel Reports for study: Commerce AM WB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM WB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Commerce-AM-After-WB-002	05/10/16	07:07	3679	After	Secondary
Commerce-AM-After-WB-003	05/10/16	07:16	3740	After	Secondary
Commerce-AM-After-WB-007	05/10/16	07:41	3719	After	Secondary
Commerce-AM-After-WB-009	05/10/16	07:54	3779	After	Secondary
Commerce-AM-Before-WB-002	04/20/16	07:06	3720	Before	Secondary
Commerce-AM-Before-WB-005	04/20/16	07:32	3783	Before	Secondary
Commerce-AM-Before-WB-006	04/20/16	07:40	3764	Before	Secondary
Commerce-AM-Before-WB-007	04/20/16	07:46	3683	Before	Secondary

**Node Info**

#	Len	Name
1	0	N 3rd Avenue
2	902	5th Avenue
3	1863	8th Avenue S
4	874	Heil Quaker Avenue

Length of Study Route = 3,639 feet

**Notes:**

TT: JYB  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM WB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 20 MPH	Time <= 40 MPH
1	0	N 3rd Avenue								
2	902	5th Avenue	<b>Before</b>	22.5	0.0	27.3	1.5	0.0	0.5	22.5
			<b>After</b>	27.5	0.3	22.4	6.5	4.3	6.5	27.5
			<b>Change</b>	5.0	0.3	-5.0	5.0	4.3	6.0	5.0
3	1863	8th Avenue S	<b>Before</b>	40.8	0.0	31.2	1.0	0.0	1.5	40.8
			<b>After</b>	45.0	0.0	28.2	3.3	0.5	4.0	45.0
			<b>Change</b>	4.3	0.0	-2.9	2.3	0.5	2.5	4.3
4	874	Heil Quaker Avenue	<b>Before</b>	35.8	0.5	16.7	15.3	10.0	16.5	35.8
			<b>After</b>	26.0	0.5	22.9	6.0	3.3	7.8	26.0
			<b>Change</b>	-9.8	0.0	6.3	-9.3	-6.8	-8.8	-9.8
<b>Totals</b>	<b>3,639</b>		<b>Before</b>	<b>99.0</b>	<b>0.5</b>	<b>25.1</b>	<b>17.8</b>	<b>10.0</b>	<b>18.5</b>	<b>99.0</b>
			<b>After</b>	<b>98.5</b>	<b>0.8</b>	<b>25.2</b>	<b>15.8</b>	<b>8.0</b>	<b>18.3</b>	<b>98.5</b>
			<b>Change</b>	<b>-0.5</b>	<b>0.3</b>	<b>0.1</b>	<b>-2.0</b>	<b>-2.0</b>	<b>-0.3</b>	<b>-0.5</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM WB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	N 3rd Avenue					
2	902	5th Avenue	<b>Before</b>	0.0081	0.8010	7.5356	0.4568
			<b>After</b>	0.0093	0.9377	8.3148	0.5291
			<b>Change</b>	0.0012	0.1367	0.7792	0.0724
3	1863	8th Avenue S	<b>Before</b>	0.0143	1.1351	12.0189	0.4672
			<b>After</b>	0.0154	1.3306	12.3496	0.6349
			<b>Change</b>	0.0011	0.1955	0.3307	0.1677
4	874	Heil Quaker Avenue	<b>Before</b>	0.0116	1.2922	9.7817	0.8078
			<b>After</b>	0.0091	0.9088	7.0522	0.5496
			<b>Change</b>	-0.0025	-0.3834	-2.7295	-0.2581
<b>Totals</b>	<b>3,639</b>		<b>Before</b>	<b>0.0340</b>	<b>3.2282</b>	<b>29.3362</b>	<b>1.7317</b>
			<b>After</b>	<b>0.0339</b>	<b>3.1771</b>	<b>27.7166</b>	<b>1.7136</b>
			<b>Change</b>	<b>-0.0002</b>	<b>-0.0511</b>	<b>-1.6196</b>	<b>-0.0181</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM WB**

Study Date : **5/10/2016**

Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

*Commerce-AM-After-WB-002*  
*Commerce-AM-After-WB-003*  
*Commerce-AM-After-WB-007*  
*Commerce-AM-After-WB-009*  
*Commerce-AM-Before-WB-002*  
*Commerce-AM-Before-WB-005*  
*Commerce-AM-Before-WB-006*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	24	23	21	42	22	21	21	26
3	1863	8th Avenue S	39	47	45	49	40	39	38	46
4	874	Heil Quaker Avenue	19	31	33	21	27	47	44	25
Totals	3639		82	101	99	112	89	107	103	97



# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM WB**

Study Date : **5/10/2016**

Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

Commerce-AM-After-WB-002  
Commerce-AM-After-WB-003  
Commerce-AM-After-WB-007  
Commerce-AM-Before-WB-009  
Commerce-AM-Before-WB-002  
Commerce-AM-Before-WB-005  
Commerce-AM-Before-WB-006  
Commerce-AM-Before-WB-006

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	0	0	0	1	0	0	0	0
3	1863	8th Avenue S	0	0	0	0	0	0	0	0
4	874	Heil Quaker Avenue	0	1	1	0	0	1	1	0
Totals	3639		0	1	1	1	0	1	1	0

Stops based on a Stop Speed of 5 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM WB**  
Study Date : **5/10/2016**  
Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

Commerce-AM-After-WB-002  
Commerce-AM-After-WB-003  
Commerce-AM-After-WB-007  
Commerce-AM-After-WB-009  
Commerce-AM-Before-WB-002  
Commerce-AM-Before-WB-005  
Commerce-AM-Before-WB-006  
Commerce-AM-Before-WB-006

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	26.2	27.0	30.0	14.6	28.2	30.6	30.3	23.8
3	1863	8th Avenue S	32.5	27.1	28.0	26.0	31.7	32.3	32.9	27.6
4	874	Heil Quaker Avenue	32.4	19.5	18.5	28.9	22.9	12.5	13.9	23.8
Totals	3639		30.6	24.7	25.3	22.3	28.2	23.2	24.2	25.6

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM WB**  
Study Date : **5/10/2016**  
Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Commerce-AM-After-WB-002  
 Commerce-AM-After-WB-003  
 Commerce-AM-After-WB-007  
 Commerce-AM-After-WB-009  
 Commerce-AM-Before-WB-002  
 Commerce-AM-Before-WB-005  
 Commerce-AM-Before-WB-006

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	3	2	0	21	1	0	0	5
3	1863	8th Avenue S	0	4	2	7	0	0	0	4
4	874	Heil Quaker Avenue	0	11	12	1	6	27	23	5
Totals	3639		3	17	14	29	7	27	23	14

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce AM WB**

Study Date : **5/10/2016**

Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

*Commerce-AM-After-WB-002*

*Commerce-AM-After-WB-003*

*Commerce-AM-After-WB-007*

*Commerce-AM-After-WB-009*

*Commerce-AM-Before-WB-002*

*Commerce-AM-Before-WB-005*

*Commerce-AM-Before-WB-006*

*Commerce-AM-Before-WB-006*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	1	0	0	16	0	0	0	0
3	1863	8th Avenue S	0	0	0	2	0	0	0	0
4	874	Heil Quaker Avenue	0	6	7	0	0	23	17	0
<b>Totals</b>	<b>3639</b>		<b>1</b>	<b>6</b>	<b>7</b>	<b>18</b>	<b>0</b>	<b>23</b>	<b>17</b>	<b>0</b>

**Kimley-Horn and Associates, Inc.**

Commerce Street  
Travel Time Analysis

***PC-Travel Reports for study: Commerce MD EB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD EB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Commerce-MD-After-EB-002	05/10/16	11:12	3778	After	Secondary
Commerce-MD-After-EB-007	05/10/16	11:44	3735	After	Secondary
Commerce-MD-After-EB-010	05/10/16	12:05	3746	After	Secondary
Commerce-MD-After-EB-015	05/10/16	12:40	3754	After	Secondary
Commerce-MD-Before-EB-005	04/20/16	11:27	3786	Before	Secondary
Commerce-MD-Before-EB-008	04/20/16	11:47	3731	Before	Secondary
Commerce-MD-Before-EB-012	04/20/16	12:13	3727	Before	Secondary
Commerce-MD-Before-EB-017	04/20/16	12:54	3818	Before	Secondary

**Node Info**

#	Len	Name
1	0	Heil Quaker Avenue
2	1044	8th Avenue S
3	1780	N 5th Avenue
4	946	N 3rd Avenue

Length of Study Route = 3,770 feet

**Notes:**

TT: JYB  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD EB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 20 MPH	Time <= 40 MPH
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	<b>Before</b>	32.3	0.5	22.1	9.0	8.5	11.0	32.3
			<b>After</b>	33.3	0.5	21.4	10.0	6.5	13.0	33.3
			<b>Change</b>	1.0	0.0	-0.7	1.0	-2.0	2.0	1.0
3	1780	N 5th Avenue	<b>Before</b>	45.5	0.5	26.7	5.3	4.3	9.3	45.5
			<b>After</b>	42.3	0.3	28.7	2.5	0.8	4.0	42.3
			<b>Change</b>	-3.3	-0.3	2.1	-2.8	-3.5	-5.3	-3.3
4	946	N 3rd Avenue	<b>Before</b>	25.3	0.3	25.5	4.0	2.5	5.8	24.8
			<b>After</b>	23.5	0.0	27.4	1.8	0.0	2.3	22.8
			<b>Change</b>	-1.8	-0.3	1.9	-2.3	-2.5	-3.5	-2.0
<b>Totals</b>	<b>3,770</b>		<b>Before</b>	<b>103.0</b>	<b>1.3</b>	<b>25.0</b>	<b>18.3</b>	<b>15.3</b>	<b>26.0</b>	<b>102.5</b>
			<b>After</b>	<b>99.0</b>	<b>0.8</b>	<b>26.0</b>	<b>14.3</b>	<b>7.3</b>	<b>19.3</b>	<b>98.3</b>
			<b>Change</b>	<b>-4.0</b>	<b>-0.5</b>	<b>1.0</b>	<b>-4.0</b>	<b>-8.0</b>	<b>-6.8</b>	<b>-4.3</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD EB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Heil Quaker Avenue					
2	1044	8th Avenue S	<b>Before</b>	0.0104	0.9211	9.1941	0.4085
			<b>After</b>	0.0108	0.9736	8.4429	0.4779
			<b>Change</b>	0.0004	0.0525	-0.7512	0.0694
3	1780	N 5th Avenue	<b>Before</b>	0.0175	1.7179	14.7711	1.0682
			<b>After</b>	0.0158	1.5061	13.5566	0.8778
			<b>Change</b>	-0.0017	-0.2118	-1.2145	-0.1904
4	946	N 3rd Avenue	<b>Before</b>	0.0087	0.8378	7.4733	0.4785
			<b>After</b>	0.0078	0.6768	5.9406	0.3334
			<b>Change</b>	-0.0009	-0.1610	-1.5327	-0.1451
<b>Totals</b>	<b>3,770</b>			<b>0.0366</b>	<b>3.4767</b>	<b>31.4385</b>	<b>1.9552</b>
				<b>0.0344</b>	<b>3.1565</b>	<b>27.9401</b>	<b>1.6891</b>
			<b>Change</b>	<b>-0.0022</b>	<b>-0.3203</b>	<b>-3.4985</b>	<b>-0.2661</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.



# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD EB**  
Study Date : **5/10/2016**  
Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

*Commerce-MD-After-EB-002*  
*Commerce-MD-After-EB-007*  
*Commerce-MD-After-EB-010*  
*Commerce-MD-After-EB-015*  
*Commerce-MD-Before-EB-005*  
*Commerce-MD-Before-EB-008*  
*Commerce-MD-Before-EB-012*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	21	40	30	42	23	44	22	40
3	1780	N 5th Avenue	51	39	39	40	46	38	56	42
4	946	N 3rd Avenue	29	22	21	22	37	20	22	22
Totals	3770		101	101	90	104	106	102	100	104

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD EB**  
Study Date : **5/10/2016**  
Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

*Commerce-MD-After-EB-002*  
*Commerce-MD-After-EB-007*  
*Commerce-MD-After-EB-010*  
*Commerce-MD-After-EB-015*  
*Commerce-MD-Before-EB-005*  
*Commerce-MD-Before-EB-008*  
*Commerce-MD-Before-EB-012*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	0	1	0	1	0	1	0	1
3	1780	N 5th Avenue	1	0	0	0	1	0	1	0
4	946	N 3rd Avenue	0	0	0	0	1	0	0	0
Totals	3770		1	1	0	1	2	1	1	1

Stops based on a Stop Speed of 5 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD EB**  
Study Date : **5/10/2016**  
Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

Commerce-MD-After-EB-002  
Commerce-MD-After-EB-007  
Commerce-MD-After-EB-010  
Commerce-MD-After-EB-015  
Commerce-MD-Before-EB-005  
Commerce-MD-Before-EB-008  
Commerce-MD-Before-EB-012

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	34.0	18.2	24.4	17.2	31.4	16.5	33.4	17.8
3	1780	N 5th Avenue	24.1	31.1	30.6	30.4	26.5	31.7	21.3	29.5
4	946	N 3rd Avenue	22.0	29.1	31.3	29.5	17.2	31.9	29.2	28.1
Totals	3770		25.6	25.5	28.7	24.8	24.3	25.1	25.6	24.7

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD EB**  
Study Date : **5/10/2016**  
Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Commerce-MD-After-EB-002  
Commerce-MD-After-EB-007  
Commerce-MD-After-EB-010  
Commerce-MD-After-EB-015  
Commerce-MD-Before-EB-005  
Commerce-MD-Before-EB-008  
Commerce-MD-Before-EB-012

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	0	16	6	18	0	20	0	16
3	1780	N 5th Avenue	10	0	0	0	5	0	15	1
4	946	N 3rd Avenue	7	0	0	0	15	0	1	0
Totals	3770		17	16	6	18	20	20	16	17

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD EB**  
Study Date : **5/10/2016**  
Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

Commerce-MD-After-EB-002  
Commerce-MD-After-EB-007  
Commerce-MD-After-EB-010  
Commerce-MD-After-EB-015  
Commerce-MD-Before-EB-005  
Commerce-MD-Before-EB-008  
Commerce-MD-Before-EB-012

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	0	11	0	15	0	18	0	16
3	1780	N 5th Avenue	3	0	0	0	3	0	13	1
4	946	N 3rd Avenue	0	0	0	0	10	0	0	0
Totals	3770		3	11	0	15	13	18	13	17

**Kimley-Horn and Associates, Inc.**

Commerce Street  
Travel Time Analysis

***PC-Travel Reports for study: Commerce MD WB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD WB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Commerce-MD-After-WB-002	05/10/16	11:09	3736	After	Secondary
Commerce-MD-After-WB-007	05/10/16	11:41	3730	After	Secondary
Commerce-MD-After-WB-011	05/10/16	12:08	3788	After	Secondary
Commerce-MD-After-WB-015	05/10/16	12:38	3755	After	Secondary
Commerce-MD-Before-WB-006	04/20/16	11:31	3693	Before	Secondary
Commerce-MD-Before-WB-009	04/20/16	11:50	3685	Before	Secondary
Commerce-MD-Before-WB-013	04/20/16	12:17	3741	Before	Secondary
Commerce-MD-Before-WB-016	04/20/16	12:37	3712	Before	Secondary

**Node Info**

#	Len	Name
1	0	N 3rd Avenue
2	902	5th Avenue
3	1863	8th Avenue S
4	874	Heil Quaker Avenue

Length of Study Route = 3,639 feet

**Notes:**

TT: JYB  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD WB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 20 MPH	Time <= 40 MPH
1	0	N 3rd Avenue								
2	902	5th Avenue	<b>Before</b>	36.8	0.5	16.7	15.8	9.3	18.5	36.8
			<b>After</b>	21.0	0.0	29.3	0.5	0.0	0.0	21.0
			<b>Change</b>	-15.8	-0.5	12.6	-15.3	-9.3	-18.5	-15.8
3	1863	8th Avenue S	<b>Before</b>	47.3	0.3	26.9	4.8	3.5	6.3	47.3
			<b>After</b>	42.3	0.0	30.1	0.3	0.0	1.5	42.3
			<b>Change</b>	-5.0	-0.3	3.2	-4.5	-3.5	-4.8	-5.0
4	874	Heil Quaker Avenue	<b>Before</b>	23.0	0.3	25.9	3.8	2.8	4.8	23.0
			<b>After</b>	25.8	0.3	23.1	5.8	2.5	7.0	25.8
			<b>Change</b>	2.8	0.0	-2.8	2.0	-0.3	2.3	2.8
<b>Totals</b>	<b>3,639</b>		<b>Before</b>	<b>107.0</b>	<b>1.0</b>	<b>23.2</b>	<b>24.3</b>	<b>15.5</b>	<b>29.5</b>	<b>107.0</b>
			<b>After</b>	<b>89.0</b>	<b>0.3</b>	<b>27.9</b>	<b>6.5</b>	<b>2.5</b>	<b>8.5</b>	<b>89.0</b>
			<b>Change</b>	<b>-18.0</b>	<b>-0.8</b>	<b>4.7</b>	<b>-17.8</b>	<b>-13.0</b>	<b>-21.0</b>	<b>-18.0</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 30 MPH.



# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD WB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	N 3rd Avenue					
2	902	5th Avenue	<b>Before</b>	0.0123	1.3774	9.7339	0.9064
			<b>After</b>	0.0076	0.6926	6.9813	0.3600
			<b>Change</b>	-0.0047	-0.6848	-2.7526	-0.5464
3	1863	8th Avenue S	<b>Before</b>	0.0177	1.7837	16.0305	1.0960
			<b>After</b>	0.0142	1.0941	11.2655	0.4069
			<b>Change</b>	-0.0036	-0.6896	-4.7650	-0.6891
4	874	Heil Quaker Avenue	<b>Before</b>	0.0076	0.6601	6.3038	0.3060
			<b>After</b>	0.0095	0.9947	7.9873	0.6392
			<b>Change</b>	0.0019	0.3346	1.6834	0.3332
<b>Totals</b>	<b>3,639</b>		<b>Before</b>	<b>0.0376</b>	<b>3.8212</b>	<b>32.0682</b>	<b>2.3085</b>
			<b>After</b>	<b>0.0312</b>	<b>2.7814</b>	<b>26.2341</b>	<b>1.4062</b>
			<b>Change</b>	<b>-0.0063</b>	<b>-1.0398</b>	<b>-5.8342</b>	<b>-0.9023</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD WB**  
Study Date : **5/10/2016**  
Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

Commerce-MD-After-WB-002  
Commerce-MD-After-WB-007  
Commerce-MD-After-WB-011  
Commerce-MD-After-WB-015  
Commerce-MD-Before-WB-006  
Commerce-MD-Before-WB-009  
Commerce-MD-Before-WB-013  
Commerce-MD-Before-WB-013

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	19	21	23	21	33	60	30	24
3	1863	8th Avenue S	41	43	44	41	42	46	42	59
4	874	Heil Quaker Avenue	19	35	27	22	19	20	35	18
Totals	3639		79	99	94	84	94	126	107	101

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD WB**  
Study Date : **5/10/2016**  
Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

*Commerce-MD-After-WB-002*     *Commerce-MD-After-WB-007*     *Commerce-MD-After-WB-011*  
*Commerce-MD-After-WB-015*     *Commerce-MD-Before-WB-006*     *Commerce-MD-Before-WB-009*  
*Commerce-MD-Before-WB-013*     *Commerce-MD-Before-WB-013*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	0	0	0	0	1	1	0	0
3	1863	8th Avenue S	0	0	0	0	0	0	0	1
4	874	Heil Quaker Avenue	0	1	0	0	0	0	1	0
Totals	3639		0	1	0	0	1	1	1	1

Stops based on a Stop Speed of 5 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD WB**  
Study Date : **5/10/2016**  
Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

Commerce-MD-After-WB-002  
Commerce-MD-After-WB-007  
Commerce-MD-After-WB-011  
Commerce-MD-After-WB-015  
Commerce-MD-Before-WB-006  
Commerce-MD-Before-WB-009  
Commerce-MD-Before-WB-013  
Commerce-MD-Before-WB-013

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	32.8	30.2	27.6	30.2	18.8	10.4	21.2	26.0
3	1863	8th Avenue S	31.3	29.3	28.7	30.5	30.5	27.9	30.3	21.9
4	874	Heil Quaker Avenue	30.3	17.5	22.0	27.4	30.7	28.9	16.6	32.6
Totals	3639		31.4	25.3	26.5	29.6	26.4	19.7	23.3	24.8

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD WB**  
Study Date : **5/10/2016**  
Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Commerce-MD-After-WB-002  
Commerce-MD-After-WB-007  
Commerce-MD-After-WB-011  
Commerce-MD-After-WB-015  
Commerce-MD-Before-WB-006  
Commerce-MD-Before-WB-009  
Commerce-MD-Before-WB-013  
Commerce-MD-Before-WB-013

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	0	0	2	0	12	39	9	3
3	1863	8th Avenue S	0	0	1	0	0	3	0	16
4	874	Heil Quaker Avenue	0	14	7	2	0	0	15	0
Totals	3639		0	14	10	2	12	42	24	19

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce MD WB**  
Study Date : **5/10/2016**  
Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

*Commerce-MD-After-WB-002*  
*Commerce-MD-After-WB-007*  
*Commerce-MD-After-WB-011*  
*Commerce-MD-After-WB-015*  
*Commerce-MD-Before-WB-006*  
*Commerce-MD-Before-WB-009*  
*Commerce-MD-Before-WB-013*  
*Commerce-MD-Before-WB-013*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	0	0	0	0	6	31	0	0
3	1863	8th Avenue S	0	0	0	0	0	0	0	14
4	874	Heil Quaker Avenue	0	10	0	0	0	0	11	0
Totals	3639		0	10	0	0	6	31	11	14

**Kimley-Horn and Associates, Inc.**

Commerce Street  
Travel Time Analysis

***PC-Travel Reports for study: Commerce PM EB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM EB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Commerce-PM-After-EB-005	05/10/16	14:58	3754	After	Secondary
Commerce-PM-After-EB-008	05/10/16	15:19	3773	After	Secondary
Commerce-PM-After-EB-015	05/10/16	16:25	3783	After	Secondary
Commerce-PM-After-EB-017	05/10/16	16:40	3763	After	Secondary
Commerce-PM-Before-EB-003	04/20/16	14:44	3726	Before	Secondary
Commerce-PM-Before-EB-007	04/20/16	15:13	3781	Before	Secondary
Commerce-PM-Before-EB-017	04/20/16	16:40	3708	Before	Secondary
Commerce-PM-Before-EB-024	04/20/16	17:26	3672	Before	Secondary

**Node Info**

#	Len	Name
1	0	Heil Quaker Avenue
2	1044	8th Avenue S
3	1780	N 5th Avenue
4	946	N 3rd Avenue

Length of Study Route = 3,770 feet

**Notes:**

TT: JYB  
Processed by: EMH



# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM EB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 20 MPH	Time <= 40 MPH
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	<b>Before</b>	28.5	0.3	25.0	4.8	0.8	7.5	28.5
			<b>After</b>	25.8	0.3	27.6	3.3	1.8	4.3	25.8
			<b>Change</b>	-2.8	0.0	2.7	-1.5	1.0	-3.3	-2.8
3	1780	N 5th Avenue	<b>Before</b>	49.8	0.5	24.4	9.8	6.0	14.0	49.8
			<b>After</b>	51.3	0.8	23.7	11.3	6.8	17.0	51.3
			<b>Change</b>	1.5	0.3	-0.7	1.5	0.8	3.0	1.5
4	946	N 3rd Avenue	<b>Before</b>	37.3	0.8	17.3	16.5	12.5	19.3	36.5
			<b>After</b>	27.5	0.3	23.5	5.5	3.0	5.8	27.0
			<b>Change</b>	-9.8	-0.5	6.1	-11.0	-9.5	-13.5	-9.5
<b>Totals</b>	<b>3,770</b>		<b>Before</b>	<b>115.5</b>	<b>1.5</b>	<b>22.3</b>	<b>31.0</b>	<b>19.3</b>	<b>40.8</b>	<b>114.8</b>
			<b>After</b>	<b>104.5</b>	<b>1.3</b>	<b>24.6</b>	<b>20.0</b>	<b>11.5</b>	<b>27.0</b>	<b>104.0</b>
			<b>Change</b>	<b>-11.0</b>	<b>-0.3</b>	<b>2.3</b>	<b>-11.0</b>	<b>-7.8</b>	<b>-13.8</b>	<b>-10.8</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM EB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Heil Quaker Avenue					
2	1044	8th Avenue S	<b>Before</b>	0.0120	1.3651	10.5825	1.0099
			<b>After</b>	0.0091	0.7782	7.8012	0.3727
			<b>Change</b>	-0.0029	-0.5869	-2.7814	-0.6372
3	1780	N 5th Avenue	<b>Before</b>	0.0177	1.7190	15.0049	0.9994
			<b>After</b>	0.0166	1.4462	12.0698	0.6850
			<b>Change</b>	-0.0011	-0.2727	-2.9351	-0.3144
4	946	N 3rd Avenue	<b>Before</b>	0.0109	1.0862	9.3234	0.5508
			<b>After</b>	0.0098	1.0437	8.4134	0.6737
			<b>Change</b>	-0.0010	-0.0425	-0.9101	0.1229
<b>Totals</b>	<b>3,770</b>		<b>Before</b>	<b>0.0405</b>	<b>4.1703</b>	<b>34.9109</b>	<b>2.5602</b>
			<b>After</b>	<b>0.0356</b>	<b>3.2681</b>	<b>28.2843</b>	<b>1.7314</b>
			<b>Change</b>	<b>-0.0050</b>	<b>-0.9022</b>	<b>-6.6266</b>	<b>-0.8288</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM EB**

Study Date : **5/10/2016**

Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

*Commerce-PM-After-EB-005*

*Commerce-PM-After-EB-008*

*Commerce-PM-After-EB-015*

*Commerce-PM-After-EB-017*

*Commerce-PM-Before-EB-003*

*Commerce-PM-Before-EB-007*

*Commerce-PM-Before-EB-017*

*Commerce-PM-Before-EB-017*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	22	22	37	22	27	22	27	38
3	1780	N 5th Avenue	55	48	65	37	45	61	37	56
4	946	N 3rd Avenue	23	23	24	40	36	39	55	19
<b>Totals</b>	<b>3770</b>		<b>100</b>	<b>93</b>	<b>126</b>	<b>99</b>	<b>108</b>	<b>122</b>	<b>119</b>	<b>113</b>

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM EB**  
Study Date : **5/10/2016**  
Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

Commerce-PM-After-EB-005  
Commerce-PM-After-EB-008  
Commerce-PM-After-EB-015  
Commerce-PM-After-EB-017  
Commerce-PM-Before-EB-003  
Commerce-PM-Before-EB-007  
Commerce-PM-Before-EB-017

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	0	0	1	0	0	0	0	1
3	1780	N 5th Avenue	1	1	1	0	0	1	0	1
4	946	N 3rd Avenue	0	0	0	1	1	1	1	0
<b>Totals</b>	<b>3770</b>		<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>1</b>	<b>2</b>	<b>1</b>	<b>2</b>

Stops based on a Stop Speed of 5 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM EB**  
Study Date : **5/10/2016**  
Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

Commerce-PM-After-EB-005  
Commerce-PM-After-EB-008  
Commerce-PM-After-EB-015  
Commerce-PM-After-EB-017  
Commerce-PM-Before-EB-003  
Commerce-PM-Before-EB-007  
Commerce-PM-Before-EB-017

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	32.8	33.8	19.4	33.5	27.2	32.3	27.4	19.1
3	1780	N 5th Avenue	21.9	24.6	18.7	31.9	26.9	20.0	32.2	21.6
4	946	N 3rd Avenue	28.6	27.9	27.0	16.5	17.0	16.5	11.1	31.2
<b>Totals</b>	<b>3770</b>		<b>25.8</b>	<b>27.6</b>	<b>20.5</b>	<b>26.1</b>	<b>23.7</b>	<b>21.1</b>	<b>21.4</b>	<b>22.3</b>

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM EB**  
Study Date : **5/10/2016**  
Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Commerce-PM-After-EB-005  
 Commerce-PM-After-EB-008  
 Commerce-PM-After-EB-015  
 Commerce-PM-After-EB-017  
 Commerce-PM-Before-EB-003  
 Commerce-PM-Before-EB-007  
 Commerce-PM-Before-EB-017

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	0	0	13	0	3	0	2	14
3	1780	N 5th Avenue	14	7	24	0	4	20	0	15
4	946	N 3rd Avenue	1	1	2	18	15	17	34	0
Totals	3770		15	8	39	18	22	37	36	29

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM EB**  
Study Date : **5/10/2016**  
Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

Commerce-PM-After-EB-005  
Commerce-PM-After-EB-008  
Commerce-PM-After-EB-015  
Commerce-PM-After-EB-017  
Commerce-PM-Before-EB-003  
Commerce-PM-Before-EB-007  
Commerce-PM-Before-EB-017  
Commerce-PM-Before-EB-017

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Heil Quaker Avenue								
2	1044	8th Avenue S	0	0	7	0	0	0	0	3
3	1780	N 5th Avenue	10	4	13	0	0	19	0	5
4	946	N 3rd Avenue	0	0	0	12	6	13	31	0
Totals	3770		10	4	20	12	6	32	31	8

**Kimley-Horn and Associates, Inc.**

Commerce Street  
Travel Time Analysis

***PC-Travel Reports for study: Commerce PM WB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9



**Kimley-Horn  
and Associates, Inc.**  
Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM WB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Commerce-PM-After-WB-003	05/10/16	14:42	3746	After	Secondary
Commerce-PM-After-WB-010	05/10/16	15:34	3728	After	Secondary
Commerce-PM-After-WB-016	05/10/16	16:29	3628	After	Secondary
Commerce-PM-After-WB-024	05/10/16	17:25	3696	After	Secondary
Commerce-PM-Before-WB-003	04/20/16	14:41	3641	Before	Secondary
Commerce-PM-Before-WB-009	04/20/16	15:25	3677	Before	Secondary
Commerce-PM-Before-WB-011	04/20/16	15:39	3659	Before	Secondary
Commerce-PM-Before-WB-019	04/20/16	16:49	3744	Before	Secondary

**Node Info**

#	Len	Name
1	0	N 3rd Avenue
2	902	5th Avenue
3	1863	8th Avenue S
4	874	Heil Quaker Avenue

Length of Study Route = 3,639 feet

**Notes:**

TT: JYB  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM WB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 20 MPH	Time <= 40 MPH
1	0	N 3rd Avenue								
2	902	5th Avenue	<b>Before</b>	29.5	0.5	20.8	8.5	3.0	10.3	29.5
			<b>After</b>	23.0	0.0	26.7	2.3	0.0	1.3	23.0
			<b>Change</b>	-6.5	-0.5	5.9	-6.3	-3.0	-9.0	-6.5
3	1863	8th Avenue S	<b>Before</b>	45.8	0.3	27.8	3.3	3.0	6.3	45.8
			<b>After</b>	46.0	0.3	27.6	3.8	2.8	4.3	46.0
			<b>Change</b>	0.3	0.0	-0.2	0.5	-0.3	-2.0	0.3
4	874	Heil Quaker Avenue	<b>Before</b>	23.5	0.3	25.4	4.8	4.0	5.0	23.5
			<b>After</b>	23.5	0.3	25.4	3.8	0.5	4.3	23.3
			<b>Change</b>	0.0	0.0	0.0	-1.0	-3.5	-0.8	-0.3
<b>Totals</b>	<b>3,639</b>		<b>Before</b>	<b>98.8</b>	<b>1.0</b>	<b>25.1</b>	<b>16.5</b>	<b>10.0</b>	<b>21.5</b>	<b>98.8</b>
			<b>After</b>	<b>92.5</b>	<b>0.5</b>	<b>26.8</b>	<b>9.8</b>	<b>3.3</b>	<b>9.8</b>	<b>92.3</b>
			<b>Change</b>	<b>-6.3</b>	<b>-0.5</b>	<b>1.7</b>	<b>-6.8</b>	<b>-6.8</b>	<b>-11.8</b>	<b>-6.5</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM WB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	N 3rd Avenue					
2	902	5th Avenue	<b>Before</b>	0.0105	1.1484	8.1041	0.7741
			<b>After</b>	0.0086	0.8903	7.7803	0.5592
			<b>Change</b>	-0.0020	-0.2581	-0.3238	-0.2148
3	1863	8th Avenue S	<b>Before</b>	0.0175	1.7189	15.6044	1.0443
			<b>After</b>	0.0148	1.1342	11.3583	0.3783
			<b>Change</b>	-0.0027	-0.5846	-4.2460	-0.6660
4	874	Heil Quaker Avenue	<b>Before</b>	0.0086	0.8276	7.6424	0.4744
			<b>After</b>	0.0085	0.8877	7.4266	0.5661
			<b>Change</b>	-0.0001	0.0601	-0.2158	0.0917
<b>Totals</b>	<b>3,639</b>		<b>Before</b>	<b>0.0366</b>	<b>3.6949</b>	<b>31.3509</b>	<b>2.2928</b>
			<b>After</b>	<b>0.0319</b>	<b>2.9122</b>	<b>26.5653</b>	<b>1.5037</b>
			<b>Change</b>	<b>-0.0047</b>	<b>-0.7826</b>	<b>-4.7857</b>	<b>-0.7891</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM WB**

Study Date : **5/10/2016**

Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

Commerce-PM-After-WB-003  
 Commerce-PM-After-WB-010  
 Commerce-PM-After-WB-016  
 Commerce-PM-After-WB-024  
 Commerce-PM-Before-WB-003  
 Commerce-PM-Before-WB-009  
 Commerce-PM-Before-WB-011  
 Commerce-PM-Before-WB-011

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	22	22	24	24	26	38	32	22
3	1863	8th Avenue S	43	44	40	57	41	43	44	55
4	874	Heil Quaker Avenue	31	22	18	23	18	19	39	18
Totals	3639		96	88	82	104	85	100	115	95

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM WB**  
Study Date : **5/10/2016**  
Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

Commerce-PM-After-WB-003  
Commerce-PM-After-WB-010  
Commerce-PM-After-WB-016  
Commerce-PM-After-WB-024  
Commerce-PM-Before-WB-003  
Commerce-PM-Before-WB-009  
Commerce-PM-Before-WB-011  
Commerce-PM-Before-WB-011

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	0	0	0	0	0	1	1	0
3	1863	8th Avenue S	0	0	0	1	0	0	0	1
4	874	Heil Quaker Avenue	1	0	0	0	0	0	1	0
Totals	3639		1	0	0	1	0	1	2	1

Stops based on a Stop Speed of 5 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM WB**

Study Date : **5/10/2016**

Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

*Commerce-PM-After-WB-003*

*Commerce-PM-After-WB-010*

*Commerce-PM-After-WB-016*

*Commerce-PM-After-WB-024*

*Commerce-PM-Before-WB-003*

*Commerce-PM-Before-WB-009*

*Commerce-PM-Before-WB-011*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	28.9	28.0	25.9	26.8	24.3	16.6	19.3	28.3
3	1863	8th Avenue S	29.3	29.3	32.1	21.9	30.8	29.7	29.1	23.3
4	874	Heil Quaker Avenue	19.1	27.6	33.1	26.1	32.4	31.8	15.4	33.2
Totals	3639		25.9	28.6	30.5	24.0	29.1	25.1	21.7	26.3

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM WB**  
Study Date : **5/10/2016**  
Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Commerce-PM-After-WB-003  
Commerce-PM-After-WB-010  
Commerce-PM-After-WB-016  
Commerce-PM-After-WB-024  
Commerce-PM-Before-WB-003  
Commerce-PM-Before-WB-009  
Commerce-PM-Before-WB-011  
Commerce-PM-Before-WB-011

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	1	2	3	3	5	17	11	1
3	1863	8th Avenue S	0	1	0	14	0	0	1	12
4	874	Heil Quaker Avenue	11	1	0	3	0	0	19	0
Totals	3639		12	4	3	20	5	17	31	13

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Commerce Street  
Travel Time Analysis

Study Name : **Commerce PM WB**

Study Date : **5/10/2016**

Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

Commerce-PM-After-WB-003  
 Commerce-PM-After-WB-010  
 Commerce-PM-After-WB-016  
 Commerce-PM-After-WB-024  
 Commerce-PM-Before-WB-003  
 Commerce-PM-Before-WB-009  
 Commerce-PM-Before-WB-011  
 Commerce-PM-Before-WB-011

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	N 3rd Avenue								
2	902	5th Avenue	0	0	0	0	0	7	5	0
3	1863	8th Avenue S	0	0	0	11	0	0	0	12
4	874	Heil Quaker Avenue	2	0	0	0	0	0	16	0
Totals	3639		2	0	0	11	0	7	21	12



**Kimley-Horn and Associates, Inc.**

Ellington Parkway  
Travel Time Analysis

***PC-Travel Reports for study: Ellington AM NB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM NB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Ellington-AM-After-NB-002	05/10/16	08:21	16098	After	Secondary
Ellington-AM-After-NB-003	05/10/16	08:37	16082	After	Secondary
Ellington-AM-After-NB-005	05/10/16	09:07	16082	After	Secondary
Ellington-AM-After-NB-006	05/10/16	09:18	16028	After	Secondary
Ellington-AM-Before-NB-001	04/20/16	08:11	15975	Before	Secondary
Ellington-AM-Before-NB-002	04/20/16	08:28	16057	Before	Secondary
Ellington-AM-Before-NB-003	04/20/16	08:45	16009	Before	Secondary
Ellington-AM-Before-NB-005	04/20/16	09:18	16025	Before	Secondary

**Node Info**

#	Len	Name
1	0	Higgs Road
2	2805	E Commerce Street /
3	2433	Finley Beech Road
4	3924	Nashville Highway
5	3384	Rock Crusher Road /
6	794	Walmart Entrance
7	2449	Franklin Avenue
8	309	W Ellington Parkway

Length of Study Route = 16,098 feet

**Notes:**

TT: MEH  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM NB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Higgs Road								
2	2805	E Commerce Street /	<b>Before</b>	63.8	0.8	30.0	20.8	9.8	24.0	63.8
			<b>After</b>	55.8	0.8	34.3	13.3	7.0	17.5	55.8
			<b>Change</b>	-8.0	0.0	4.3	-7.5	-2.8	-6.5	-8.0
3	2433	Finley Beech Road	<b>Before</b>	47.5	0.5	34.9	10.0	2.8	15.8	47.5
			<b>After</b>	41.5	0.3	40.0	4.3	1.0	7.8	41.5
			<b>Change</b>	-6.0	-0.3	5.0	-5.8	-1.8	-8.0	-6.0
4	3924	Nashville Highway	<b>Before</b>	100.3	1.0	26.7	40.3	22.3	54.5	100.3
			<b>After</b>	106.0	1.3	25.2	46.3	36.3	53.3	106.0
			<b>Change</b>	5.8	0.3	-1.4	6.0	14.0	-1.3	5.8
5	3384	Rock Crusher Road /	<b>Before</b>	98.3	1.0	23.5	47.0	23.8	67.0	98.3
			<b>After</b>	78.5	0.3	29.4	27.3	12.0	39.0	78.5
			<b>Change</b>	-19.8	-0.8	5.9	-19.8	-11.8	-28.0	-19.8
6	794	Walmart Entrance	<b>Before</b>	50.8	0.8	10.7	38.5	24.8	50.8	50.8
			<b>After</b>	24.3	0.3	22.3	12.3	7.0	16.3	24.3
			<b>Change</b>	-26.5	-0.5	11.7	-26.3	-17.8	-34.5	-26.5
7	2449	Franklin Avenue	<b>Before</b>	47.8	0.3	35.0	9.8	0.8	20.0	47.8
			<b>After</b>	49.8	0.3	33.6	12.5	4.0	16.8	49.8
			<b>Change</b>	2.0	0.0	-1.4	2.8	3.3	-3.3	2.0
8	309	W Ellington Parkway	<b>Before</b>	5.3	0.0	40.1	1.3	0.0	2.8	4.3
			<b>After</b>	19.0	0.5	11.1	14.3	9.0	17.5	18.3
			<b>Change</b>	13.8	0.5	-29.0	13.0	9.0	14.8	14.0
<b>Totals</b>	<b>16,098</b>		<b>Before</b>	<b>413.5</b>	<b>4.3</b>	<b>26.5</b>	<b>167.5</b>	<b>84.0</b>	<b>234.8</b>	<b>412.5</b>
			<b>After</b>	<b>374.8</b>	<b>3.5</b>	<b>29.3</b>	<b>130.0</b>	<b>76.3</b>	<b>168.0</b>	<b>374.0</b>
			<b>Change</b>	<b>-38.8</b>	<b>-0.8</b>	<b>2.7</b>	<b>-37.5</b>	<b>-7.8</b>	<b>-66.8</b>	<b>-38.5</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 45 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM NB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Higgs Road					
2	2805	E Commerce Street /	<b>Before</b>	0.0259	2.0782	21.8971	1.0592
			<b>After</b>	0.0257	1.8388	20.9696	0.9142
			<b>Change</b>	-0.0001	-0.2394	-0.9274	-0.1451
3	2433	Finley Beech Road	<b>Before</b>	0.0253	2.5847	29.0931	1.8277
			<b>After</b>	0.0265	2.6242	30.2210	1.9165
			<b>Change</b>	0.0011	0.0395	1.1279	0.0888
4	3924	Nashville Highway	<b>Before</b>	0.0405	3.5987	36.7122	2.0269
			<b>After</b>	0.0397	2.5900	23.9506	0.8611
			<b>Change</b>	-0.0008	-1.0087	-12.7616	-1.1657
5	3384	Rock Crusher Road /	<b>Before</b>	0.0368	3.6270	35.7747	2.1139
			<b>After</b>	0.0340	3.4346	37.5100	2.1627
			<b>Change</b>	-0.0028	-0.1924	1.7354	0.0488
6	794	Walmart Entrance	<b>Before</b>	0.0140	1.5029	11.6078	0.7531
			<b>After</b>	0.0088	0.7771	7.0768	0.4066
			<b>Change</b>	-0.0053	-0.7258	-4.5310	-0.3465
7	2449	Franklin Avenue	<b>Before</b>	0.0248	2.6301	29.6304	1.8848
			<b>After</b>	0.0225	1.9179	21.7166	1.1084
			<b>Change</b>	-0.0023	-0.7122	-7.9138	-0.7764
8	309	W Ellington Parkway	<b>Before</b>	0.0023	0.3204	3.4763	0.2585
			<b>After</b>	0.0061	0.7329	4.8772	0.5024
			<b>Change</b>	0.0038	0.4125	1.4010	0.2439
<b>Totals</b>	<b>16,098</b>		<b>Before</b>	<b>0.1696</b>	<b>16.3419</b>	<b>168.1915</b>	<b>9.9241</b>
			<b>After</b>	<b>0.1632</b>	<b>13.9155</b>	<b>146.3219</b>	<b>7.8719</b>
			<b>Change</b>	<b>-0.0064</b>	<b>-2.4264</b>	<b>-21.8695</b>	<b>-2.0522</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM NB**  
Study Date : **5/10/2016**  
Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

Ellington-AM-After-NB-002  
 Ellington-AM-After-NB-003  
 Ellington-AM-After-NB-005  
 Ellington-AM-After-NB-006  
 Ellington-AM-Before-NB-001  
 Ellington-AM-Before-NB-002  
 Ellington-AM-Before-NB-003  
 Ellington-AM-Before-NB-003

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	60	62	46	55	54	60	62	79
3	2433	Finley Beech Road	40	40	47	39	62	41	42	45
4	3924	Nashville Highway	150	108	63	103	97	87	132	85
5	3384	Rock Crusher Road /	63	96	90	65	108	114	101	70
6	794	Walmart Entrance	12	24	12	49	59	54	71	19
7	2449	Franklin Avenue	67	45	42	45	42	48	58	43
8	309	W Ellington Parkway	13	32	27	4	3	5	5	8
Totals	16098		405	407	327	360	425	409	471	349

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM NB**  
Study Date : **5/10/2016**  
Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

Ellington-AM-After-NB-002    Ellington-AM-After-NB-003    Ellington-AM-After-NB-005  
 Ellington-AM-Before-NB-001    Ellington-AM-Before-NB-002    Ellington-AM-Before-NB-003

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	1	1	0	1	0	1	1	1
3	2433	Finley Beech Road	0	0	1	0	1	0	0	1
4	3924	Nashville Highway	2	1	1	1	1	1	1	1
5	3384	Rock Crusher Road /	0	1	0	0	1	1	1	1
6	794	Walmart Entrance	0	0	0	1	1	1	1	0
7	2449	Franklin Avenue	1	0	0	0	0	0	1	0
8	309	W Ellington Parkway	0	1	1	0	0	0	0	0
Totals	16098		4	4	3	3	4	4	5	4

Stops based on a Stop Speed of 5 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM NB**  
Study Date : **5/10/2016**  
Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

Ellington-AM-After-NB-002  
 Ellington-AM-After-NB-003  
 Ellington-AM-After-NB-005  
 Ellington-AM-After-NB-006  
 Ellington-AM-Before-NB-001  
 Ellington-AM-Before-NB-002  
 Ellington-AM-Before-NB-003  
 Ellington-AM-Before-NB-003

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	31.9	31.0	41.5	35.0	35.8	32.1	31.0	24.4
3	2433	Finley Beech Road	41.5	41.6	35.9	42.5	26.5	40.9	40.2	36.7
4	3924	Nashville Highway	17.8	24.9	42.2	26.1	27.5	30.5	20.1	31.6
5	3384	Rock Crusher Road /	36.6	23.8	26.0	35.1	21.5	20.3	22.7	32.7
6	794	Walmart Entrance	45.1	23.2	42.3	11.2	9.1	10.2	7.7	29.6
7	2449	Franklin Avenue	24.9	37.0	39.9	37.7	40.4	35.3	29.2	38.7
8	309	W Ellington Parkway	16.2	6.0	7.5	42.7	44.5	37.3	31.3	20.4
Totals	16098		27.1	27.0	33.7	30.4	25.7	26.9	23.2	31.4

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM NB**  
Study Date : **5/10/2016**  
Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Ellington-AM-After-NB-002    Ellington-AM-After-NB-003    Ellington-AM-After-NB-005  
 Ellington-AM-After-NB-006    Ellington-AM-Before-NB-001    Ellington-AM-Before-NB-002  
 Ellington-AM-Before-NB-003    Ellington-AM-Before-NB-004

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	18	19	4	12	11	17	19	36
3	2433	Finley Beech Road	3	3	9	2	25	3	4	8
4	3924	Nashville Highway	91	48	3	43	37	27	72	25
5	3384	Rock Crusher Road /	12	45	38	14	56	63	50	19
6	794	Walmart Entrance	0	12	0	37	47	42	59	6
7	2449	Franklin Avenue	30	8	5	7	4	10	20	5
8	309	W Ellington Parkway	8	27	22	0	0	0	1	4
Totals	16098		162	162	81	115	180	162	225	103

Total Delay based on a Normal Speed of 45 MPH.



# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM NB**  
Study Date : **5/10/2016**  
Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

Ellington-AM-After-NB-002    Ellington-AM-After-NB-003    Ellington-AM-After-NB-005  
 Ellington-AM-After-NB-006    Ellington-AM-Before-NB-001    Ellington-AM-Before-NB-002  
 Ellington-AM-Before-NB-003    Ellington-AM-Before-NB-004

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	11	11	0	6	0	5	7	27
3	2433	Finley Beech Road	0	0	4	0	10	0	0	1
4	3924	Nashville Highway	74	39	1	31	14	14	48	13
5	3384	Rock Crusher Road /	0	28	20	0	31	30	32	2
6	794	Walmart Entrance	0	0	0	28	35	20	44	0
7	2449	Franklin Avenue	16	0	0	0	0	0	3	0
8	309	W Ellington Parkway	0	20	16	0	0	0	0	0
Totals	16098		101	98	41	65	90	69	134	43

**Kimley-Horn and Associates, Inc.**

Ellington Parkway  
Travel Time Analysis

***PC-Travel Reports for study: Ellington AM SB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM SB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Ellington-AM-After-SB-002	05/10/16	08:15	16012	After	Secondary
Ellington-AM-After-SB-004	05/10/16	08:46	15856	After	Secondary
Ellington-AM-After-SB-005	05/10/16	09:01	15915	After	Secondary
Ellington-AM-After-SB-007	05/10/16	09:25	15923	After	Secondary
Ellington-AM-Before-SB-003	04/20/16	08:36	15878	Before	Secondary
Ellington-AM-Before-SB-004	04/20/16	08:55	15929	Before	Secondary
Ellington-AM-Before-SB-005	04/20/16	09:10	15971	Before	Secondary
Ellington-AM-Before-SB-006	04/20/16	09:26	15940	Before	Secondary

**Node Info**

#	Len	Name
1	0	W Ellington Parkway
2	291	Franklin Avenue
3	2348	Walmart Entrance
4	790	Rock Crusher Road /
5	3483	Nashville Highway
6	3765	Finley Beech Road
7	2493	E Commerce Street /
8	2720	Higgs Road

Length of Study Route = 15,890 feet

**Notes:**

TT: MEH  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

## Ellington Parkway Travel Time Analysis

Study Name : **Ellington AM SB**

Study Date : **5/10/2016**

Page No. : **3**

### Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	W Ellington Parkway								
2	291	Franklin Avenue	<b>Before</b>	14.0	0.3	14.2	9.3	5.3	12.3	14.0
			<b>After</b>	12.3	0.3	16.2	7.5	2.3	12.0	12.3
			<b>Change</b>	-1.8	0.0	2.0	-1.8	-3.0	-0.3	-1.8
3	2348	Walmart Entrance	<b>Before</b>	42.0	0.0	38.1	6.0	0.0	9.5	42.0
			<b>After</b>	43.5	0.0	36.8	7.5	0.0	11.0	43.5
			<b>Change</b>	1.5	0.0	-1.3	1.5	0.0	1.5	1.5
4	790	Rock Crusher Road /	<b>Before</b>	26.5	0.5	20.3	14.0	7.5	20.0	26.5
			<b>After</b>	15.8	0.0	34.2	3.3	0.0	7.8	15.8
			<b>Change</b>	-10.8	-0.5	13.9	-10.8	-7.5	-12.3	-10.8
5	3483	Nashville Highway	<b>Before</b>	91.3	0.8	26.0	38.3	17.0	60.3	91.3
			<b>After</b>	77.5	0.5	30.6	24.5	8.0	46.0	77.5
			<b>Change</b>	-13.8	-0.3	4.6	-13.8	-9.0	-14.3	-13.8
6	3765	Finley Beech Road	<b>Before</b>	85.0	0.5	30.2	27.8	13.3	39.8	85.0
			<b>After</b>	67.3	0.3	38.2	10.3	3.5	15.5	67.3
			<b>Change</b>	-17.8	-0.3	8.0	-17.5	-9.8	-24.3	-17.8
7	2493	E Commerce Street /	<b>Before</b>	71.3	0.5	23.9	33.3	19.3	43.8	71.3
			<b>After</b>	38.5	0.0	44.1	0.5	0.0	0.0	38.5
			<b>Change</b>	-32.8	-0.5	20.3	-32.8	-19.3	-43.8	-32.8
8	2720	Higgs Road	<b>Before</b>	55.5	0.3	33.4	13.5	6.8	15.3	55.3
			<b>After</b>	42.5	0.0	43.6	1.0	0.0	0.0	42.3
			<b>Change</b>	-13.0	-0.3	10.2	-12.5	-6.8	-15.3	-13.0
<b>Totals</b>	<b>15,890</b>		<b>Before</b>	<b>385.5</b>	<b>2.8</b>	<b>28.1</b>	<b>142.0</b>	<b>69.0</b>	<b>200.8</b>	<b>385.3</b>
			<b>After</b>	<b>297.3</b>	<b>1.0</b>	<b>36.4</b>	<b>54.5</b>	<b>13.8</b>	<b>92.3</b>	<b>297.0</b>
			<b>Change</b>	<b>-88.3</b>	<b>-1.8</b>	<b>8.3</b>	<b>-87.5</b>	<b>-55.3</b>	<b>-108.5</b>	<b>-88.3</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 45 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM SB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	W Ellington Parkway					
2	291	Franklin Avenue	<b>Before</b>	0.0049	0.6185	5.9316	0.4067
			<b>After</b>	0.0045	0.5425	4.2141	0.3882
			<b>Change</b>	-0.0004	-0.0760	-1.7175	-0.0185
3	2348	Walmart Entrance	<b>Before</b>	0.0214	1.9647	24.1938	1.2521
			<b>After</b>	0.0211	1.9865	23.7857	1.2515
			<b>Change</b>	-0.0003	0.0218	-0.4081	-0.0005
4	790	Rock Crusher Road /	<b>Before</b>	0.0088	0.8024	6.8681	0.4018
			<b>After</b>	0.0064	0.5097	5.6297	0.2445
			<b>Change</b>	-0.0025	-0.2927	-1.2384	-0.1573
5	3483	Nashville Highway	<b>Before</b>	0.0342	3.1276	30.4670	1.7245
			<b>After</b>	0.0292	2.2189	24.2355	0.9358
			<b>Change</b>	-0.0051	-0.9087	-6.2315	-0.7887
6	3765	Finley Beech Road	<b>Before</b>	0.0362	3.3234	36.2723	1.9442
			<b>After</b>	0.0362	3.2025	35.9342	2.0785
			<b>Change</b>	0.0000	-0.1209	-0.3382	0.1344
7	2493	E Commerce Street /	<b>Before</b>	0.0258	2.3584	23.6135	1.2138
			<b>After</b>	0.0188	0.8058	8.8164	0.1213
			<b>Change</b>	-0.0069	-1.5526	-14.7971	-1.0925
8	2720	Higgs Road	<b>Before</b>	0.0255	2.2397	24.6977	1.3225
			<b>After</b>	0.0218	1.3245	16.9172	0.5496
			<b>Change</b>	-0.0038	-0.9152	-7.7805	-0.7729
<b>Totals</b>	<b>15,890</b>		<b>Before</b>	<b>0.1569</b>	<b>14.4347</b>	<b>152.0440</b>	<b>8.2656</b>
			<b>After</b>	<b>0.1379</b>	<b>10.5904</b>	<b>119.5328</b>	<b>5.5695</b>
			<b>Change</b>	<b>-0.0189</b>	<b>-3.8443</b>	<b>-32.5112</b>	<b>-2.6960</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM SB**  
Study Date : **5/10/2016**  
Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

Ellington-AM-After-SB-002    Ellington-AM-After-SB-004    Ellington-AM-After-SB-005    Ellington-AM-After-SB-007  
 Ellington-AM-Before-SB-003    Ellington-AM-Before-SB-004    Ellington-AM-Before-SB-005

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	10	25	8	6	9	6	7	34
3	2348	Walmart Entrance	48	46	37	43	40	37	39	52
4	790	Rock Crusher Road /	15	15	15	18	35	16	14	41
5	3483	Nashville Highway	68	81	84	77	87	132	66	80
6	3765	Finley Beech Road	81	62	64	62	72	87	107	74
7	2493	E Commerce Street /	39	39	38	38	113	52	75	45
8	2720	Higgs Road	45	43	40	42	53	46	78	45
Totals	15890		306	311	286	286	409	376	386	371

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM SB**  
Study Date : **5/10/2016**  
Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

*Ellington-AM-After-SB-002*  
*Ellington-AM-After-SB-004*  
*Ellington-AM-After-SB-005*  
*Ellington-AM-After-SB-007*  
*Ellington-AM-Before-SB-003*  
*Ellington-AM-Before-SB-004*  
*Ellington-AM-Before-SB-005*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	0	1	0	0	0	0	0	1
3	2348	Walmart Entrance	0	0	0	0	0	0	0	0
4	790	Rock Crusher Road /	0	0	0	0	1	0	0	1
5	3483	Nashville Highway	0	1	1	0	1	2	0	0
6	3765	Finley Beech Road	1	0	0	0	0	1	1	0
7	2493	E Commerce Street /	0	0	0	0	1	0	1	0
8	2720	Higgs Road	0	0	0	0	0	0	1	0
<b>Totals</b>	<b>15890</b>		<b>1</b>	<b>2</b>	<b>1</b>	<b>0</b>	<b>3</b>	<b>3</b>	<b>3</b>	<b>2</b>

Stops based on a Stop Speed of 5 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM SB**  
Study Date : **5/10/2016**  
Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

Ellington-AM-After-SB-002      Ellington-AM-After-SB-004      Ellington-AM-After-SB-005  
 Ellington-AM-After-SB-007      Ellington-AM-Before-SB-003      Ellington-AM-Before-SB-004  
 Ellington-AM-Before-SB-005

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	20.6	8.1	28.3	33.5	24.8	36.7	28.9	5.9
3	2348	Walmart Entrance	33.5	35.5	42.9	37.4	39.9	42.8	41.5	30.9
4	790	Rock Crusher Road /	35.8	35.5	37.1	29.7	15.1	35.2	39.3	13.6
5	3483	Nashville Highway	34.9	29.1	28.0	30.9	27.2	17.9	35.7	29.4
6	3765	Finley Beech Road	31.6	41.5	40.3	41.2	36.0	29.4	24.0	34.7
7	2493	E Commerce Street /	43.5	43.6	46.0	44.5	14.9	32.8	22.6	38.3
8	2720	Higgs Road	42.2	43.6	45.9	44.5	35.3	40.7	23.9	41.4
Totals	15890		35.6	34.9	38.0	37.9	26.5	28.9	28.1	29.3



# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM SB**

Study Date : **5/10/2016**

Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Ellington-AM-After-SB-002    Ellington-AM-After-SB-004    Ellington-AM-After-SB-005  
 Ellington-AM-After-SB-007    Ellington-AM-Before-SB-003    Ellington-AM-Before-SB-004  
 Ellington-AM-Before-SB-005

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	5	20	3	2	4	1	2	30
3	2348	Walmart Entrance	12	10	1	7	4	1	3	16
4	790	Rock Crusher Road /	3	2	2	6	23	3	1	29
5	3483	Nashville Highway	15	28	31	24	34	79	13	27
6	3765	Finley Beech Road	24	5	7	5	14	30	50	17
7	2493	E Commerce Street /	1	1	0	0	75	14	37	7
8	2720	Higgs Road	3	1	0	0	11	4	36	3
Totals	15890		63	67	44	44	165	132	142	129

Total Delay based on a Normal Speed of 45 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington AM SB**  
Study Date : **5/10/2016**  
Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

Ellington-AM-After-SB-002      Ellington-AM-After-SB-004      Ellington-AM-After-SB-005  
 Ellington-AM-After-SB-007      Ellington-AM-Before-SB-003      Ellington-AM-Before-SB-004  
 Ellington-AM-Before-SB-005

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	0	9	0	0	0	0	0	21
3	2348	Walmart Entrance	0	0	0	0	0	0	0	0
4	790	Rock Crusher Road /	0	0	0	0	12	0	0	18
5	3483	Nashville Highway	0	21	11	0	8	60	0	0
6	3765	Finley Beech Road	14	0	0	0	0	21	32	0
7	2493	E Commerce Street /	0	0	0	0	57	0	20	0
8	2720	Higgs Road	0	0	0	0	0	0	27	0
Totals	15890		14	30	11	0	77	81	79	39

**Kimley-Horn and Associates, Inc.**

Ellington Parkway  
Travel Time Analysis

***PC-Travel Reports for study: Ellington MD NB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD NB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Ellington-MD-After-NB-001	05/10/16	11:59	15999	After	Secondary
Ellington-MD-After-NB-002	05/10/16	12:11	16018	After	Secondary
Ellington-MD-After-NB-005	05/10/16	12:55	16025	After	Secondary
Ellington-MD-After-NB-007	05/10/16	13:27	16036	After	Secondary
Ellington-MD-Before-NB-001	04/20/16	12:00	16040	Before	Secondary
Ellington-MD-Before-NB-005	04/20/16	13:02	15915	Before	Secondary
Ellington-MD-Before-NB-007	04/20/16	13:37	15914	Before	Secondary
Ellington-MD-Before-NB-008	04/20/16	13:54	15936	Before	Secondary

**Node Info**

#	Len	Name
1	0	Higgs Road
2	2805	E Commerce Street /
3	2433	Finley Beech Road
4	3924	Nashville Highway
5	3384	Rock Crusher Road /
6	794	Walmart Entrance
7	2449	Franklin Avenue
8	309	W Ellington Parkway

Length of Study Route = 16,098 feet

**Notes:**

TT: MEH  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD NB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Higgs Road								
2	2805	E Commerce Street /	<b>Before</b>	72.5	0.8	26.4	29.5	17.0	37.0	72.5
			<b>After</b>	54.5	0.3	35.1	11.5	7.5	14.0	54.5
			<b>Change</b>	-18.0	-0.5	8.7	-18.0	-9.5	-23.0	-18.0
3	2433	Finley Beech Road	<b>Before</b>	44.8	0.3	37.1	7.5	0.5	14.5	44.8
			<b>After</b>	54.3	0.5	30.6	16.8	14.0	19.3	54.3
			<b>Change</b>	9.5	0.3	-6.5	9.3	13.5	4.8	9.5
4	3924	Nashville Highway	<b>Before</b>	95.5	0.5	28.0	35.5	22.8	47.3	95.5
			<b>After</b>	92.0	0.8	29.1	32.0	22.0	39.5	92.0
			<b>Change</b>	-3.5	0.3	1.1	-3.5	-0.8	-7.8	-3.5
5	3384	Rock Crusher Road /	<b>Before</b>	78.5	0.5	29.4	27.0	10.3	46.0	78.5
			<b>After</b>	63.8	0.3	36.2	12.3	0.3	26.0	63.8
			<b>Change</b>	-14.8	-0.3	6.8	-14.8	-10.0	-20.0	-14.8
6	794	Walmart Entrance	<b>Before</b>	29.0	0.3	18.7	16.5	11.3	23.0	29.0
			<b>After</b>	32.8	0.5	16.5	20.8	14.5	25.8	32.8
			<b>Change</b>	3.8	0.3	-2.1	4.3	3.3	2.8	3.8
7	2449	Franklin Avenue	<b>Before</b>	69.0	1.0	24.2	31.8	21.3	36.5	69.0
			<b>After</b>	58.0	0.5	28.8	20.3	14.8	24.5	58.0
			<b>Change</b>	-11.0	-0.5	4.6	-11.5	-6.5	-12.0	-11.0
8	309	W Ellington Parkway	<b>Before</b>	4.5	0.0	46.8	1.3	0.0	3.0	3.5
			<b>After</b>	4.0	0.0	52.7	0.0	0.0	0.0	3.0
			<b>Change</b>	-0.5	0.0	5.9	-1.3	0.0	-3.0	-0.5
<b>Totals</b>	<b>16,098</b>		<b>Before</b>	<b>393.8</b>	<b>3.3</b>	<b>27.9</b>	<b>149.0</b>	<b>83.0</b>	<b>207.3</b>	<b>392.8</b>
			<b>After</b>	<b>359.3</b>	<b>2.8</b>	<b>30.6</b>	<b>113.5</b>	<b>73.0</b>	<b>149.0</b>	<b>358.3</b>
			<b>Change</b>	<b>-34.5</b>	<b>-0.5</b>	<b>2.7</b>	<b>-35.5</b>	<b>-10.0</b>	<b>-58.3</b>	<b>-34.5</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 45 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD NB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Higgs Road					
2	2805	E Commerce Street /	<b>Before</b>	0.0335	3.5386	36.2777	2.4355
			<b>After</b>	0.0256	1.7819	20.3794	0.8540
			<b>Change</b>	-0.0080	-1.7567	-15.8983	-1.5815
3	2433	Finley Beech Road	<b>Before</b>	0.0232	2.2734	27.8613	1.5083
			<b>After</b>	0.0274	2.4803	27.9506	1.5403
			<b>Change</b>	0.0042	0.2069	0.0893	0.0320
4	3924	Nashville Highway	<b>Before</b>	0.0377	3.0312	32.7037	1.4485
			<b>After</b>	0.0366	2.4573	24.6879	0.9471
			<b>Change</b>	-0.0012	-0.5739	-8.0158	-0.5014
5	3384	Rock Crusher Road /	<b>Before</b>	0.0317	2.8178	29.4444	1.5501
			<b>After</b>	0.0305	2.7595	31.8010	1.6915
			<b>Change</b>	-0.0013	-0.0583	2.3566	0.1413
6	794	Walmart Entrance	<b>Before</b>	0.0113	1.2724	11.6587	0.8483
			<b>After</b>	0.0115	1.1135	8.7859	0.6436
			<b>Change</b>	0.0002	-0.1589	-2.8728	-0.2047
7	2449	Franklin Avenue	<b>Before</b>	0.0277	2.6219	26.2150	1.5530
			<b>After</b>	0.0277	2.7338	30.1943	1.7716
			<b>Change</b>	0.0000	0.1119	3.9794	0.2186
8	309	W Ellington Parkway	<b>Before</b>	0.0020	0.2921	2.6534	0.2526
			<b>After</b>	0.0016	0.0991	1.3052	0.0426
			<b>Change</b>	-0.0004	-0.1930	-1.3482	-0.2100
<b>Totals</b>	<b>16,098</b>		<b>Before</b>	<b>0.1672</b>	<b>15.8473</b>	<b>166.8141</b>	<b>9.5964</b>
			<b>After</b>	<b>0.1608</b>	<b>13.4254</b>	<b>145.1043</b>	<b>7.4908</b>
			<b>Change</b>	<b>-0.0065</b>	<b>-2.4219</b>	<b>-21.7098</b>	<b>-2.1057</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD NB**  
Study Date : **5/10/2016**  
Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

Ellington-MD-After-NB-001  
 Ellington-MD-After-NB-002  
 Ellington-MD-After-NB-005  
 Ellington-MD-After-NB-007  
 Ellington-MD-Before-NB-001  
 Ellington-MD-Before-NB-005  
 Ellington-MD-Before-NB-007

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	45	46	46	81	49	83	94	64
3	2433	Finley Beech Road	37	86	56	38	43	50	38	48
4	3924	Nashville Highway	66	98	110	94	121	68	127	66
5	3384	Rock Crusher Road /	63	59	63	70	102	83	63	66
6	794	Walmart Entrance	12	13	46	60	20	16	13	67
7	2449	Franklin Avenue	42	89	60	41	111	39	67	59
8	309	W Ellington Parkway	4	4	4	4	8	3	3	4
Totals	16098		269	395	385	388	454	342	405	374

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD NB**

Study Date : **5/10/2016**

Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

*Ellington-MD-After-NB-001*   
 *Ellington-MD-After-NB-002*   
 *Ellington-MD-After-NB-005*   
 *Ellington-MD-After-NB-007*   
 *Ellington-MD-Before-NB-001*   
 *Ellington-MD-Before-NB-005*   
 *Ellington-MD-Before-NB-007*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	0	0	0	1	0	1	1	1
3	2433	Finley Beech Road	0	1	1	0	0	1	0	0
4	3924	Nashville Highway	0	1	1	1	1	0	1	0
5	3384	Rock Crusher Road /	0	0	0	1	1	1	0	0
6	794	Walmart Entrance	0	0	1	1	0	0	0	1
7	2449	Franklin Avenue	0	1	1	0	2	0	1	1
8	309	W Ellington Parkway	0	0	0	0	0	0	0	0
Totals	16098		0	3	4	4	4	3	3	3

Stops based on a Stop Speed of 5 MPH.



# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD NB**  
Study Date : **5/10/2016**  
Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

Ellington-MD-After-NB-001    Ellington-MD-After-NB-002    Ellington-MD-After-NB-005  
 Ellington-MD-After-NB-007    Ellington-MD-Before-NB-001    Ellington-MD-Before-NB-005  
 Ellington-MD-Before-NB-007

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	43.3	41.7	41.7	23.9	39.5	23.2	20.4	30.3
3	2433	Finley Beech Road	44.5	19.7	30.2	43.2	38.4	33.2	44.2	34.2
4	3924	Nashville Highway	40.2	26.9	24.0	28.5	22.1	39.7	21.0	40.6
5	3384	Rock Crusher Road /	36.8	39.3	36.6	32.8	22.6	27.5	36.8	35.2
6	794	Walmart Entrance	44.1	40.3	11.8	9.2	26.7	34.6	40.8	7.9
7	2449	Franklin Avenue	39.8	19.0	28.1	41.4	15.1	42.5	25.0	28.2
8	309	W Ellington Parkway	44.3	45.0	45.0	45.0	23.6	39.0	30.0	31.0
Totals	16098		40.7	27.7	28.4	28.3	24.2	31.8	26.9	29.1

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD NB**  
Study Date : **5/10/2016**  
Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Ellington-MD-After-NB-001  
 Ellington-MD-After-NB-002  
 Ellington-MD-After-NB-005  
 Ellington-MD-After-NB-007  
 Ellington-MD-Before-NB-001  
 Ellington-MD-Before-NB-005  
 Ellington-MD-Before-NB-007

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	2	3	3	38	6	40	51	21
3	2433	Finley Beech Road	0	48	18	1	6	13	0	11
4	3924	Nashville Highway	6	38	50	34	61	8	67	6
5	3384	Rock Crusher Road /	11	7	12	19	51	32	11	14
6	794	Walmart Entrance	0	1	34	48	8	3	0	55
7	2449	Franklin Avenue	5	51	22	3	74	2	29	22
8	309	W Ellington Parkway	0	0	0	0	4	0	0	1
Totals	16098		24	148	139	143	210	98	158	130

Total Delay based on a Normal Speed of 45 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD NB**  
Study Date : **5/10/2016**  
Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

Ellington-MD-After-NB-001  
 Ellington-MD-After-NB-002  
 Ellington-MD-After-NB-005  
 Ellington-MD-After-NB-007  
 Ellington-MD-Before-NB-001  
 Ellington-MD-Before-NB-005  
 Ellington-MD-Before-NB-007

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	0	0	0	30	0	25	39	4
3	2433	Finley Beech Road	0	44	12	0	0	2	0	0
4	3924	Nashville Highway	0	30	36	22	37	0	54	0
5	3384	Rock Crusher Road /	0	0	0	1	31	10	0	0
6	794	Walmart Entrance	0	0	24	34	0	0	0	45
7	2449	Franklin Avenue	0	45	14	0	58	0	20	7
8	309	W Ellington Parkway	0	0	0	0	0	0	0	0
Totals	16098		0	119	86	87	126	37	113	56

**Kimley-Horn and Associates, Inc.**

Ellington Parkway  
Travel Time Analysis

***PC-Travel Reports for study: Ellington MD SB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD SB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Ellington-MD-After-SB-001	05/10/16	12:05	15924	After	Secondary
Ellington-MD-After-SB-005	05/10/16	13:03	15860	After	Secondary
Ellington-MD-After-SB-006	05/10/16	13:20	15992	After	Secondary
Ellington-MD-After-SB-008	05/10/16	13:48	15948	After	Secondary
Ellington-MD-Before-SB-002	04/20/16	12:22	16078	Before	Secondary
Ellington-MD-Before-SB-004	04/20/16	12:54	15963	Before	Secondary
Ellington-MD-Before-SB-005	04/20/16	13:10	15954	Before	Secondary
Ellington-MD-Before-SB-006	04/20/16	13:30	15909	Before	Secondary

**Node Info**

#	Len	Name
1	0	W Ellington Parkway
2	291	Franklin Avenue
3	2348	Walmart Entrance
4	790	Rock Crusher Road /
5	3483	Nashville Highway
6	3765	Finley Beech Road
7	2493	E Commerce Street /
8	2720	Higgs Road

Length of Study Route = 15,890 feet

**Notes:**

TT: MEH  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD SB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	W Ellington Parkway								
2	291	Franklin Avenue	<b>Before</b>	14.3	0.5	13.9	9.5	5.5	12.8	14.3
			<b>After</b>	6.3	0.0	31.7	1.5	0.0	2.8	6.3
			<b>Change</b>	-8.0	-0.5	17.8	-8.0	-5.5	-10.0	-8.0
3	2348	Walmart Entrance	<b>Before</b>	44.3	0.0	36.2	8.5	3.5	12.5	44.3
			<b>After</b>	42.5	0.5	37.7	6.5	3.5	9.5	42.5
			<b>Change</b>	-1.8	0.5	1.5	-2.0	0.0	-3.0	-1.8
4	790	Rock Crusher Road /	<b>Before</b>	37.0	0.8	14.6	24.5	15.3	34.3	37.0
			<b>After</b>	18.0	0.3	29.9	6.0	2.0	9.0	18.0
			<b>Change</b>	-19.0	-0.5	15.4	-18.5	-13.3	-25.3	-19.0
5	3483	Nashville Highway	<b>Before</b>	111.3	1.5	21.3	58.3	28.0	87.0	111.3
			<b>After</b>	83.5	0.5	28.4	30.5	18.3	39.8	83.5
			<b>Change</b>	-27.8	-1.0	7.1	-27.8	-9.8	-47.3	-27.8
6	3765	Finley Beech Road	<b>Before</b>	67.8	0.0	37.9	10.3	0.0	16.8	67.8
			<b>After</b>	92.8	1.0	27.7	35.5	25.3	42.5	92.8
			<b>Change</b>	25.0	1.0	-10.2	25.3	25.3	25.8	25.0
7	2493	E Commerce Street /	<b>Before</b>	56.0	0.5	30.4	18.0	9.5	19.8	56.0
			<b>After</b>	55.5	0.5	30.6	17.3	10.0	20.0	55.5
			<b>Change</b>	-0.5	0.0	0.3	-0.8	0.5	0.3	-0.5
8	2720	Higgs Road	<b>Before</b>	49.3	0.0	37.7	7.5	0.0	11.8	49.3
			<b>After</b>	41.8	0.0	44.4	0.3	0.0	0.0	41.5
			<b>Change</b>	-7.5	0.0	6.8	-7.3	0.0	-11.8	-7.8
<b>Totals</b>	<b>15,890</b>		<b>Before</b>	<b>379.8</b>	<b>3.3</b>	<b>28.5</b>	<b>136.5</b>	<b>61.8</b>	<b>194.8</b>	<b>379.8</b>
			<b>After</b>	<b>340.3</b>	<b>2.8</b>	<b>31.8</b>	<b>97.5</b>	<b>59.0</b>	<b>123.5</b>	<b>340.0</b>
			<b>Change</b>	<b>-39.5</b>	<b>-0.5</b>	<b>3.3</b>	<b>-39.0</b>	<b>-2.8</b>	<b>-71.3</b>	<b>-39.8</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 45 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD SB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	W Ellington Parkway					
2	291	Franklin Avenue	<b>Before</b>	0.0047	0.4990	3.9555	0.2975
			<b>After</b>	0.0038	0.4103	3.6264	0.3347
			<b>Change</b>	-0.0008	-0.0887	-0.3291	0.0372
3	2348	Walmart Entrance	<b>Before</b>	0.0232	2.1970	26.2015	1.4618
			<b>After</b>	0.0249	2.2569	27.0045	1.5167
			<b>Change</b>	0.0017	0.0599	0.8030	0.0549
4	790	Rock Crusher Road /	<b>Before</b>	0.0110	1.1145	9.1068	0.5777
			<b>After</b>	0.0090	0.8630	7.9579	0.6096
			<b>Change</b>	-0.0019	-0.2515	-1.1489	0.0319
5	3483	Nashville Highway	<b>Before</b>	0.0389	3.8508	33.2595	2.2360
			<b>After</b>	0.0316	2.3172	24.1760	0.9516
			<b>Change</b>	-0.0073	-1.5336	-9.0835	-1.2844
6	3765	Finley Beech Road	<b>Before</b>	0.0324	2.8279	33.3413	1.6922
			<b>After</b>	0.0414	3.5913	37.4619	2.0807
			<b>Change</b>	0.0090	0.7634	4.1205	0.3885
7	2493	E Commerce Street /	<b>Before</b>	0.0233	1.9216	20.1826	1.0116
			<b>After</b>	0.0289	2.9028	31.4361	1.9933
			<b>Change</b>	0.0056	0.9811	11.2535	0.9816
8	2720	Higgs Road	<b>Before</b>	0.0228	1.8643	22.3855	1.0261
			<b>After</b>	0.0211	1.0803	13.0189	0.3248
			<b>Change</b>	-0.0017	-0.7840	-9.3667	-0.7014
<b>Totals</b>	<b>15,890</b>		<b>Before</b>	<b>0.1562</b>	<b>14.2752</b>	<b>148.4327</b>	<b>8.3030</b>
			<b>After</b>	<b>0.1608</b>	<b>13.4218</b>	<b>144.6816</b>	<b>7.8114</b>
			<b>Change</b>	<b>0.0046</b>	<b>-0.8534</b>	<b>-3.7512</b>	<b>-0.4916</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD SB**  
Study Date : **5/10/2016**  
Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

Ellington-MD-After-SB-001      Ellington-MD-After-SB-005  
 Ellington-MD-After-SB-006      Ellington-MD-After-SB-008  
 Ellington-MD-Before-SB-002      Ellington-MD-Before-SB-004  
 Ellington-MD-Before-SB-005      Ellington-MD-Before-SB-005

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	6	9	5	5	5	7	33	12
3	2348	Walmart Entrance	49	37	48	36	35	37	49	56
4	790	Rock Crusher Road /	12	12	20	28	49	42	41	16
5	3483	Nashville Highway	60	98	110	66	107	160	96	82
6	3765	Finley Beech Road	109	85	73	104	70	63	68	70
7	2493	E Commerce Street /	71	48	41	62	41	44	81	58
8	2720	Higgs Road	41	43	42	41	45	50	52	50
Totals	15890		348	332	339	342	352	403	420	344



# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD SB**

Study Date : **5/10/2016**

Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

*Ellington-MD-After-SB-001*

*Ellington-MD-After-SB-005*

*Ellington-MD-After-SB-006*

*Ellington-MD-After-SB-008*

*Ellington-MD-Before-SB-002*

*Ellington-MD-Before-SB-004*

*Ellington-MD-Before-SB-005*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	0	0	0	0	0	0	1	1
3	2348	Walmart Entrance	1	0	1	0	0	0	0	0
4	790	Rock Crusher Road /	0	0	0	1	1	1	1	0
5	3483	Nashville Highway	0	1	1	0	2	2	1	1
6	3765	Finley Beech Road	1	1	1	1	0	0	0	0
7	2493	E Commerce Street /	1	0	0	1	0	0	1	1
8	2720	Higgs Road	0	0	0	0	0	0	0	0
Totals	15890		3	2	3	3	3	3	4	3

Stops based on a Stop Speed of 5 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD SB**

Study Date : **5/10/2016**

Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

*Ellington-MD-After-SB-001*

*Ellington-MD-After-SB-005*

*Ellington-MD-After-SB-006*

*Ellington-MD-After-SB-008*

*Ellington-MD-Before-SB-002*

*Ellington-MD-Before-SB-004*

*Ellington-MD-Before-SB-005*

*Ellington-MD-Before-SB-005*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	34.7	22.7	39.8	44.8	44.0	33.1	6.2	16.9
3	2348	Walmart Entrance	32.7	44.2	34.0	44.5	45.3	42.6	33.1	29.1
4	790	Rock Crusher Road /	45.1	44.6	26.1	18.9	11.0	13.3	12.5	33.6
5	3483	Nashville Highway	39.4	23.8	21.5	36.0	22.2	14.7	24.8	28.9
6	3765	Finley Beech Road	23.7	30.2	35.2	24.9	37.1	41.2	37.6	36.6
7	2493	E Commerce Street /	24.2	36.0	41.4	27.5	41.0	38.2	21.0	29.4
8	2720	Higgs Road	44.6	42.9	44.5	46.0	41.5	37.0	35.9	37.3
<b>Totals</b>	<b>15890</b>		<b>31.2</b>	<b>32.6</b>	<b>32.0</b>	<b>31.9</b>	<b>30.8</b>	<b>26.9</b>	<b>25.9</b>	<b>31.6</b>

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD SB**

Study Date : **5/10/2016**

Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Ellington-MD-After-SB-001    Ellington-MD-After-SB-005    Ellington-MD-After-SB-006    Ellington-MD-After-SB-008  
 Ellington-MD-Before-SB-002    Ellington-MD-Before-SB-004    Ellington-MD-Before-SB-005    Ellington-MD-Before-SB-005

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	1	4	1	0	0	2	28	8
3	2348	Walmart Entrance	13	1	12	0	0	1	13	20
4	790	Rock Crusher Road /	0	0	8	16	37	29	29	3
5	3483	Nashville Highway	7	45	57	13	54	107	43	29
6	3765	Finley Beech Road	51	28	16	47	12	5	11	13
7	2493	E Commerce Street /	32	10	3	24	3	6	43	20
8	2720	Higgs Road	0	1	0	0	3	8	11	8
Totals	15890		104	89	97	100	109	158	178	101

Total Delay based on a Normal Speed of 45 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington MD SB**  
Study Date : **5/10/2016**  
Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

Ellington-MD-After-SB-001      Ellington-MD-After-SB-005  
 Ellington-MD-After-SB-006      Ellington-MD-After-SB-008  
 Ellington-MD-Before-SB-002      Ellington-MD-Before-SB-004  
 Ellington-MD-Before-SB-005      Ellington-MD-Before-SB-005

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	0	0	0	0	0	0	21	1
3	2348	Walmart Entrance	8	0	6	0	0	0	0	14
4	790	Rock Crusher Road /	0	0	0	8	22	17	22	0
5	3483	Nashville Highway	0	37	36	0	22	66	17	7
6	3765	Finley Beech Road	44	17	1	39	0	0	0	0
7	2493	E Commerce Street /	24	0	0	16	0	0	32	6
8	2720	Higgs Road	0	0	0	0	0	0	0	0
Totals	15890		76	54	43	63	44	83	92	28

**Kimley-Horn and Associates, Inc.**

Ellington Parkway  
Travel Time Analysis

***PC-Travel Reports for study: Ellington PM NB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM NB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Ellington-PM-After-NB-001	05/10/16	15:36	16040	After	Secondary
Ellington-PM-After-NB-004	05/10/16	16:29	15904	After	Secondary
Ellington-PM-After-NB-006	05/10/16	16:58	15886	After	Secondary
Ellington-PM-After-NB-009	05/10/16	17:50	16075	After	Secondary
Ellington-PM-Before-NB-001	04/20/16	15:38	15910	Before	Secondary
Ellington-PM-Before-NB-004	04/20/16	16:44	15929	Before	Secondary
Ellington-PM-Before-NB-005	04/20/16	17:02	15939	Before	Secondary
Ellington-PM-Before-NB-008	04/20/16	18:01	15916	Before	Secondary

**Node Info**

#	Len	Name
1	0	Higgs Road
2	2805	E Commerce Street /
3	2433	Finley Beech Road
4	3924	Nashville Highway
5	3384	Rock Crusher Road /
6	794	Walmart Entrance
7	2449	Franklin Avenue
8	309	W Ellington Parkway

Length of Study Route = 16,098 feet

**Notes:**

TT: MEH  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM NB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	Higgs Road								
2	2805	E Commerce Street /	<b>Before</b>	79.0	1.0	24.2	36.0	18.0	49.8	79.0
			<b>After</b>	46.5	0.0	41.1	3.8	0.3	7.0	46.5
			<b>Change</b>	-32.5	-1.0	16.9	-32.3	-17.8	-42.8	-32.5
3	2433	Finley Beech Road	<b>Before</b>	50.3	0.3	33.0	13.0	4.8	17.5	50.3
			<b>After</b>	50.8	0.3	32.7	13.8	11.8	15.5	50.8
			<b>Change</b>	0.5	0.0	-0.3	0.8	7.0	-2.0	0.5
4	3924	Nashville Highway	<b>Before</b>	143.3	1.0	18.7	83.3	63.3	95.0	143.3
			<b>After</b>	108.8	0.8	24.6	49.3	37.5	56.5	108.8
			<b>Change</b>	-34.5	-0.3	5.9	-34.0	-25.8	-38.5	-34.5
5	3384	Rock Crusher Road /	<b>Before</b>	92.3	1.0	25.0	40.8	18.5	62.3	92.3
			<b>After</b>	73.0	0.3	31.6	21.5	6.8	40.8	73.0
			<b>Change</b>	-19.3	-0.8	6.6	-19.3	-11.8	-21.5	-19.3
6	794	Walmart Entrance	<b>Before</b>	59.3	1.0	9.1	47.3	32.3	59.3	59.3
			<b>After</b>	20.5	0.0	26.4	8.3	0.0	16.8	20.5
			<b>Change</b>	-38.8	-1.0	17.3	-39.0	-32.3	-42.5	-38.8
7	2449	Franklin Avenue	<b>Before</b>	53.3	0.5	31.4	16.0	5.8	27.0	53.3
			<b>After</b>	65.3	0.8	25.6	28.0	14.3	37.5	65.3
			<b>Change</b>	12.0	0.3	-5.8	12.0	8.5	10.5	12.0
8	309	W Ellington Parkway	<b>Before</b>	3.5	0.0	60.2	0.5	0.0	2.0	2.5
			<b>After</b>	4.8	0.0	44.4	1.0	0.0	3.3	3.8
			<b>Change</b>	1.3	0.0	-15.8	0.5	0.0	1.3	1.3
<b>Totals</b>	<b>16,098</b>		<b>Before</b>	<b>480.8</b>	<b>4.8</b>	<b>22.8</b>	<b>236.8</b>	<b>142.5</b>	<b>312.8</b>	<b>479.8</b>
			<b>After</b>	<b>369.5</b>	<b>2.0</b>	<b>29.7</b>	<b>125.5</b>	<b>70.5</b>	<b>177.3</b>	<b>368.5</b>
			<b>Change</b>	<b>-111.3</b>	<b>-2.8</b>	<b>6.9</b>	<b>-111.3</b>	<b>-72.0</b>	<b>-135.5</b>	<b>-111.3</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 45 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM NB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	Higgs Road					
2	2805	E Commerce Street /	<b>Before</b>	0.0349	3.7885	34.3234	2.6931
			<b>After</b>	0.0260	1.9275	21.1367	1.1395
			<b>Change</b>	-0.0088	-1.8610	-13.1866	-1.5537
3	2433	Finley Beech Road	<b>Before</b>	0.0229	2.1119	23.7917	1.2833
			<b>After</b>	0.0236	1.6893	18.6475	0.7995
			<b>Change</b>	0.0007	-0.4226	-5.1442	-0.4838
4	3924	Nashville Highway	<b>Before</b>	0.0470	4.1265	39.9368	1.8187
			<b>After</b>	0.0409	2.7464	26.5720	0.9483
			<b>Change</b>	-0.0061	-1.3801	-13.3648	-0.8704
5	3384	Rock Crusher Road /	<b>Before</b>	0.0353	3.4453	33.7717	2.0330
			<b>After</b>	0.0298	2.4967	27.3812	1.2895
			<b>Change</b>	-0.0054	-0.9486	-6.3905	-0.7435
6	794	Walmart Entrance	<b>Before</b>	0.0164	1.8308	13.1192	0.9999
			<b>After</b>	0.0078	0.8296	7.9219	0.5330
			<b>Change</b>	-0.0085	-1.0012	-5.1972	-0.4668
7	2449	Franklin Avenue	<b>Before</b>	0.0248	2.4888	26.9589	1.6579
			<b>After</b>	0.0276	2.9736	32.3623	1.9513
			<b>Change</b>	0.0029	0.4848	5.4034	0.2934
8	309	W Ellington Parkway	<b>Before</b>	0.0012	0.1408	1.5502	0.1027
			<b>After</b>	0.0031	0.4509	4.2329	0.4096
			<b>Change</b>	0.0019	0.3101	2.6827	0.3069
<b>Totals</b>	<b>16,098</b>		<b>Before</b>	<b>0.1823</b>	<b>17.9327</b>	<b>173.4518</b>	<b>10.5887</b>
			<b>After</b>	<b>0.1589</b>	<b>13.1141</b>	<b>138.2545</b>	<b>7.0708</b>
			<b>Change</b>	<b>-0.0235</b>	<b>-4.8186</b>	<b>-35.1972</b>	<b>-3.5179</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.



# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM NB**  
Study Date : **5/10/2016**  
Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

*Ellington-PM-After-NB-001*  
*Ellington-PM-After-NB-004*  
*Ellington-PM-After-NB-006*  
*Ellington-PM-After-NB-009*  
*Ellington-PM-Before-NB-001*  
*Ellington-PM-Before-NB-004*  
*Ellington-PM-Before-NB-005*  
*Ellington-PM-Before-NB-008*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	45	47	47	47	85	71	71	89
3	2433	Finley Beech Road	41	37	37	88	40	70	45	46
4	3924	Nashville Highway	136	114	123	62	153	86	170	164
5	3384	Rock Crusher Road /	73	54	59	106	63	122	78	106
6	794	Walmart Entrance	21	22	14	25	61	31	44	101
7	2449	Franklin Avenue	105	45	50	61	65	46	61	41
8	309	W Ellington Parkway	7	3	2	7	3	4	4	3
Totals	16098		428	322	332	396	470	430	473	550

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM NB**  
Study Date : **5/10/2016**  
Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

Ellington-PM-After-NB-001    Ellington-PM-After-NB-004    Ellington-PM-After-NB-006  
 Ellington-PM-After-NB-009    Ellington-PM-Before-NB-001    Ellington-PM-Before-NB-004  
 Ellington-PM-Before-NB-005    Ellington-PM-Before-NB-008

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	0	0	0	0	1	1	1	1
3	2433	Finley Beech Road	0	0	0	1	0	1	0	0
4	3924	Nashville Highway	1	1	1	0	1	1	1	1
5	3384	Rock Crusher Road /	0	0	0	1	0	1	1	2
6	794	Walmart Entrance	0	0	0	0	1	1	1	1
7	2449	Franklin Avenue	2	0	0	1	1	0	1	0
8	309	W Ellington Parkway	0	0	0	0	0	0	0	0
Totals	16098		3	1	1	3	4	5	5	5

Stops based on a Stop Speed of 5 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM NB**  
Study Date : **5/10/2016**  
Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

Ellington-PM-After-NB-001    Ellington-PM-After-NB-004    Ellington-PM-After-NB-006  
 Ellington-PM-After-NB-009    Ellington-PM-Before-NB-001    Ellington-PM-Before-NB-004  
 Ellington-PM-Before-NB-005    Ellington-PM-Before-NB-008

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	43.0	40.8	40.8	40.8	22.7	27.3	27.0	21.5
3	2433	Finley Beech Road	40.4	46.0	46.0	18.8	42.0	23.6	37.1	36.6
4	3924	Nashville Highway	19.6	23.3	21.8	43.0	17.4	31.2	15.7	16.2
5	3384	Rock Crusher Road /	31.5	43.2	38.9	21.8	36.7	19.0	29.5	21.7
6	794	Walmart Entrance	25.6	24.5	40.1	21.7	8.8	17.1	12.5	5.4
7	2449	Franklin Avenue	15.9	36.8	33.5	27.5	25.8	36.2	27.4	40.6
8	309	W Ellington Parkway	28.0	38.5	35.0	30.7	29.0	31.3	30.7	42.0
Totals	16098		25.6	33.9	32.8	27.7	23.1	25.4	23.0	19.8

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM NB**

Study Date : **5/10/2016**

Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

*Ellington-PM-After-NB-001*

*Ellington-PM-After-NB-004*

*Ellington-PM-After-NB-006*

*Ellington-PM-After-NB-009*

*Ellington-PM-Before-NB-001*

*Ellington-PM-Before-NB-004*

*Ellington-PM-Before-NB-005*

*Ellington-PM-Before-NB-009*

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	2	5	4	4	42	28	28	46
3	2433	Finley Beech Road	4	0	0	51	2	33	8	9
4	3924	Nashville Highway	76	55	63	3	93	26	110	104
5	3384	Rock Crusher Road /	22	2	7	55	11	70	27	55
6	794	Walmart Entrance	9	10	1	13	49	19	32	89
7	2449	Franklin Avenue	68	8	12	24	27	9	24	4
8	309	W Ellington Parkway	2	0	0	2	0	1	1	0
<b>Totals</b>	<b>16098</b>		<b>183</b>	<b>80</b>	<b>87</b>	<b>152</b>	<b>224</b>	<b>186</b>	<b>230</b>	<b>307</b>

Total Delay based on a Normal Speed of 45 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM NB**  
Study Date : **5/10/2016**  
Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

Ellington-PM-After-NB-001  
 Ellington-PM-After-NB-004  
 Ellington-PM-After-NB-006  
 Ellington-PM-After-NB-009  
 Ellington-PM-Before-NB-001  
 Ellington-PM-Before-NB-004  
 Ellington-PM-Before-NB-005  
 Ellington-PM-Before-NB-005

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	Higgs Road								
2	2805	E Commerce Street /	0	0	1	0	29	10	8	25
3	2433	Finley Beech Road	0	0	0	47	0	19	0	0
4	3924	Nashville Highway	47	48	55	0	71	9	94	79
5	3384	Rock Crusher Road /	0	0	0	27	0	48	5	21
6	794	Walmart Entrance	0	0	0	0	33	6	20	70
7	2449	Franklin Avenue	56	0	0	1	16	0	7	0
8	309	W Ellington Parkway	0	0	0	0	0	0	0	0
Totals	16098		103	48	56	75	149	92	134	195

**Kimley-Horn and Associates, Inc.**

Ellington Parkway  
Travel Time Analysis

***PC-Travel Reports for study: Ellington PM SB***

<b><u>Report Name</u></b>	<b><u>Page</u></b>
Study Summary .....	2
Overall Output Statistics .....	3
Fuel Consumption & Emissions .....	4
Detailed Statistics By Run - Travel Times .....	5
Detailed Statistics By Run - Stops .....	6
Detailed Statistics By Run - Average Speed .....	7
Detailed Statistics By Run - Total Delay .....	8
Detailed Statistics By Run - Time <= 5 MPH .....	9

**Kimley-Horn  
and Associates, Inc.**  
Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM SB**  
Study Date : **5/10/2016**  
Page No. : **2**

**Study Summary**

**Runs Used in This Study**

Run Title	Start Date	Start Time	Length	Before/After	Run Type
Ellington-PM-After-SB-002	05/10/16	15:45	15930	After	Secondary
Ellington-PM-After-SB-006	05/10/16	16:51	15888	After	Secondary
Ellington-PM-After-SB-009	05/10/16	17:44	16042	After	Secondary
Ellington-PM-After-SB-011	05/10/16	18:13	15879	After	Secondary
Ellington-PM-Before-SB-002	04/20/16	15:48	15945	Before	Secondary
Ellington-PM-Before-SB-005	04/20/16	16:53	15964	Before	Secondary
Ellington-PM-Before-SB-006	04/20/16	17:11	15938	Before	Secondary
Ellington-PM-Before-SB-007	04/20/16	17:29	16029	Before	Secondary

**Node Info**

#	Len	Name
1	0	W Ellington Parkway
2	291	Franklin Avenue
3	2348	Walmart Entrance
4	790	Rock Crusher Road /
5	3483	Nashville Highway
6	3765	Finley Beech Road
7	2493	E Commerce Street /
8	2720	Higgs Road

Length of Study Route = 15,890 feet

**Notes:**

TT: MEH  
Processed by: EMH

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM SB**

Study Date : **5/10/2016**

Page No. : **3**

## Overall Output Statistics

Node #	Length	Node Name		Travel Time	# of Stops	Avg Speed	Total Delay	Time <= 5 MPH	Time <= 35 MPH	Time <= 55 MPH
1	0	W Ellington Parkway								
2	291	Franklin Avenue	<b>Before</b>	8.8	0.0	22.7	2.3	0.0	7.5	8.8
			<b>After</b>	11.3	0.3	17.6	4.8	1.8	10.0	11.3
			<b>Change</b>	2.5	0.3	-5.0	2.5	1.8	2.5	2.5
3	2348	Walmart Entrance	<b>Before</b>	43.8	0.3	36.6	0.8	0.8	15.0	43.8
			<b>After</b>	41.5	0.0	38.6	0.0	0.0	9.3	41.5
			<b>Change</b>	-2.3	-0.3	2.0	-0.8	-0.8	-5.8	-2.3
4	790	Rock Crusher Road /	<b>Before</b>	17.0	0.0	31.7	0.3	0.0	14.0	17.0
			<b>After</b>	23.5	0.3	22.9	6.5	5.3	18.8	23.5
			<b>Change</b>	6.5	0.3	-8.8	6.3	5.3	4.8	6.5
5	3483	Nashville Highway	<b>Before</b>	105.0	1.3	22.6	26.3	32.5	68.0	105.0
			<b>After</b>	99.3	1.0	23.9	20.3	27.8	63.8	99.3
			<b>Change</b>	-5.8	-0.3	1.3	-6.0	-4.8	-4.3	-5.8
6	3765	Finley Beech Road	<b>Before</b>	109.5	0.8	23.4	29.5	36.8	61.5	109.5
			<b>After</b>	62.0	0.0	41.4	0.0	0.0	9.0	62.0
			<b>Change</b>	-47.5	-0.8	18.0	-29.5	-36.8	-52.5	-47.5
7	2493	E Commerce Street /	<b>Before</b>	78.3	0.8	21.7	23.8	24.3	52.8	78.3
			<b>After</b>	59.0	0.5	28.8	13.5	15.0	26.5	59.0
			<b>Change</b>	-19.3	-0.3	7.1	-10.3	-9.3	-26.3	-19.3
8	2720	Higgs Road	<b>Before</b>	68.8	1.0	27.0	9.0	15.8	32.0	68.8
			<b>After</b>	46.0	0.0	40.3	0.0	0.0	4.8	45.5
			<b>Change</b>	-22.8	-1.0	13.3	-9.0	-15.8	-27.3	-23.3
<b>Totals</b>	<b>15,890</b>		<b>Before</b>	<b>431.0</b>	<b>4.0</b>	<b>25.1</b>	<b>91.8</b>	<b>110.0</b>	<b>250.8</b>	<b>431.0</b>
			<b>After</b>	<b>342.5</b>	<b>2.0</b>	<b>31.6</b>	<b>45.0</b>	<b>49.8</b>	<b>142.0</b>	<b>342.0</b>
			<b>Change</b>	<b>-88.5</b>	<b>-2.0</b>	<b>6.5</b>	<b>-46.8</b>	<b>-60.3</b>	<b>-108.8</b>	<b>-89.0</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

Stops based on a Stop Speed of 5 MPH.

Total Delay based on a Normal Speed of 30 MPH.



# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM SB**

Study Date : **5/10/2016**

Page No. : **4**

## Fuel Consumption & Emissions

Node #	Length	Node Name		Fuel (gal)	HC (grams)	CO (grams)	NOx (grams)
1	0	W Ellington Parkway					
2	291	Franklin Avenue	<b>Before</b>	0.0046	0.5927	4.0415	0.5081
			<b>After</b>	0.0053	0.6511	4.1981	0.5359
			<b>Change</b>	0.0007	0.0583	0.1565	0.0279
3	2348	Walmart Entrance	<b>Before</b>	0.0219	2.0726	25.3915	1.3358
			<b>After</b>	0.0201	1.7131	20.6622	1.0070
			<b>Change</b>	-0.0018	-0.3595	-4.7293	-0.3289
4	790	Rock Crusher Road /	<b>Before</b>	0.0059	0.4371	4.6727	0.1574
			<b>After</b>	0.0084	0.8255	7.5063	0.4755
			<b>Change</b>	0.0025	0.3884	2.8336	0.3181
5	3483	Nashville Highway	<b>Before</b>	0.0386	3.6569	36.4291	2.0143
			<b>After</b>	0.0383	3.6621	36.9299	2.1002
			<b>Change</b>	-0.0002	0.0052	0.5008	0.0859
6	3765	Finley Beech Road	<b>Before</b>	0.0419	3.8213	39.4051	2.0458
			<b>After</b>	0.0326	2.5414	30.9409	1.4422
			<b>Change</b>	-0.0093	-1.2800	-8.4642	-0.6036
7	2493	E Commerce Street /	<b>Before</b>	0.0282	2.7872	26.8027	1.5724
			<b>After</b>	0.0255	1.9495	19.7105	0.9931
			<b>Change</b>	-0.0027	-0.8377	-7.0921	-0.5793
8	2720	Higgs Road	<b>Before</b>	0.0285	2.6487	27.6465	1.5624
			<b>After</b>	0.0246	2.0774	25.3517	1.2728
			<b>Change</b>	-0.0039	-0.5713	-2.2948	-0.2896
<b>Totals</b>	<b>15,890</b>		<b>Before</b>	<b>0.1698</b>	<b>16.0166</b>	<b>164.3891</b>	<b>9.1961</b>
			<b>After</b>	<b>0.1549</b>	<b>13.4199</b>	<b>145.2996</b>	<b>7.8267</b>
			<b>Change</b>	<b>-0.0149</b>	<b>-2.5967</b>	<b>-19.0896</b>	<b>-1.3694</b>

Stats based on 4 BEFORE runs & 4 AFTER runs.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM SB**  
Study Date : **5/10/2016**  
Page No. : **5**

## Detailed Statistics By Run

### Travel Time (sec) by Section

Ellington-PM-After-SB-002      Ellington-PM-After-SB-006      Ellington-PM-After-SB-009  
 Ellington-PM-After-SB-011      Ellington-PM-Before-SB-002      Ellington-PM-Before-SB-005  
 Ellington-PM-Before-SB-006      Ellington-PM-Before-SB-006

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	8	10	5	22	10	10	10	5
3	2348	Walmart Entrance	43	36	40	47	45	37	57	36
4	790	Rock Crusher Road /	15	20	42	17	18	14	19	17
5	3483	Nashville Highway	121	80	79	117	117	103	123	77
6	3765	Finley Beech Road	64	58	63	63	150	140	77	71
7	2493	E Commerce Street /	38	111	41	46	50	54	114	95
8	2720	Higgs Road	42	45	46	51	98	59	56	62
<b>Totals</b>	<b>15890</b>		<b>331</b>	<b>360</b>	<b>316</b>	<b>363</b>	<b>488</b>	<b>417</b>	<b>456</b>	<b>363</b>

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM SB**  
Study Date : **5/10/2016**  
Page No. : **6**

## Detailed Statistics By Run

### Number of Stops by Section

Ellington-PM-After-SB-002      Ellington-PM-After-SB-006  
 Ellington-PM-After-SB-009      Ellington-PM-Before-SB-011  
 Ellington-PM-Before-SB-002      Ellington-PM-Before-SB-005  
 Ellington-PM-Before-SB-006

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	0	0	0	1	0	0	0	0
3	2348	Walmart Entrance	0	0	0	0	0	0	1	0
4	790	Rock Crusher Road /	0	0	1	0	0	0	0	0
5	3483	Nashville Highway	2	0	1	1	1	2	1	1
6	3765	Finley Beech Road	0	0	0	0	2	1	0	0
7	2493	E Commerce Street /	0	2	0	0	0	0	1	2
8	2720	Higgs Road	0	0	0	0	1	1	1	1
Totals	15890		2	2	2	2	4	4	4	4

Stops based on a Stop Speed of 5 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM SB**  
Study Date : **5/10/2016**  
Page No. : **7**

## Detailed Statistics By Run

### Average Speed (MPH) by Section

Ellington-PM-After-SB-002      Ellington-PM-After-SB-006  
 Ellington-PM-After-SB-009      Ellington-PM-Before-SB-011  
 Ellington-PM-Before-SB-002      Ellington-PM-Before-SB-005  
 Ellington-PM-Before-SB-006      Ellington-PM-Before-SB-006

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	26.4	21.5	41.6	10.0	20.7	21.8	21.9	41.0
3	2348	Walmart Entrance	37.2	44.3	40.6	34.3	35.6	42.8	28.2	44.9
4	790	Rock Crusher Road /	36.7	27.3	12.4	30.9	30.2	38.4	27.2	31.5
5	3483	Nashville Highway	19.5	29.6	30.1	20.3	20.2	23.1	19.5	30.6
6	3765	Finley Beech Road	40.3	44.5	41.1	40.9	17.1	18.3	33.3	36.3
7	2493	E Commerce Street /	44.4	15.4	40.7	36.5	33.9	31.6	14.8	18.2
8	2720	Higgs Road	44.5	41.9	40.4	36.9	18.9	31.4	33.2	29.7
Totals	15890		32.8	30.2	34.3	29.9	22.2	26.0	23.8	29.9

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM SB**

Study Date : **5/10/2016**

Page No. : **8**

## Detailed Statistics By Run

### Total Delay (sec) by Section

Ellington-PM-After-SB-002      Ellington-PM-After-SB-006  
 Ellington-PM-After-SB-009      Ellington-PM-After-SB-011  
 Ellington-PM-Before-SB-002      Ellington-PM-Before-SB-005  
 Ellington-PM-Before-SB-006      Ellington-PM-Before-SB-006

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	1	3	0	15	3	3	3	0
3	2348	Walmart Entrance	0	0	0	0	0	0	3	0
4	790	Rock Crusher Road /	0	2	24	0	0	0	1	0
5	3483	Nashville Highway	42	1	0	38	38	24	43	0
6	3765	Finley Beech Road	0	0	0	0	64	54	0	0
7	2493	E Commerce Street /	0	54	0	0	0	0	57	38
8	2720	Higgs Road	0	0	0	0	36	0	0	0
Totals	15890		43	60	24	53	141	81	107	38

Total Delay based on a Normal Speed of 30 MPH.

# Kimley-Horn and Associates, Inc.

Ellington Parkway  
Travel Time Analysis

Study Name : **Ellington PM SB**  
Study Date : **5/10/2016**  
Page No. : **9**

## Detailed Statistics By Run

### Time <= 5 MPH by Section

Ellington-PM-After-SB-002      Ellington-PM-After-SB-006  
 Ellington-PM-After-SB-009      Ellington-PM-Before-SB-011  
 Ellington-PM-Before-SB-002      Ellington-PM-Before-SB-005  
 Ellington-PM-Before-SB-006      Ellington-PM-Before-SB-006

Node #	Length	Node Name	Run #1	Run #2	Run #3	Run #4	Run #5	Run #6	Run #7	Run #8
1	0	W Ellington Parkway								
2	291	Franklin Avenue	0	1	0	6	0	0	0	0
3	2348	Walmart Entrance	0	0	0	0	0	0	3	0
4	790	Rock Crusher Road /	0	0	21	0	0	0	0	0
5	3483	Nashville Highway	52	0	9	50	46	34	44	6
6	3765	Finley Beech Road	0	0	0	0	77	70	0	0
7	2493	E Commerce Street /	0	60	0	0	0	0	63	34
8	2720	Higgs Road	0	0	0	0	46	9	1	7
Totals	15890		52	61	30	56	169	113	111	47

**Appendix I:**  
**Economic Analysis**

**Traffic Signal Optimization Program**

Lewisburg Traffic Signal Timing Optimization  
Economic Analysis



**Kimley»Horn**

214 Oceanside Drive  
Nashville, Tennessee 37204  
TEL 615 564 2701

**VOLUMES**

	Ellington Parkway					
	AM		MD		PM	
	NB	SB	NB	SB	NB	SB
Average Volume Along Corridor	583	534	627	552	840	631

	Commerce Street					
	AM		MD		PM	
	EB	WB	EB	WB	EB	WB
Average Volume Along Corridor	361	346	339	289	424	443

Average Volumes calculated from average of TDOT ADT's in the vicinity of the corridors.

**DELAY REDUCTION**

	Ellington Parkway					
	AM		MD		PM	
	NB	SB	NB	SB	NB	SB
Delay Reduction (seconds per vehicle)	37.5	87.5	35.5	39.0	111.3	46.8

	Commerce Street					
	AM		MD		PM	
	EB	WB	EB	WB	EB	WB
Delay Reduction (seconds per vehicle)	10.8	2.0	4.0	17.8	11.0	6.8

**ANNUAL COST BENEFITS**

	Ellington Parkway					
	AM		MD		PM	
	NB	SB	NB	SB	NB	SB
Annual Benefit of Delay Reduction (\$/yr)	\$ 27,831	\$ 59,480	\$ 28,519	\$ 27,583	\$ 108,198	\$ 34,176
Annual Benefit of Fuel Consumption Reduction (\$/yr)	\$15,250		\$1,141		\$30,282	

	Commerce Street					
	AM		MD		PM	
	EB	WB	EB	WB	EB	WB
Annual Benefit of Delay Reduction (\$/yr)	\$ 4,963	\$ 881	\$ 1,737	\$ 6,591	\$ 5,398	\$ 3,486
Annual Benefit of Fuel Consumption Reduction (\$/yr)	\$1,140		\$2,903		\$4,474	

Annual Benefit of Delay Reduction (\$/yr): **\$ 308,800.00**

Peak Periods per Year	250		
Work Trip User Cost (\$/hour)	\$ 24.40	For AM, 49% of all trips are work trips, for MD peak,	50% of all trips are work trips
Non-Work Trip User Cost (\$/hour)	\$ 12.50	For AM, 51% of all trips are non-work trips, for MD peak,	50% of all trips are non-work trips
		For PM, 35% of all trips are work trips	
		For PM, 65% of all trips are non-work trips	

Annual Benefit of Fuel Consumption Reduction (\$/yr): **\$55,200.00**

**BENEFIT:COST RATIO**

Signal Timing Contract Value **\$ 87,900** Includes data collection, timing plan development, field implementation, and before and after studies portions of the total project.

One Year Benefit:Cost Ratio: **4 : 1**

Three Year Benefit:Cost Ratio: **10 : 1\***

\* a \$500/signal cost for signal timing maintenance has been applied over 3 years



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