SUBJECT OF THE STUDY

The subject of this study is a 2.73 mile section of State Route 106 / US-431 (Lewisburg Pike), beginning at the intersection with State Route 248 (Goose Creek Bypass) and extending to State Route 397 (Mack Hatcher Parkway) and is located southeast of the City of Franklin, Williamson County. The purpose of this study is to assess the existing roadway and to provide recommendations for any improvements needed to accommodate future traffic anticipated along the facility.

PROJECT PURPOSE AND NEED

The primary needs along State Route 106 are to increase vehicular capacity and to improve safety. These needs were determined after studying traffic volumes, calculating levels of service and reviewing available crash data. Based upon the existing roadway laneage, the level of service for this facility operates at a LOS E for both the base (2013) and design year (2033).

The major causes of congestion in the study corridor as outlined in this TPR include: commercial/residential growth, rapid population increases that out-pace statewide averages and vehicular demand that exceeds the existing roadway capacity.

BACKGROUND INFORMATION

The Nashville Area Metropolitan Planning Organization (MPO) Travel Demand Model has identified the segment of State Route 106 from Henpeck Lane to State Route 397 as congested in the year 2030 because is exceeds the congestion threshold identified in the MPO's Congestion Management Process (CMP) report (amended September 19, 2007) for the year 2030. The MPO included the proposed roadway improvements as a Near Horizon (2016) project in the 2030 Long Range Transportation Plan (LRTP). Prior to development of this TPR, a Tier 2 Analysis was completed and approved for the segment of State Route 106 from Henpeck Lane to State Route 397 (Mack Hatcher Parkway) as required by the Nashville Area MPO.

Existing land uses adjacent to Lewisburg Pike are primarily residential with churches and schools within the study area. Nissan North America's recent decision to move its corporate headquarters to the Cool Springs area is expected to generate an additional 1,300 jobs. Several large mixed-use developments are also proposed in this area, including the Berry Farms development, which would be located in the area surrounding the State Route 248 and I-65 interchange. Phase I of this proposed development would contain over 600 households and over one million square feet of retail and office space.

TDOT historians indicate that there are two National Register listed resources within the project study corridor. The two locations include the Dr. Hezekiah Ogden House and the Mordecai Puryear House. However, the field survey conducted during the NEPA process may identify heretofore unrecorded or undocumented resources.

CORRIDOR OPTIONS

A 500 foot corridor was investigated for this study due to the fact that any necessary improvements are expected to occur along the existing route. Because of the need for increased vehicular capacity and improved safety conditions, two different build options were considered. Each of these options have advantages and disadvantages that were discussed during the study process. With either build option, the additional travel lanes (4 total) provide a LOS A based upon base and design year traffic volumes.

Option A contains four travel lanes and a two way left turn lane. There are many driveway and side-road connections along SR-106 and a two way left turn maintains access for these connections. There is also less right of way necessary compared to the other option. Disadvantages include higher crash rates due to the number of available conflict points and the increased opportunity for unsafe passing maneuvers using the center turn lane. Estimated Cost - \$23,991,000

Option B contains four travel lanes and raised median. The advantages are the additional room for landscaping, reduces headlight glare from opposing traffic, allows for a refuge area for pedestrians, and controls access points and left turn conflict points. The disadvantages are the increased amount of right of way needed and limited access for driveways and sideroads.

Estimated Cost - \$31,456,000

RECOMMENDATIONS

The study corridor has been divided into three sections for construction and funding reasons.

Section 1 begins at the State Route 248 (Goose Creek By-Pass) and ends at the intersection of State Route 106 and Old Peytonsville Road. As stated previously in this study, the developer of the proposed Berry Farms development has committed to funding the construction of this section of State Route 106 and the Nashville MPO TIP for Fiscal Years 2008 – 2011 has been amended to include this segment of the project.

Section 2 begins at Old Peytonsville Road and extends 1.16 miles north to Bowman Road. Presently this segment of State Route 106 is not within the city limits of Franklin, but under the jurisdiction of Williamson County.

Section 3 begins at Bowman Road (southern boundary of Franklin City Limits) and ends 1.09 miles north at the intersection of State Route 397 (Mack Hatcher Parkway). The City of Franklin has plans to proceed with the survey and design for this segment of Lewisburg Pike and the environmental document for the entire study corridor.

It is recommended that the following options be carried forward in the NEPA process as the needed improvements in this corridor:

Option A: Four lane facility with a two-way left-turn lane,

Option B: Four lane facility with a variable width raised median, and

Option C: No-build option.

TRANSPORTATION PLANNING REPORT

STATE ROUTE 106 (U.S. 431) LEWISBURG PIKE

FROM STATE ROUTE 248 (GOOSE CREEK BYPASS)
TO STATE ROUTE 397 (MACK HATCHER PARKWAY)
IN FRANKLIN, WILLIAMSON COUNTY



PREPARED BY CLINARD ENGINEERING ASSOCIATES, LLC

FOR THE CITY OF FRANKLIN

IN COOPERATION WITH THE TENNESSEE DEPARTMENT OF TRANSPORTATION PROJECT PLANNING DIVISION

Approved by:	Signature	DATE
CHIEF OF ENVIRONMENT AND PLANNING	Ellole	1/15/09
TRANSPORTATION DIRECTOR PROJECT PLANNING DIVISION	Stur Ola	1-15-09
TRANSPORTATION MANAGER 2 PROJECT PLANNING DIVISION	Bill Hart	1/14/09

TABLE OF CONTENTS

1.0	SUBJECT OF STUDY	4
2.0	BACKGROUND	4
3.0	TRANSPORTATION PLANS	7
4.0	PURPOSE AND NEED	11
5.0	CORRIDOR OPTIONS	17
6.0	PRELIMINARY ENVIRONMENTAL INVESTIGATION	21
7.0	PROJECTED COSTS	25
8.0	SEVEN GUIDING PRINCIPLES	26
	FIGURES	
1	GENERAL LOCATION MAP	1
2	PROJECT MAP	2
3	AERIAL MAP	3
4	NASHVILLE AREA MPO LRTP PROJECT MAP	10
5	SCHEMATICS OF OPTIONS	19
	TABLES	
1	RELEVANT PROJECTS LISTED IN THE NASHVILLE AREA 2030 LRTP	9
2	EXISTING LEVEL OF SERVICE	13
3	LEVEL OF SERVICE CRITERIA FOR INTERSECTIONS	13
4	EXISTING INTERSECTION LEVEL OF SERVICE (2013)	14
5	EXISTING INTERSECTION LEVEL OF SERVICE (2033)	15
6	CRASHES FOR THE YEARS 2004 THROUGH 2006	15
7	PROPOSED LEVEL OF SERVICE	17
8	PROPOSED INTERSECTION LEVEL OF SERVICE (2013)	20
9	PROPOSED INTERSECTION LEVEL OF SERVICE (2033)	21
10	PROJECTED COST	25

APPENDICES

COST DATA SHEETS

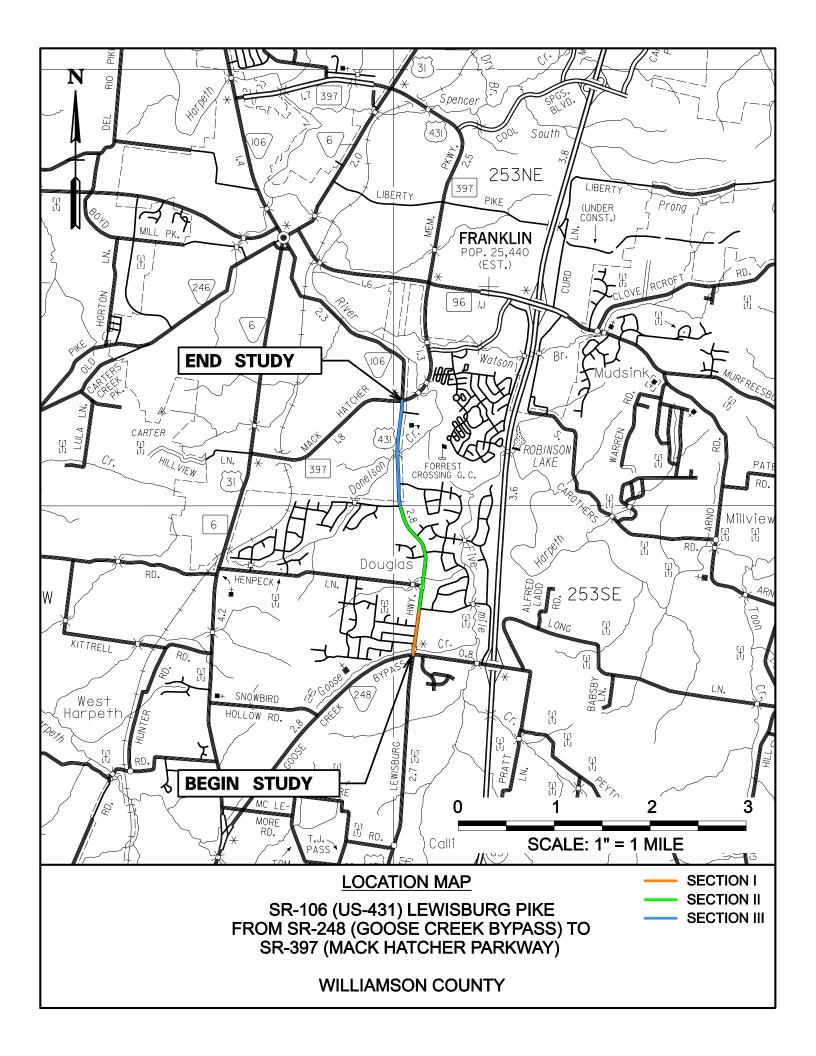
CORRIDOR LAYOUT SHEETS

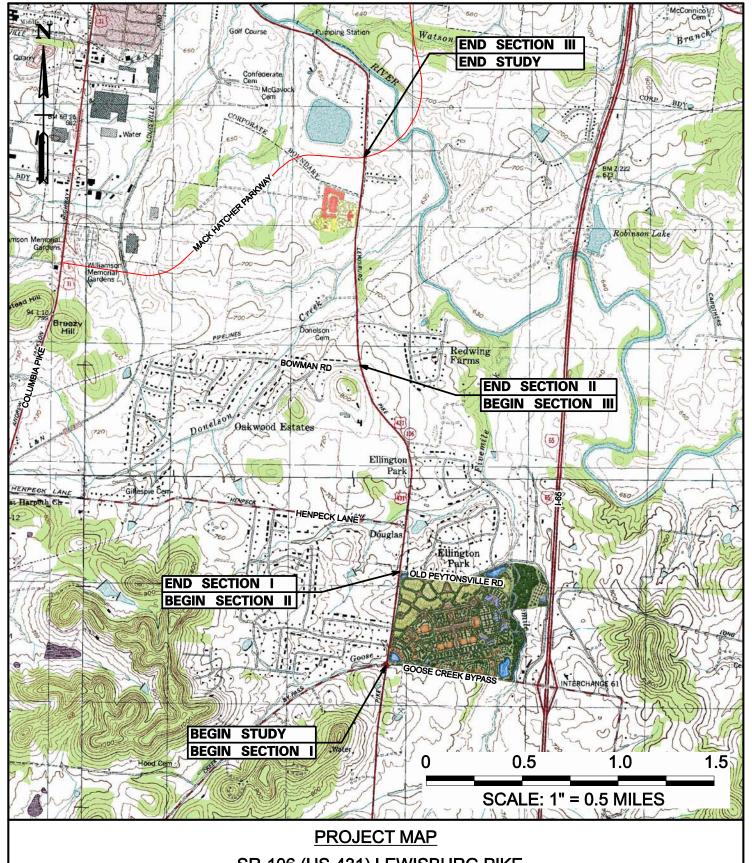
EXISTING TRAFFIC ANALYSIS (2013-2033)

PROPOSED TRAFFIC ANALYSIS (2013-2033)

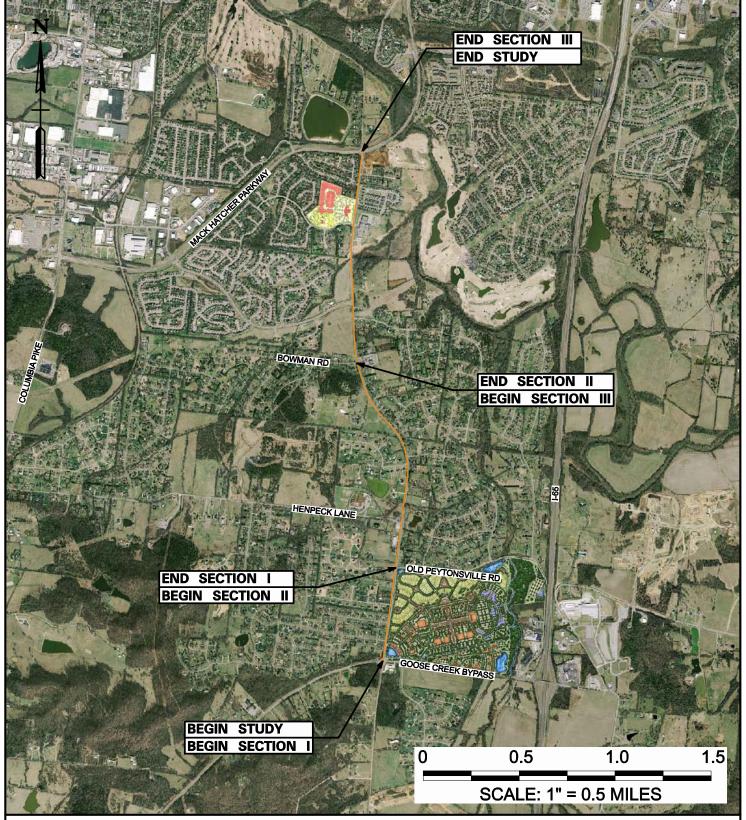
TRIMS DATA

HISTORIC PROPERTY INFORMATION





SR-106 (US-431) LEWISBURG PIKE FROM SR-248 (GOOSE CREEK BYPASS) TO SR-397 (MACK HATCHER PARKWAY) USGS "FRANKLIN" AND "BETHESDA" QUADS WILLIAMSON COUNTY



AERIAL MAP

SR-106 (US-431) LEWISBURG PIKE FROM SR-248 (GOOSE CREEK BYPASS) TO SR-397 (MACK HATCHER PARKWAY)

WILLIAMSON COUNTY

1.0 SUBJECT OF STUDY

The subject of this Transportation Planning Report is State Route 106 / US-431 (Lewisburg Pike) located southeast of the City of Franklin, Williamson County. The City of Franklin in cooperation with the Tennessee Department of Transportation and the Nashville Area Metropolitan Planning Organization are studying the 2.73 mile section of Lewisburg Pike that extends from State Route 248 (Goose Creek Bypass) to State Route 397 (Mack Hatcher Parkway), to assess the existing roadway and provide recommendations for any improvements needed to accommodate future traffic anticipated along this facility. The report will evaluate the current capacity to assess congestion and crash data to ascertain roadway deficiencies. The report will then propose strategies to relieve projected congestion levels, improve travel times, and improve safety. In addition, a preliminary environmental review will be conducted to identify any known hazards or protected resources which may be present in the study corridor.

2.0 BACKGROUND

The City of Franklin is located approximately twenty-three (23) miles south of Nashville, Tennessee in Williamson County. As well as being the county seat, numerous commercial and service industries have located within the city and the outlying areas of Franklin. The census population numbers for the City of Franklin are listed in the table below. When compared to the average growth rate for the State of Tennessee, it is evident that the City of Franklin has experienced tremendous growth since the year 1990.

	С	ity of Frank	lin	State of Tennessee			
Year	Pop.	Percent Change	Avg. Growth Rate	Pop.	Percent Change	Avg. Growth Rate	
1990	20,098	-	-	4,880,000	-	-	
2000	41,842	108%	7.61%	5,690,000	16.6%	1.55%	
2005	53,311	27.4%	4.96%	5,960,000	4.7%	0.94%	

Data Source: U.S. Census Bureau / City of Franklin

The Nashville Area Metropolitan Planning Organization (MPO) Travel Demand Model has identified the segment of State Route 106 from Henpeck Lane to State Route 397 as congested in the year 2030 because is exceeds the congestion threshold identified in the MPO's *Congestion Management Process* (CMP) report (amended September 19, 2007) for the year 2030. The MPO included the proposed roadway improvements as a Near Horizon (2016) project in the 2030 Long Range Transportation Plan (LRTP), but it was considered a placeholder until a Tier 2 Analysis could be completed and approved by the MPO. On March 5, 2008, the Technical Coordinating Committee of the MPO approved the completed Tier 2 Analysis for this portion of State Route 106.

Currently, this study section of State Route 106 is comprised of two eleven (11) foot travel lanes with four (4) foot shoulders within an existing right-of-way which varies from 40 to 120 feet. The functional classification of this segment of State Route 106 is an urban arterial with the posted speed limits varying from 40 to 45 miles per hour. The primary use of this portion of State Route 106 serves as commuter route to downtown Franklin as well as serving as a connection to I-65 from/to State Route 248 (Goose Creek Bypass) or State Route 96 via Mack Hatcher Parkway. State Route 106 additionally serves as an alternate route to Interstate 65 and is anticipated to be heavily utilized during the construction phase of the I-65 widening project which will provide

additional travel lanes from State Route 840 to State Route 96. As part of this widening, the State Route 248 interchange will also be extensively modified for the additional lanes along I-65 as well as widening along State Route 248.

Existing land uses adjacent to Lewisburg Pike are primarily residential with churches and schools within the study area. The City of Franklin and this portion of Williamson County have seen explosive growth in recent years, with continued growth expected into the foreseeable future. Nissan North America's recent decision to move its corporate headquarters to the Cool Springs area is expected to generate an additional 1,300 jobs. Several large mixed-use developments are also proposed in this area, including the Berry Farms development, which would be located in the area surrounding the State Route 248 and I-65 interchange. Phase I of this proposed development may contain over 600 households and over one million square feet of retail and office space.

State Route 248 (Goose Creek) Area

The southern limit of the study is State Route 248. Presently, the intersection of SR-106 and SR-248 operates under traffic signalization. With the Berry Farms development located in the northeast quadrant of this intersection, substantial improvements will be incorporated as part of the development at this intersection, as well as along SR-106 northward to Old Peytonsville Road. These improvements will be funded by the developers of Berry Farms and include additional turn lanes on all approaches of the intersection as well as widening SR-106 from two (2) to four (4) travel lanes from SR-248 to near Old Peytonsville Road.



Intersection of SR-106 & SR-248



Future Location of Berry Farms

Henpeck Lane Area

The area surrounding Henpeck Lane along SR-106 includes some small commercial development including the Henpeck Market. Additionally, Oak View Elementary School is located along Henpeck Lane, west of SR-106.





The Shoppes at Henpeck

Henpeck Market (Gas Station)

Bowman Road Area (Southern City Limits Boundary)

Development within the area of Bowman Road along SR-106 is primarily residential with the southern city limits of Franklin located along Bowman Road. Oak Valley Baptist Church is also located in this area along the eastside of SR-106.



Bowman Road & State Route 106



Oak Valley Baptist Church

SR-397 (Mack Hatcher Parkway) Area

The intersection of SR-106 and SR-397 serves as the northern terminus of the study area and is presently operated under traffic signal operation. Development is primarily residential with the Harpeth Community Church under construction at the time of this study in the southeast quadrant of the intersection. In March of 2008, the City of Franklin approved a future development along the west side of SR-106 within the Dallas Downs subdivision for the construction of a 55,000 square foot church including an additional 24 single family homes. This development will be located

across from Moore Elementary School in the northwest quadrant of SR-106 and Dallas Downs Boulevard.





Moore Elementary School

SR-106 & SR-397 Intersection

3.0 TRANSPORTATION PLANS

As the City of Franklin continues to grow, it is important to provide an adequate transportation network for the increase in traffic. The Nashville Area Metropolitan Planning Organization's (MPO) 2030 Long Range Transportation Plan (LRTP) includes widening State Route 106 (Lewisburg Pike) from Henpeck Lane to State Route 397 (Mack Hatcher Parkway) from two (2) lanes to four (4) lanes in the year 2016 (Project #6032).

The LRTP also lists other projects in the Franklin area that could potentially have an impact on the flow of traffic along State Route 106 (Lewisburg Pike). State Route 397 (Mack Hatcher Parkway) is presently in various stages of widening and when completed will have a significant impact on the existing system. The widening of Interstate 65 (Project #6018) listed in the 2016 Horizon Year will add two (2) additional travel lanes in both the northbound and southbound directions between State Route 840 and State Route 96. Within this section of proposed widening is another project that could have an effect on traffic along State Route 106 (Lewisburg Pike). The LRTP recommends improving the interchange at State Route 248 (Goose Creek Bypass) (Project #6019 – 2016 Horizon Year).

The projects listed previously will provide improved alternative routes for those who wish to travel to Franklin, Nashville or other destinations north. Based upon the MPO Travel Demand Model, the improvements are expected to reduce the growth of traffic along State Route 106 within the study limits.

It is important to note, that in July of 2007, the widening of Lewisburg Pike from South of Goose Creek Bypass to North of Old Peytonsville Road was added to the Nashville MPO Transportation Improvement Program for Fiscal Years 2008 – 2011. The project cost as shown for TIP # 2006-14 is estimated at \$4,255,000 and includes widening the existing roadway to four (4) travel lanes with a raised median. This improvement project cost would be paid for by the developer as part of the Berry Farms project located along State Route 106 near the State Route 248 intersection.

The map on page 10 and the table on page 9 were taken from the Nashville Area Metropolitan Planning Organization Long Range Transportation Plan Project Map and describe the recommended and committed projects in this area through the year 2030.

In addition to the MPO's LTRP, the following documents were utilized to provide insight into the corridor for preparation of this Transportation Planning Report. These documents include:

- 1) Franklin Major Thoroughfare Plan Update (August 2004)
- 2) Franklin Bicycle and Pedestrian Plan (Update 2003)
- 3) Franklin Local Street Plan (February 2007)
- 4) Franklin Design Standards (October 2005)
- 5) Tier 2 Analysis State Route 106 (MPO Approved March 2008)
- 6) Tier 2 Analysis State Route 248 (MPO Approved March 2008)
- 7) Berry Farms Development Plans
- 8) Dallas Downs- Kendall Hall Development Plans
- 9) SR-397 (Mack Hatcher) Transportation Planning Report / CSS Study
- 10) Interchange Modification Study at I-65 & SR-248

Table 1 Relevant Williamson County Projects listed in the Nashville Area 2030 Long Range Transportation Plan

Project #	Project Location	Termini	Length (mi.)	Year	Cost	Improvement	Project Description
68	SR-840	SR-6 to SR-106		2006		New Roadway	Construct new 4 lane roadway
6018	I-65	SR-840 to SR-96	6.0	2016	\$27,230,000	Widening	Widen from 4 to 8 lanes
6019	I-65	SR-248 (Goose Creek)	-	2016	\$16,000,000	Reconstruction	Reconstruct Interchange
6021	SR-106 (Lewisburg Pk)	Critz Lane to SR-248 (Goose Creek Bypass)	4.9	2025	\$15,000,000	Widening	Widen from 2 to 4 lanes
6022	SR-6 (US-31)	Buckner Lane to Henpeck Lane	9.6	2016	\$29,000,000	Widening	Widen from 2 to 4/5 lanes
6032	Lewisburg Pk (SR- 106/US-431)	Henpeck Lane to Mack Hatcher	1.3	2016	\$15,000,000	Widening	Widen from 2 to 4 lanes with bike lanes
6034	Goose Creek Bypass (SR-248)	SR-106 Lewisburg Pk to I-65	0.8	2016	\$2,450,000	Widening	Widen to 4 lane median divided highway
6037	Goose Creek Bypass (SR-248)	New South Carothers Road to Peytonsville/Trinity Road	5.0	2025	\$2,287,740	New Roadway	Construct new 3 lane roadway
6038	Goose Creek Bypass (SR-248)	SR-6 / US-31 to SR-106	2.8	2025	\$11,000,000	Widening	Widen from 2 to 3 lanes
6048	Mack Hatcher East (SR-397) SE Quadrant	SR-6 (US-31) South of Franklin to SR-96 east of Franklin	3.0	2016	\$18,300,000	Widening	Widen from 2 to 4 lanes as median divided highway
9016	South Carothers Road	Franklin Commons to proposed Goose Creek Bypass	4.3	2016	\$4,830,000	Widening / New Roadway	Widen to 4 lane median divided with bike lanes and extend South Carothers to New Goose Creek Bypass
9017	SR-248 (Goose Creek Bypass)	I-65 to new South Carothers Road	0.8	2016	\$442,260	New Roadway	Construct new 3 lane roadway

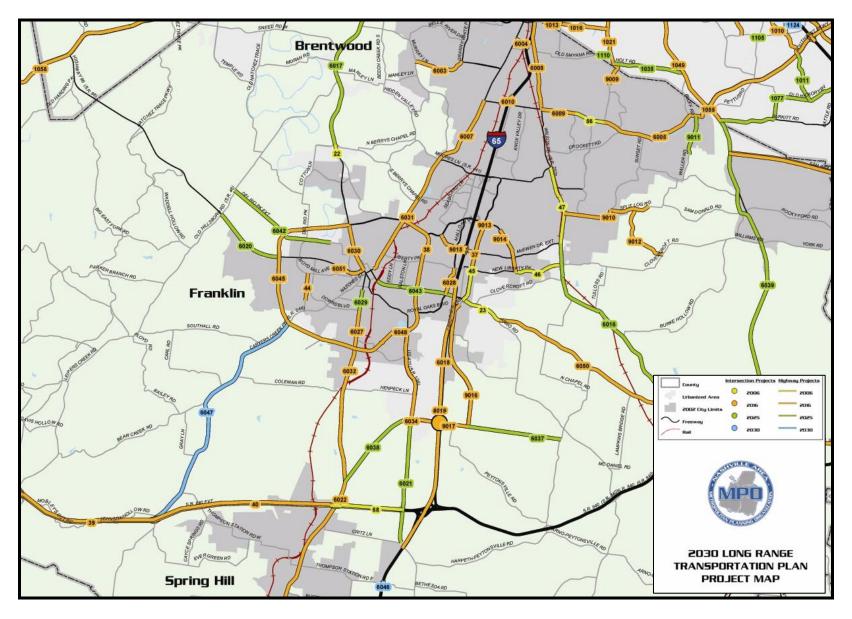


Figure 4 Vicinity Map of Nashville Area Metropolitan Planning Organization Long Range Transportation Plan Project Map

4.0 PURPOSE AND NEED

State Route 106 (US 431) / Lewisburg Pike is a major arterial route linking the City of Franklin, Tennessee to growing communities to the south such as Thompson Station and Spring Hill. Over the years as both residential and commercial development has occurred in this region, additional demands have been placed on the heavily traveled segment of State Route 106 from State Route 248 (Goose Creek Bypass) to State Route 397 (Mack Hatcher Parkway).

Recognizing the existing traffic congestion and future demands along this route, the Nashville Area Metropolitan Planning Organization (MPO) has included it in the 2030 Long Range Transportation Plan to be widened in the horizon year 2016. In addition to this roadway, numerous other projects discussed in this report are planned within this area of Williamson County in the year 2016.

At the request of the City of Franklin, this Transportation Planning Report (TPR) has been initiated as a first step in the project development process. It is important to note, that the City of Franklin has also included this project as part of their Major Thoroughfare Plan Update (MTPU) to be widened to four (4) travel lanes.

Prior to development of this report, a Tier 2 Analysis was completed and approved for the segment of State Route 106 from Henpeck Lane to State Route 397 (Mack Hatcher Parkway) as required by the Nashville Area MPO.

As outlined in the approved Tier 2 Analysis for State Route 106, a number of factors are tied to the congestion along this route, primarily:

- 1) Area growth and rapid population increases that out-pace statewide averages;
- 2) Traffic volume increases that are on-pace with the population growth occurring in the area; and
- 3) Vehicular demand that exceeds the existing roadway capacity.

While various strategies were identified that can be applied to improve congestion along State Route 106, such as: improved/ expanded transit service, traffic signal timing and operational improvements, provisions for bicycles and pedestrians, these strategies alone will not provide for a sufficient reduction of congestion along the route. Therefore, the proposed improvement is a multi-lane roadway section with provisions for bicycles and pedestrians combined with the additional strategies, will increase corridor capacity and reduce congestion, travel time and delay.

The primary needs along State Route 106 are to increase vehicular capacity and to improve safety. These needs were determined after studying traffic volumes, calculating levels of service, and reviewing available crash data, all of which is detailed in the following pages.

Traffic Volumes

Project traffic data has been developed in cooperation with the Tennessee Department of Transportation Project Planning Division for the years 2013 and 2033 using traffic counts and growth factors derived from the MPO's Travel Demand Model. These Annual Average Daily Traffic (AADT) volumes range from 9,600 to 12,060 in 2013 and from 13,670 to 16,130 in 2033. Additionally, projected traffic along State Route 106 has also been coordinated with

the future improvements along SR-248 and the I-65 widening / interchange project as well as the future widening of SR-397 (Mack Hatcher Parkway).

Level of Service

The base year (2013) and design year (2033) "Level of Service" (LOS) for the study segment was analyzed for this report. The proficiency of roads is described by their LOS which is a measure of the ability of roads to accommodate motor vehicle traffic and the subsequent physical and psychological comfort levels of drivers. The LOS analysis incorporates several factors including traffic volumes, number and width of lanes, terrain, percent no passing zones, directional split, heavy vehicles, and shoulder widths. The LOS is a qualitative measure that describes traffic conditions related to speed and travel time, freedom to maneuver, traffic interruptions, etc. There are six levels ranging from "A" to "F" with "F" being the worst. Each level represents a range of operating conditions. General descriptions of operating conditions for each of the levels of service are as follows:

LOS Traffic Flow Conditions

- A Free flow operations. Vehicles are almost completely unimpeded in their ability to maneuver within the traffic stream. The general level of physical and psychological comfort provided to the driver is high.
- B Reasonably free flow operations. The ability to maneuver within the traffic stream is only slightly restricted and the general level of physical and psychological comfort provided to the driver is still high.
- C Flow with speeds at or near free flow speeds. Freedom to maneuver within the traffic stream is noticeably restricted and lane changes require more vigilance on the part of the driver. The driver notices an increase in tension because of the additional vigilance required for safe operation.
- D Speeds decline with increasing traffic. Freedom to maneuver within the traffic stream is more noticeably limited. The driver experiences reduced physical and psychological comfort levels.
- E At lower boundary, the facility is at capacity. Operations are volatile because there are virtually no gaps in the traffic stream. There is little room to maneuver. The driver experiences poor levels of physical and psychological comfort.
- F Breakdowns in traffic flow. The number of vehicles entering the highway section exceeds the capacity or ability of the highway to accommodate that number of vehicles. There is little or no room to maneuver. The driver experiences poor levels of physical and psychological comfort.

Segment	Description	2013 AADT	2013 2-Lane LOS	2033 AADT	2033 2-Lane LOS
1	SR-248 (Goose Creek Bypass) to Old Peytonsville Road	10,630	Е	15,130	E
2	Old Peytonsville Road to Ellington Drive	9,740	E	13,870	E
3	Ellington Drive to Bowman Road	9,790	E	13,940	E
4	Bowman Road to Dallas Blvd.	9,600	E	13,670	E
5	Dallas Blvd. to SR-397 (Mack Hatcher Parkway)	12,060	E	16,130	E

Table 2 Existing Level of Service

Table 2 shows that the existing two (2) lane arterial is deficient in capacity to carry the base year and design year traffic at an acceptable level of service.

In addition to a level of service for a roadway segment, the Highway Capacity Manual provides a measure of intersection efficiency based on the average delay of traffic moving through the intersection. Table 3 lists the delays defined for each level of service at the intersections along the study corridor.

Level of Service	Signalized Intersection Expected Delay (seconds/vehicle)	Unsignalized Intersection Expected Delay (seconds/vehicle)
Α	<= 10	<= 10
В	>10-20	>10-15
С	>20-35	>15-25
D	>35-55	>25-35
E	>55-80	>35-50
F	>80	>50

Table 3 Level of Service Criteria for Intersections

Based upon the projected traffic for the route and turning movement count data collected, intersection traffic data was analyzed to determine the existing operation for both the base and design year. Table 4 shows that the intersections of SR-106 and Dallas Boulevard and SR-397 will operate at an unacceptable LOS in the year 2013.

Intersection Location	Existing Signal	AM LOS	AM Delay (sec/veh)	PM LOS	PM Delay (sec/veh)
SR-248 (Goose Creek Bypass)	Yes	D	44.6	D	43.2
Moss Lane	No	С	22.5	С	18.5
Poplar Street	No	С	20.0	С	18.2
Soloman Drive	No	С	21.7	С	18.4
Old Peytonsville Road	No	С	16.6	В	13.8
Henpeck Lane	No	С	21.3	С	18.3
Douglas Glenn Lane	No	С	16.0	С	16.6
Ellington Drive	No	С	16.4	С	15.7
St. George's Way	No	С	16.0	В	11.8
Bowman Road	No	С	24.2	С	21.1
Holly Hill Drive	No	С	16.3	В	11.6
Donelson Creek Parkway	No	С	20.6	С	19.7
Dallas Boulevard	No	F	120.3	Е	41.8
Moores Landing Subdivision	No	С	20.1	D	25.1
Essex Drive	No	D	29.0	С	20.2
Gardner Drive	No	С	18.6	С	22.3
SR-397 (Mack Hatcher Parkway)	Yes	С	29.2	F	107.7

Table 4 2013 Intersection Existing Level of Service

Table 5 below summarizes the existing operation at the intersections along SR-106 for the design year 2033. Based upon the analysis, only four (4) locations will operate at an acceptable level of service.

Intersection Location	Existing Signal	AM LOS	AM Delay (sec/veh)	PM LOS	PM Delay (sec/veh)
SR-248 (Goose Creek Bypass)	Yes	F	109.8	F	105.3
Moss Lane	No	F	65.6	Е	35.3
Poplar Street	No	D	35.0	D	27.5
Soloman Drive	No	Е	48.7	D	32.0
Old Peytonsville Road	No	D	28.0	С	20.5
Henpeck Lane	No	F	120.0	Е	46.4
Douglas Glenn Lane	No	D	25.7	D	26.8
Ellington Drive	No	D	27.1	D	28.9
St. George's Way	No	D	26.1	С	15.1
Bowman Road	No	F	103.1	Е	47.3
Holly Hill Drive	No	D	27.7	С	15.0
Donelson Creek Parkway	No	F	88.7	F	62.8
Dallas Boulevard	No	F	115.0	F	277.2
Moores Landing Subdivision	No	D	34.6	F	53.3
Essex Drive	No	F	108.5	E	37.9
Gardner Drive	No	D	29.0	Е	38.0
SR-397 (Mack Hatcher Parkway)	Yes	F	274.0	F	241.1

Table 5 2033 Intersection Existing Level of Service

Crash Rates

In addition to level of service, information from the Department of Safety / TDOT was obtained to assess crash history along the route. Crash data is used to identify the types of crashes occurring, the location of crashes and identification of factors that might contribute to the frequency of crashes. For comparison purposes, crash rates are averaged for similar segments of roadway across the State and are calculated per million vehicle miles.

Segment of Roadway	Length (Miles)	No of Crashes	Crash Rate	Statewide Avg. Crash Rate	Critical Crash Rate	Predominant Types of Crashes
From just south of Goose Creek Bypass to Gardner Drive	2.75	43	1.351	2.341	2.987	Rear-end & Angle
From Gardner Drive to just north of Mack Hatcher	0.14	5	3.417	2.652	6.127	Rear-end
Mack Hatcher Intersection		32	0.941	0.890	1.281	Rear-end & Angle

Table 6 Crashes for the Years 2004 through 2006

While the ratio of crash rates may not appear to be significant, there were numerous injury and property damage crashes. The majority of these occurred at intersection locations along the route with no adverse weather conditions. Rear-end crashes occur most frequently when a vehicle slows down to make a turn or stop and the following driver is unable to bring their vehicle to a stop. Angle crashes are commonly caused by a driver trying to merge into or cross a traffic stream. Both of these types of crashes are related to the number and frequency of roadway and driveway intersections along a roadway and gaps in the traffic stream. As traffic volumes increase so will congestion and it can be expected that the crash rates will increase.

Bicycle and Pedestrian

Bicycle lanes are not presently provided along State Route 106; however in many instances bicyclists will utilize the roadway shoulder for travel. Based upon the crash data there were no reported incidents where bicyclist and motorized vehicles collided.

While short segments of sidewalk exists along portions of the east and west side of State Route 106, no pedestrian crashes were reported. It is important to note that these existing facilities are located a safe distance from the roadway and includes a lawn and/or landscape buffer between the vehicles and pedestrians.



5.0 CORRIDOR OPTIONS

In order to improve the traffic operation of the study corridor and reduce congestion and delay, the route was analyzed as a four (4) lane facility, as defined in the 2030 MPO Long Range Transportation Plan. With the addition of either a two-way left turn lane in the center or a raised median, the level of service improves to a LOS A for both the base year and design year. Additionally, either the two-way left turn lane or the raised median should reduce the crash rates, particularly the rear-end crashes, which have been documented to occur along the route where turn lanes are presently not provided at particular side road locations.

Segment	Description	2013 4 Travel Lanes	2033 4 Travel Lanes
1	SR-248 (Goose Creek Bypass) to Old Peytonsville Road	Α	А
2	Old Peytonsville Rd to Ellington Dr	Α	Α
3	Ellington Drive to Bowman Road	Α	Α
4	Bowman Road to Dallas Blvd.	А	А
5	Dallas Blvd. to SR-397 (Mack Hatcher Parkway)	А	А

Table 7 Proposed Level of Service

Both the two-way left-turn lane and a raised median have positive and negative aspects. A raised median has a slightly better safety record but restricts property access. A two-way left-turn lane provides better access to abutting properties but closely spaced offset intersections and driveways create conflicts for the same space. The following outlines both the advantages and disadvantages of these two types of typical sections.

Four Lane Median Divided Roadway

Advantages

Requires less pavement than a five-lane roadway resulting in less runoff on the facility Allows additional room for landscaping

Reduces headlight glare from opposing traffic

Allows for a refuge area for pedestrians

Controls Access points and left turn conflict points

Disadvantages

Typically requires additional right-of-way; thus increased costs

Doesn't provide full access for driveways and business

May increase the number of u-turns

Four Lane Roadway With Center Turn Lane

Advantages

Provides additional storage for turning vehicles

Maintains full access for driveways and businesses

Typically can be constructed within less right-of-way than median facilities

Disadvantages

Based upon studies, typically a higher crash rate than four lane median roadways Increases the opportunity for illegal passing using the center turn lane

For the purpose of this study, two options for improvement have been identified and evaluated. As shown on page 17, Option A is a four (4) lane roadway with a center left turn lane within a proposed right-of-way width of 97 feet. Included in this typical section, is the incorporation of a twelve (12) foot multi-use path for use by both pedestrians and bicyclists.

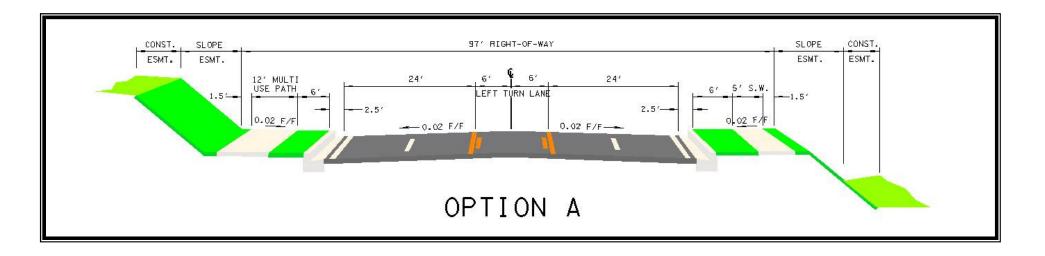
Option B is a four (4) travel lane facility with a center raised median varying in width from twelve (12) feet to forty (40) feet. As with Option A, this typical section includes a twelve (12) foot multi-use path. Proposed right-of-way requirement for this typical section is a maximum width of one-hundred and thirty (130) feet.

As with either option, curb and gutter is proposed, therefore additional slope and construction easements would be required and these impacts would also need to be evaluated during the development of the environmental document as part of the National Environmental Policy Act (NEPA) process.

It is recommended that the following options be considered during the NEPA process as a starting point for considering the needed improvements in this corridor:

- A A four lane facility with a two-way left-turn lane,
- B A four lane facility with a variable width raised median, and
- C A no-build option.

Consideration may be given to blend the two (2) build options, as the type of access needed by retail establishments is different from that needed for residential areas. For instance, a raised median may be necessary in certain locations to provide a refuge area for pedestrians where a pedestrian signal is not warranted. The resultant option would have impacts that will be considered within the scope of consideration for the two (2) build options. The width of the raised median is shown as variable. The width should be considered during the NEPA process as further details and analysis is available to better identify constraints and impacts.



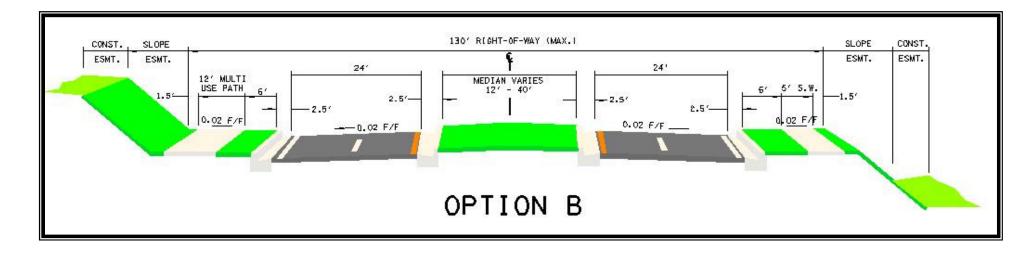


Figure 5 Schematics of Options

In addition to determining the mainline operation of State Route 106 with four (4) travel lanes, analysis was also performed for both the base year and design year for the intersections along the study corridor.

Intersection Location	Proposed Signal	AM LOS	AM Delay (sec/veh)	PM LOS	PM Delay (sec/veh)
SR-248 (Goose Creek Bypass)	Modify	С	20.8	В	19.3
Moss Lane	No	С	15.9	В	14.8
Poplar Street	No	В	14.8	В	14.9
Soloman Drive	No	С	15.5	В	14.8
Old Peytonsville Road	No	В	13.1	В	11.4
Henpeck Lane	No	С	15.7	С	15.3
Douglas Glenn Lane	No	В	12.9	В	14.6
Ellington Drive	No	В	14.3	В	12.6
St. George's Way	No	В	13.1	В	10.2
Bowman Road	No	С	16.1	С	18.7
Holly Hill Drive	No	В	12.5	В	10.2
Donelson Creek Parkway	No	С	15.9	В	15.0
Dallas Boulevard	No	Е	35.4	Е	36.5
Moores Landing Subdivision	No	C	15.6	С	16.6
Essex Drive	No	С	17.3	С	15.4
Gardner Drive	No	В	14.8	С	15.6
SR-397 (Mack Hatcher Parkway)	Modify	В	15.4	С	26.1

Table 8 2013 Intersection Proposed Level of Service

As shown in Table 8, with four (4) mainline travel lanes, all the intersections are projected to operate at an acceptable LOS in the base year, with the exception of the Dallas Boulevard and State Route 106 intersection. In order for this location to operate at an acceptable LOS, it is likely that a future traffic signal will be needed.

Intersection Location	Proposed Signal	AM LOS	AM Delay (sec/veh)	PM LOS	PM Delay (sec/veh)
SR-248 (Goose Creek Bypass)	Modify	С	23.5	С	22.1
Moss Lane	No	D	27.0	С	23.2
Poplar Street	No	С	20.7	С	19.5
Soloman Drive	No	С	24.1	С	21.9
Old Peytonsville Road	No	С	19.2	В	14.2
Henpeck Lane	No	Ε	43.1	D	31.8
Douglas Glenn Lane	No	С	17.0	С	21.4
Ellington Drive	No	С	21.0	С	17.6
St. George's Way	No	С	18.4	В	11.6
Bowman Road	No	D	29.6	Е	36.5
Holly Hill Drive	No	С	16.7	В	11.7
Donelson Creek Parkway	No	Ε	37.1	D	29.2
Dallas Boulevard	No	F	322.5	F	205.8
Moores Landing Subdivision	No	С	23.0	С	24.4

Essex Drive	No	D	29.3	С	23.7
Gardner Drive	No	С	20.7	С	21.1
SR-397 (Mack Hatcher Parkway)	Modify	С	23.4	С	32.2

Table 9 2033 Intersection Proposed Level of Service

Table 9 shows that in the design year Henpeck Lane, Bowman Road, Donelson Creek Parkway and Dallas Boulevard will operate at an unacceptable LOS. It is recommended that these locations be monitored and that traffic signal warrants be performed periodically to determine the operational need for a future traffic signal. The analysis shows that the majority of delay will occur on the side roads and not the mainline of SR-106.

6.0 PRELIMINARY ENVIRONMENTAL INVESTIGATION

A preliminary investigation into this project's possible environment impacts within the "Area of Potential Effects" (APE) is reflected on the attached "Preliminary Environmental Evaluation" checklist located on page 21. The APE is the geographic area in which an undertaking may directly or indirectly impact the environment. A more comprehensive analysis of the impacts will be completed at a later date to comply with the National Environmental Policy Act (NEPA). For study purposes, a corridor width of five hundred (500) feet along the existing alignment of State Route 106 has been established, as the future widening will occur along the roadway as opposed to a new route location.

TDOT historians have thus far consulted resources to research records maintained by the National Register of Historic Places. These sources indicate there are two National Register listed resources within the project study corridor. The two (2) locations include the Dr. Hezekiah Ogden House and the Mordecai Puryear House. However, the field survey conducted during the NEPA process may identify heretofore unrecorded or undocumented resources.



Dr. Hezekiah Ogden House

Mordecai Puryear House

Both of these locations have been identified and are shown in the Study Corridor Layout Sheets contained in the study Appendix.

Hazardous Material spills on highways are a potential source of water quality degradation and a possible public health hazard. The Tennessee Emergency Management Agency (TEMA) has the responsibility and authority for coordination of all state and local agencies during accidents involving hazardous materials. TEMA has demonstrated its ability to effectively manage such incidents. The project will be evaluated when preliminary right-of-way plans are completed to

determine the impacts on any possible underground storage tank (UST) sites. TDOT has demonstrated its ability to deal with UST sites to minimize impacts on the environment. In the event hazardous substances/wastes are encountered within the proposed right-of-way, their disposition shall be subject to the applicable sections of the Federal Resource conservation and Recovery Act, as amended; and the Comprehensive Environmental Response, Compensation, and Liability Act, as amended; and the Tennessee Hazardous Waste Management Act of 1983.

EnviroMapper is a Web-based interactive mapping tool for viewing and querying environmental information. EnviroMapper generates maps of your geographic area that contain environmental information stored in EPA's Envirofacts Warehouse. The type of environmental information includes: Superfund sites, drinking water, toxic and air releases, hazardous waste, and water discharge permits. EnvironMapper revealed no sites within the study area that have or are using hazardous materials for industrial, commercial or medical uses.

Alterations to streams or other aquatic sites designated as waters of the State or waters of the United States require either individual or general Aquatic Resource Alteration Permits (ARAP) from the State of Tennessee, individual or Nationwide 404 U.S. Army Corps of Engineers permits, and, where applicable, a TVA 26a permit or letter of no objection. Construction projects disturbing one (1) or more acres of land require storm water control permits issued by the State of Tennessee pursuant to the National Pollutant Discharge Elimination System. For any project that affects water flowing into a sinkhole or cave, or for any impact that may affect the ground water via a sinkhole, a Class B Injection Well permit may be required. This process involves obtaining a permit before the project is let if sinkholes are known to exist. If other sinkholes are encountered after construction has begun, the appropriate TDOT offices will be notified and the appropriate steps taken to comply with laws, regulations, and permits. These or any other permit requirements identified in the project development process will be complied with. Within the study area of this document, three (3) streams / waterways will be crossed by both of the build options. Goose Creek and Donelson Creek cross the existing alignment of State Route 106 with both stream crossings utilizing box culverts. The third stream crossing is located north of Henpeck Lane and is an unnamed tributary to Five Mile Creek.

All wetland impacts require confirmation by, and coordination with, permitting agencies. All require either general or individual Aquatic Resource Alteration Permits (ARAP) from the State of Tennessee. Almost all require either nationwide or individual permits from the U.S. Army Corps of Engineers pursuant to Section 404 of the Clean water Act. Other agencies such as the U.S. Fish and Wildlife Service and the Environmental Protection Agency (EPA) may be involved in the permitting process. Wetland impacts which are subject to either State or Federal jurisdiction, and which do not meet criteria for either general or nationwide permits require individual permits; these typically require compensatory mitigation for impacts. Based upon preliminary environmental evaluation, it does not appear that any known wetlands would be impacted during construction of either of the build options.

A search of the Federal Emergency Management Agency's (FEMA) website for flood insurance maps revealed that the maps had recently been updated in January of 2007 and expanded the reach of probable flood stages. The maps indicate that both build concepts will encroach into the floodway and/or flood plain for Goose Creek and Donelson Creek. Drainage structures at these locations will need to be designed to minimize the impacts to the flood plains and mitigate any encroachments into the 100 year floodways if a build option is selected.

An archeological review was not conducted for inclusion in this document. It is evident from the historical nature of the area that artifacts may potentially be encountered during construction of the build concepts. A thorough investigation during the NEPA process will be conducted to identify sites that need evaluation.

Williamson County is in the Nashville Region of the EPA's non-attainment area for the 8-hour ozone standard and 1-hour ozone maintenance standard. As such it will be necessary to conduct a project specific air quality analysis during the development of the environmental document. Reducing the congestion within the corridor should offer some improvement in the area of the project.

A noise analysis will be required to ascertain the noise levels along the route. Since the build options are anticipated to be along the existing State Route 106 (Lewisburg Pike) corridor, it is expected that the noise levels will be comparable to the no-build option with the exception that the additional lanes will be moved closer to some residences.

Preliminary Environmental Evaluation

If preliminary field reviews indicate the presence of any of the following facilities and/or Economic, Social, and Environmental categories (ESE), place an "X" in the blank opposite the item. Where more than one option is to be considered, place its letter designation in the blank. A more comprehensive analysis of the impacts will be completed at a later date to comply with the National Environmental Policy Act (NEPA).

1.)	Hazardous Material Site or Underground Storage Tanks <u>A,B</u>
2.)	FloodplainsA,B
3.)	Historical, archaeological, cultural or natural landmarks, or cemeteries
4.)	Airport
5.)	Residential establishment
6.)	Urban area, city, town, or community A,B (Dandridge – Jefferson County)
7.)	Commercial area, shopping center
8.)	Institutional usages: a. School or other educational institution. b. Hospital or other medical facility. c. Church or other religious institution. d. Public Building, e.g., fire station. e. Defense installation.
9.)	Agricultural land usageA,B
10.)	Forested landA,B
11.)	Industrial park, factory
12.)	Recreational usages: a. Park or recreational area, State Natural Area
13.)	Waterway: a. Lake. b. Pond. A,B c. River. A,B d. Stream. A,B e. Spring. A,B
14.)	Railroad Crossings
15.) 16.)	Project coordinated with MPO/RPO and/or local officialsA,B Other

7.0 PROJECTED COSTS

The projected costs for the options are listed below. The study corridor has been divided into three sections.

Section 1 begins at the State Route 248 (Goose Creek By-Pass) and ends at the intersection of State Route 106 and Old Peytonsville Road. As stated previously in this study, the developer of the proposed Berry Farms development has committed to funding the construction of this section of State Route 106 and the Nashville MPO TIP for Fiscal Years 2008 – 2011 has been amended to include this segment of the project.

Section 2 begins at Old Peytonsville Road and extends 1.16 miles north to Bowman Road. Presently this segment of State Route 106 is not within the city limits of Franklin, but under the jurisdiction of Williamson County.

Section 3 begins at Bowman Road (southern boundary of Franklin City Limits) and ends 1.09 miles north at the intersection of State Route 397 (Mack Hatcher Parkway). The City of Franklin has plans to proceed with the survey and design for this segment of Lewisburg Pike and the environmental document for the entire study corridor.

	Option A			Option B			
	Section 1	Section 2	Section 3	Section 1	Section 2	Section 3	
Item	From Goose Creek Bypass to Old Peytonsville Rd.	From Old Peytonsville Rd to Bowman Rd	From Bowman Rd to Mack Hatcher Pkwy	From Goose Creek Bypass to Old Peytonsville Rd.	From Old Peytonsville Rd to Bowman Rd	From Bowman Rd to Mack Hatcher Pkwy	
Construction	\$2,226,000	\$5,117,000	\$5,115,000	\$2,632,000	\$6,079,000	\$5,636,000	
Engineering and Continguencies	\$202,000	\$465,000	\$465,000	\$239,000	\$553,000	\$512,000	
Preliminary Engineering	\$202,000	\$465,000	\$465,000	\$239,000	\$553,000	\$512,000	
Right-of-Way	\$948,000	\$3,085,000	\$2,448,000	\$1,413,000	\$4,197,000	\$6,275,000	
Utility Adjustment	\$790,000	\$1,605,000	\$1,525,000	\$790,000	\$1,605,000	\$1,525,000	
Total Segment Costs	\$4,166,000	\$10,272,000	\$9,553,000	\$5,074,000	\$12,434,000	\$13,948,000	
Section Length (Miles)	0.48	1.16	1.09	0.48	1.16	1.09	
Cost per Mile	\$8,679,167	\$8,855,172	\$8,764,220	\$10,570,833	\$10,718,966	\$12,796,330	
Total Option Costs	\$23,991,000			\$31,456,000			

Table 10 Projected Costs

As shown in Table 10, the estimated cost for Option A (four-lane with center turn lane) is approximately \$24,000,000 while the estimated cost for Option B (four-lane with median) is approximately \$31,500,000. The majority of the cost difference in the two (2) options is directly related to the additional right-of-way needs for the raised median typical section. For right-of-way budgeting purposes, the estimated costs were based upon symmetrical widening of the existing roadway for both Options A and B. During the environmental and preliminary engineering phases of the project, avoidance of identified constraints and minimizing residential relocations would be a primary objective.

For estimating purposes of this study, all utility relocations costs for the above ground utilities were assumed to remain above ground.

8.0 SEVEN GUIDING PRINCIPLES

The Tennessee Department of Transportation has adopted seven (7) guiding principles against which all transportation projects are to be evaluated. These guiding principles address concerns for system management, mobility, economic growth, safety, community, environmental stewardship, and fiscal responsibility. These guiding principles are discussed in regard to both of the proposed build options.

Guiding Principle 1: Preserve and Manage the Existing Transportation System

Both build options as presented will increase the number of lanes, relieve congestion, enhance the safety characteristics of the route, and conform to the Nashville Area MPO Long Range Transportation Plan and the City of Franklin's Major Thoroughfare Plan. The route provides a connection between State Route 248 and State Route 347 and allows for access to Interstate 65 via SR-248 and SR-96 via SR-397 (Mack Hatcher Parkway). The improved route of SR-106 will also provide additional vehicular capacity for residents traveling to and from the downtown area of Franklin. By adopting either of the build options, the existing right-of-way will be used, thus reducing the amount of additional land that would be required if a new alignment corridor was chosen.

Guiding Principle 2: Move a Growing, Diverse, and Active Population

The U.S. Census Bureau estimates that the population in Williamson County and Franklin, Tennessee will continue to experience tremendous population growth through the year 2010 at nearly a rate of 23% from 2005 to 2010. Of the population who work outside the county, nearly 40% work in Davidson County. This puts a heavy strain on the transportation infrastructure connecting the two counties. The two primary routes connecting SR-106 to I-65 within the study area is SR-248 and SR-397 via SR-96. Therefore, it is vital to provide additional capacity to commuter routes such as Lewisburg Pike.

Two (2) schools are also present along the route as described previously. The increase in population will be reflected in the number of new trips generated by travel to and from the schools. Many times schedules for trips to and from schools overlap with the schedules of commuters who are often hindered and delayed due to school zone speed limits and additional traffic.

Guiding Principle 3: Support the State's Economy

The population of the City of Franklin and Williamson County are two of the fastest growing in the nation. Supplying materials, goods and services to support the population growth results in increased tax revenue, jobs, and wages. The low unemployment rate and expected large increase in population within the study area implies that the need for upgrading transportation facilities will increase at a faster rate than other parts of the state. Without adequate transportation facilities, economic expansion and job creation may be hindered and jobs lost to other locales.

Guiding Principle 4: Maximize Safety and Security

During the three (3) year period from 2004 through 2006, eighty (80) crashes were reported. As discussed earlier, the most frequent type was rear-end crashes which are indicative of the lack of protected storage space for vehicles slowing or stopping to complete turning movements. The second most frequent type was angle crashes which are indicative of vehicles trying to enter a traffic stream. As traffic volumes increase, gaps available for additional vehicles reduce in size and number resulting in drivers misjudging the time and space available to enter the traffic stream. By adding additional lanes to spread out the traffic stream and providing storage areas for turning vehicles, the anticipated crash rates should decrease. With the no-build option, it can be expected that the number of crashes will increase as volumes increase. In addition to an expected lower crash rate with the implementation of one of the build options, an

improved roadway should facilitate safer travel for emergency vehicles, both fire and ambulance.

Guiding Principle 5: Build Partnerships for Livable Communities

During the preparation of this report, a meeting was conducted with the City of Franklin officials, TDOT and MPO staff. The purpose was to provide an opportunity to discuss the preliminary analysis of this report and to ascertain whether there were any unknown issues that needed to be considered and that the recommended options were in accordance with the expectations of the City and MPO. Other options not identified in this study may arise or be suggested as the project progresses. The public involvement process will continue after this planning document is completed. Public hearings will be scheduled during the National Environmental Policy Act (NEPA) process and during the design phase of the project. Every effort will be made to mitigate any negative impacts to the local citizenry during the implementation of any build option. An improved transportation corridor that benefits the community with as few disruptions as possible is essential in providing for future planned growth of the region.

Guiding Principle 6: Promote Stewardship of the Environment

The United States Congress enacted the National Environmental Policy Act of 1969 (NEPA) to establish a national policy to protect the environment. NEPA requires federal agencies to consider environmental issues prior to making any major decisions on projects that have federal involvement (e.g., funding or permitting). To determine a project's potential benefit or harm to the environment, NEPA requires an assessment of environmental impacts and an evaluation of options to avoid any identified adverse impacts to the environment. The Council on Environmental Quality (CEQ) was created by NEPA to oversee the federal implementation of NEPA, by interpreting the law and developing regulations and guidance. NEPA procedures must ensure that environmental information is available to public officials and citizens before decisions are made and before actions are taken. The regulations also spell out the three categories of actions (Categorical Exclusions, Environmental Assessments, and Environmental Impact Statements), as well as documentation requirements and format, the commenting process and public involvement requirements, and document filing requirements. This project is subject to all of these regulations and the NEPA process will be enacted accordingly.

Guiding Principle 7: Promote Financial Responsibility

Cost estimates based on various roadway typical sections were calculated for this report. The cost estimates, as depicted in this report, are offered for comparison purposes and will fluctuate with inflation and any unexpected conditions. It is the Department's goal to follow a comprehensive transportation planning process, promote coordination among public and private operators of transportation systems, and support efforts to provide stable funding for the public component of the transportation system. This entails exercising financial responsibility in the development and implementation of roadway projects and minimizing costs to taxpayers.

Field Review

A meeting and field review of the site was made by the following individuals on May 20, 2008:

Mr. Joseph York City of Franklin Mr. Eric Gardner City of Franklin City of Franklin Mr. Jonathan Langley City of Franklin Ms. Erin Reinders Mr. Jamie Groce City of Franklin City of Franklin Mr. Dennis Cook Williamson County Mr. Eddie Hood Williamson County Mr. Greg Ball Mr. Bill Hart **TDOT Project Planning**

Transportation Planning Report State Route 106 / US-431 (Lewisburg Pike)

Mr. Paul Lane

TDOT Project Planning Clinard Engineering Associates Mr. Tom Clinard Clinard Engineering Associates Clinard Engineering Associates Mr. Sammie McCoy Mr. Charlie Graves

Mr. Gary Fottrell **FHWA**

TDOT Region 3 Office TDOT Region 3 Office Mr. Scott Johnson Mr. Terry Arnold Mr. David Thompson

TDOT Environmental Planning



COST DATA SHEETS BY SECTIONS OPTION A & OPTION B

COST DATA SHEET

PROJECT:

State Route 106 (Lewisburg Pike)

LOCATION:

Williamson County, Franklin, Tennessee

SECTION LENGTH:

0.48 Miles

CROSS SECTION:

5-Lane C&G

RIGHT-OF-W

Land, Improvements & Damages	(# Acres	4.54)	\$792,000
Incidentals	(# Tracts	12)	\$156,000
Relocation Payments	(Residences	0)	\$0
	(Businesses	0)	\$0
	(Non-Profits	0)	

Total Right-Of-Way Cost

\$948,000

Reimbursable	\$790,000
Non-Reimbursable	\$0

Total Utility Adjustment Cost

\$790,000

Clear and Grubbing		\$9,000	
Earthwork		\$164,000	
Pavement Removal		\$15,000	
Drainage (Erosion Control =	\$38,000)	\$341,000	
Structures		\$0	
Railroad Crossing		\$0	
Paving		\$1,140,000	
Retaining Walls		\$60,000	
Maintenance of Traffic		\$20,000	
Topsoil		\$3,000	
Seeding		\$2,000	
Sodding		\$14,000	
Signing		\$5,000	
Signalization		\$0	
Fence		\$0	
Guardrail		\$0	
Rip-rap or Slope Protection		\$8,000	
Other Construction Items (8.5%)		\$151,000	
Mobilization		\$92,000	
10% Engineering and Contigencies		\$202,000	
Total Construction Cost			

Preliminary Engineering (10% of Constr.)

TOTAL ESTIMATED COST - SECTION IA

\$4,166,000

\$2,226,000

\$202,000

PROJECT:

State Route 106 (Lewisburg Pike)

LOCATION:

Williamson County, Franklin, Tennessee

SECTION LENGTH:

1.16 Miles

CROSS SECTION:

5-Lane C&G

RI	GΗ	<u>-</u> -Tا	OF.	-W	AY
----	----	--------------	-----	----	----

Land, Improvements & Damages	(# Acres	10.64)	\$1,665,000	
Incidentals	(# Tracts	40)	\$520,000	
Relocation Payments	(Residences	2)	\$900,000	
*	(Businesses	0)	\$0	
	(Non-Profits	0)		

Total Right-Of-Way Cost

\$3,085,000

OTTENT INCEDORATION	L	JŢ	ΊL	IT	Y	RE	LO	CA	T	ION	
---------------------	---	----	----	----	---	----	----	----	---	-----	--

Reimbursable	\$1,605,000
Non-Reimbursable	\$0

Total Utility Adjustment Cost

\$1,605,000

CONSTRUCTION

Clear and Grubbing		\$21,000
Earthwork		\$406,000
Pavement Removal		\$45,000
Drainage (Erosion Control =	\$130,000)	\$685,000
Structures		\$0
Railroad Crossing		\$0
Paving		\$2,371,000
Retaining Walls		\$360,000
Maintenance of Traffic		\$85,000
Topsoil		\$6,000
Seeding		\$4,000
Sodding		\$61,000
Signing		\$10,000
Signalization		\$0
Fence		\$0
Guardrail		\$30,000
Rip-rap or Slope Protection		\$15,000
Other Construction Items (8.5%)		\$348,000
Mobilization		\$205,000
10% Engineering and Contigencies		\$465,000

Total Construction Cost

\$5,117,000

Preliminary Engineering (10% of Constr.)

\$465,000

TOTAL ESTIMATED COST - SECTION IIA

\$10,272,000

PROJECT:

State Route 106 (Lewisburg Pike)

LOCATION:

Williamson County, Franklin, Tennessee

SECTION LENGTH:

1.09 Miles

CROSS SECTION:

5-Lane C&G

RIGHT-OF-V	Λ	"	A.	Υ
------------	---	---	----	---

Land, Improvements & Damages	(# Acres	10.22)	\$1,573,000
Incidentals	(# Tracts	38)	\$875,000
Relocation Payments	(Residences	0)	\$0
	(Businesses	0)	\$0
	(Non-Profits	0)	

Total Right-Of-Way Cost

\$2,448,000

UTILITY RELOCATION	1
---------------------------	---

Reimbursable	\$1,525,000
Non-Reimbursable	\$0

Total Utility Adjustment Cost

\$1,525,000

COI	NS.	TRι	JCT	ION

Clear and Grubbing	\$20,000
Earthwork	\$340,000
Pavement Removal	\$40,000
Drainage (Erosion Control =	\$130,000) \$650,000
Structures	\$0
Railroad Crossing	\$0
Paving	\$2,345,000
Retaining Walls	\$240,000
Maintenance of Traffic	\$75,000
Topsoil	\$6,000
Seeding	\$4,000
Sodding	\$60,000
Signing	\$10,000
Signalization	\$25,000
Fence	\$0
Guardrail	\$30,000
Rip-rap or Slope Protection	\$20,000
Other Construction Items (15%)	\$580,000
Mobilization	\$205,000
10% Engineering and Contigencies	\$465,000
Total Construction C	ost

Preliminary Engineering (10% of Constr.)

TOTAL ESTIMATED COST - SECTION IIIA

\$9,553,000

\$5,115,000

\$465,000

PROJECT:

State Route 106 (Lewisburg Pike)

LOCATION:

Williamson County, Franklin, Tennessee

SECTION LENGTH:

0.48 Miles

CROSS SECTION:

4-Lane with Median

RI	GI	٦٦	Γ-(\cap	F-'	V۸	ΙΑ	Υ
1 11	\sim 1	_		$\overline{}$		* *		

Land, Improvements & Damages	(# Acres	7.17)	\$1,197,000
Incidentals	(# Tracts	12)	\$216,000
Relocation Payments	(Residences	0)	\$0
	(Businesses	0)	\$0
	(Non-Profits	0)	

Total Right-Of-Way Cost

\$1,413,000

UTILITY RELOCAT

Reimbursable	\$790,000
Non-Reimbursable	\$0

Total Utility Adjustment Cost

\$790,000

CONSTRUCTION

Clear and Grubb	oing				\$12,000
Earthwork					\$408,000
Pavement Remo	oval				\$15,000
Drainage (Erc	sion Control	=	\$42,000)	\$375,000
Structures				,	\$0
Railroad Crossir	ng				\$0
Paving					\$1,140,000
Retaining Walls					\$90,000
Maintenance of	Traffic				\$20,000
Topsoil					\$3,000
Seeding					\$2,000
Sodding					\$28,000
Signing					\$5,000
Signalization					\$0
Fence					\$0
Guardrail					\$0
Rip-rap or Slope	Protection				\$8,000
Other Construct	on Items (8.5°	%)			\$179,000
Mobilization					\$108,000
10% Engineering	g and Contige	ncies			\$239,000

Total Construction Cost

\$2,632,000

Preliminary Engineering (10% of Constr.)

\$239,000

TOTAL ESTIMATED COST - SECTION IB

\$5,074,000

PROJECT:

State Route 106 (Lewisburg Pike)

LOCATION:

Williamson County, Franklin, Tennessee

SECTION LENGTH:

1.16 Miles

CROSS SECTION:

4-Lane with Median

	IG	н-	Γ_{-i}	\cap	F-۱	Λ.	ΙΔ	V
\Box	U	п.	ı – ı			Vν	_	. I

Land, Improvements & Damages	(# Acres	16.82)	<u>\$2,577,000</u>
Incidentals	(# Tracts	40)	\$720,000
Relocation Payments	(Residences	2)_	\$900,000
*	(Businesses	0)	\$0
	(Non-Profits	0)	- -

Total Right-Of-Way Cost

\$4,197,000

Reimbursable	\$1,605,000
Non-Reimbursable	\$0

Total Utility Adjustment Cost

\$1,605,000

C	<u>O</u>	N	S	T	F	श	<u>U</u>	<u>C</u>	Τ	IC	<u>/(</u>	1

Clear and Grubbing		\$34,000
Earthwork		\$806,000
Pavement Removal		\$45,000
Drainage (Erosion Control =	\$150,000)	\$788,000
Structures		\$0
Railroad Crossing		\$0
Paving		\$2,381,000
Retaining Walls		\$480,000
Maintenance of Traffic		\$110,000
Topsoil		\$6,000
Seeding		\$4,000_
Sodding		\$162,000
Signing		\$10,000
Signalization		<u>\$0</u>
Fence		\$0_
Guardrail		\$30,000
Rip-rap or Slope Protection		\$15,0 <u>00</u>
Other Construction Items (8.5%)		\$414,000
Mobilization		\$241,000
10% Engineering and Contigencies	10	\$553,000
Total Constmust	ion Coot	

Total Construction Cost

\$6,079,000

Preliminary Engineering (10% of Constr.)

\$553,000

TOTAL ESTIMATED COST - SECTION IIB

\$12,434,000

PROJECT:

State Route 106 (Lewisburg Pike)

LOCATION:

Williamson County, Franklin, Tennessee

SECTION LENGTH:

1.09 Miles

CROSS SECTION:

4-Lane with Median

Land, Improvements & Damages	(# Acres	16.34)	\$2,460,000
Incidentals	(# Tracts	38)	\$1,065,000
Relocation Payments	(Residences	11)	\$2,750,000
	(Businesses	0)	\$0
	(Non-Profits	0) [

Total Right-Of-Way Cost

\$6,275,000

Ū	Т	IL	ΙT	Υ	REI	_O	CA ⁻	TIOI	V
_		<u>. – </u>		_			<u> </u>	<u> </u>	

Reimbursable	\$1,525,000	
Non-Reimbursable	\$0	

Total Utility Adjustment Cost

\$1,525,000

COI	NS.	TRI	UCT	ION

Clear and Grubbing		\$35,000
Earthwork		\$425,000
Pavement Removal		\$40,000
Drainage (Erosion Control =	\$162,000)	\$750,000
Structures		\$0
Railroad Crossing		\$0
Paving		\$2,375,000
Retaining Walls		\$320,000
Maintenance of Traffic		\$100,000
Topsoil		\$6,000
Seeding		\$4,000
Sodding		\$120,000
Signing		\$10,000
Signalization		\$25,000
Fence		\$0
Guardrail		\$30,000
Rip-rap or Slope Protection		\$20,000
Other Construction Items (15%)		\$639,000
Mobilization		\$225,000
10% Engineering and Contigencies		\$512,000
Total Construction	on Cost	

Total Construction Cost

\$5,636,000

Preliminary Engineering (10% of Constr.)

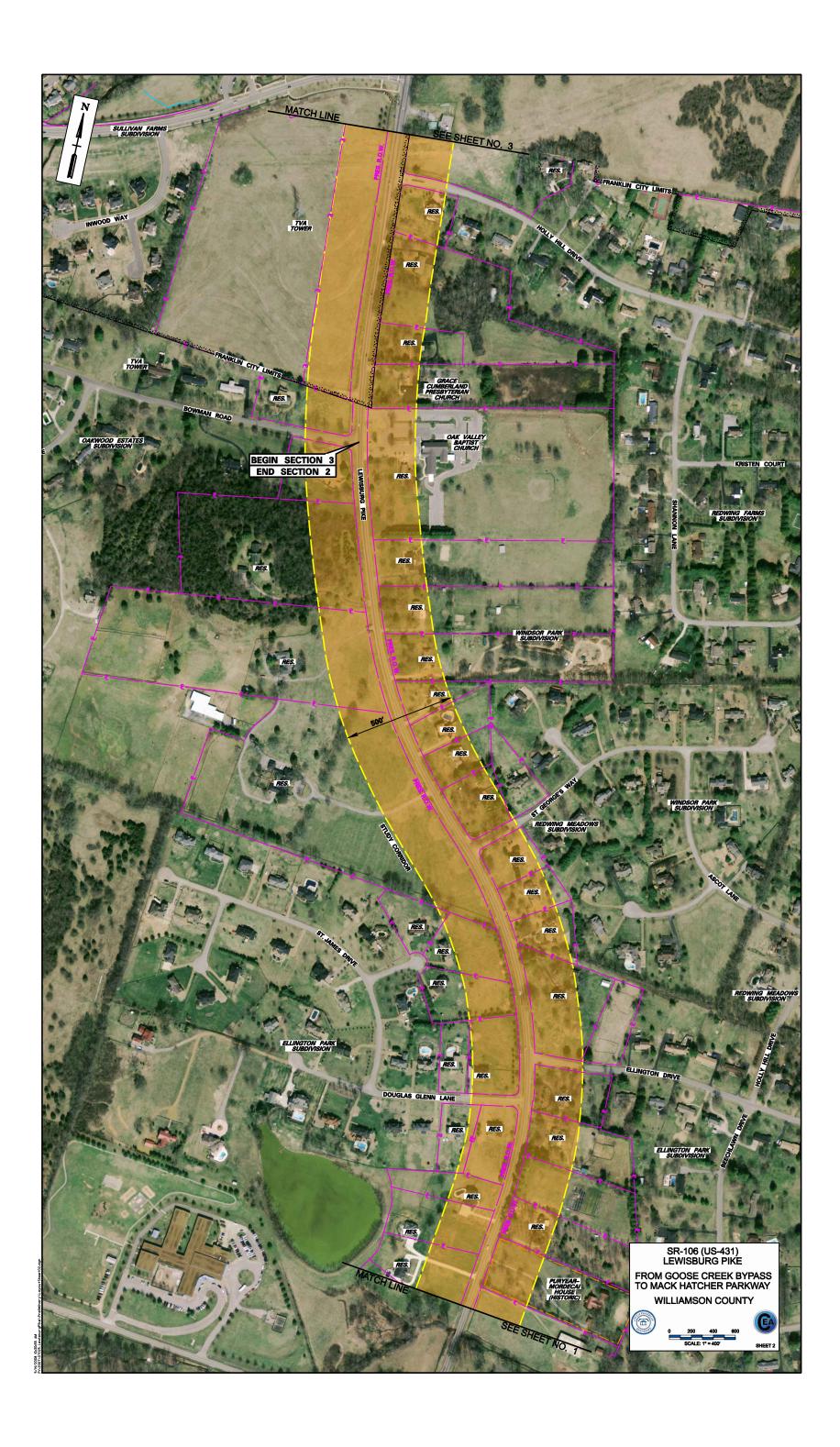
\$512,000

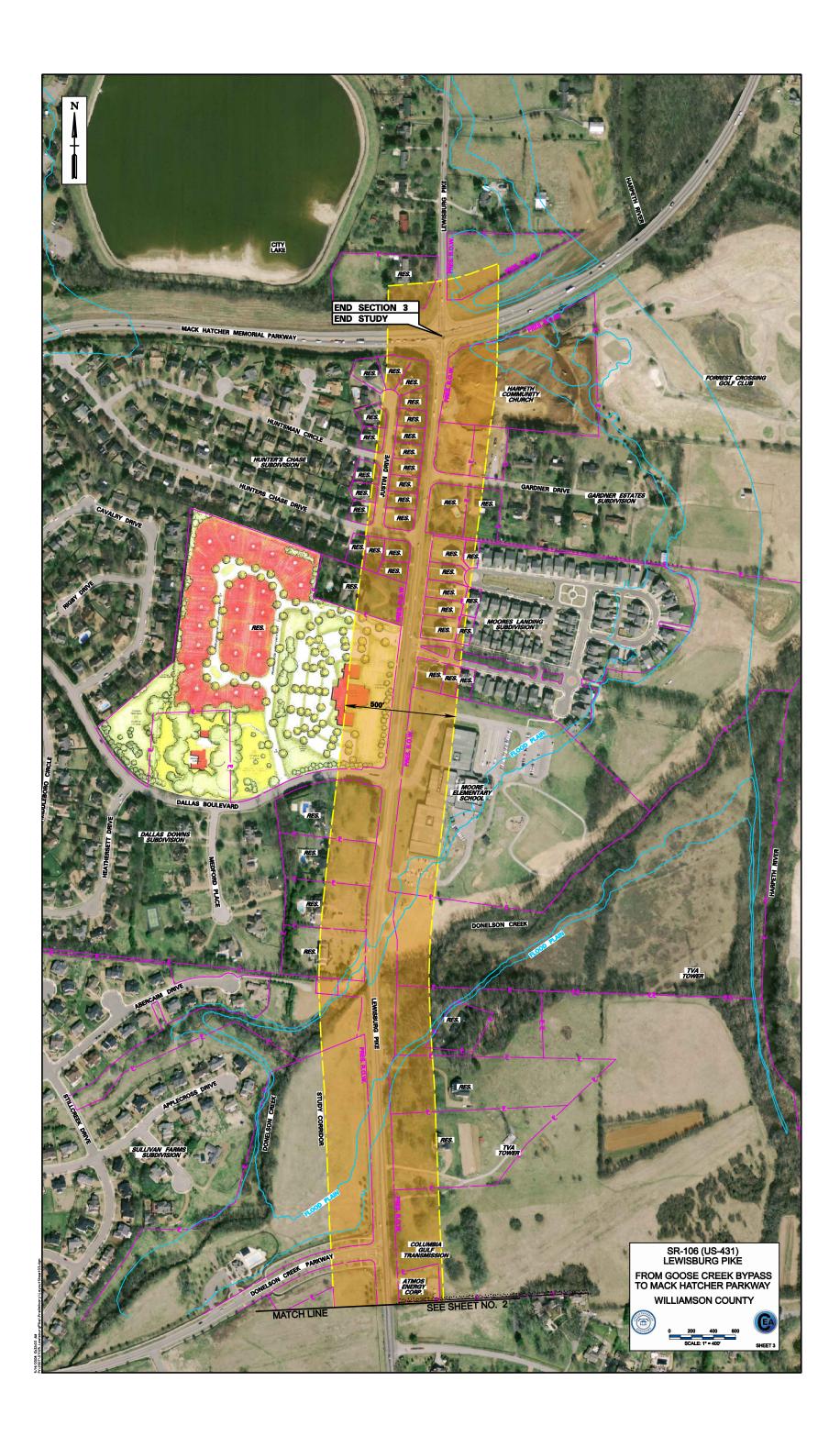
TOTAL ESTIMATED COST - SECTION IIIB

\$13,948,000

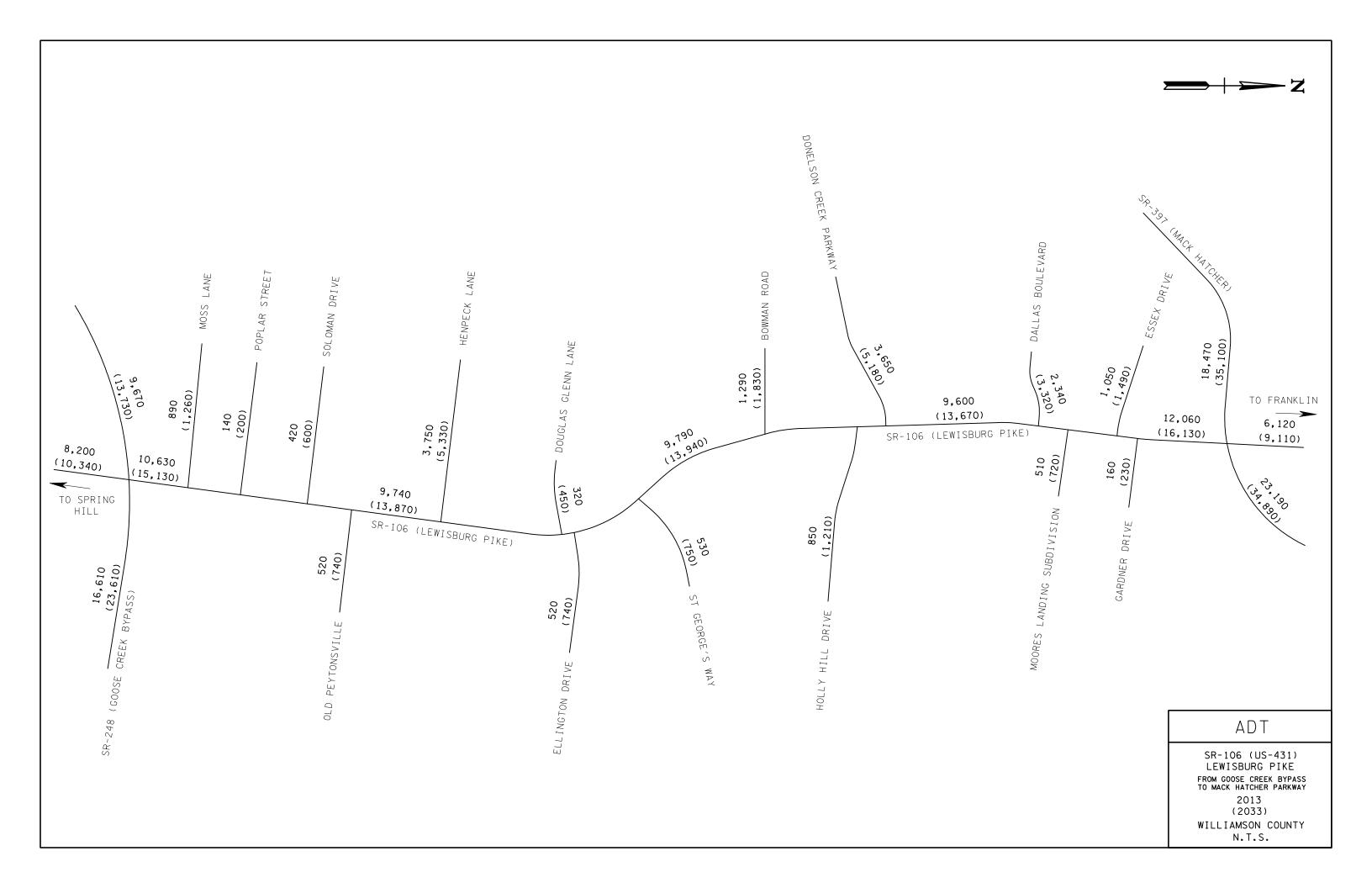
CORRIDOR LAYOUT SHEETS (1" = 400')







TRAFFIC ANALYSIS EXISTING CONDITIONS 2013 AND 2033



TWO-WAY TWO-LANE HIGHWA	
General Information Analyst Brian Gaffney	Site Information Highway SR-106 Lewisburg Pike
Agency or Company Clinard Engineering	Highway SR-106 Lewisburg Pike From/To SR-248 to Old Peytonsville
Date Performed 4/28/2008 Analysis Time Period Existing	Jurisdiction Williamson County Analysis Year 2013
Input Data	Vinalysis Tear 2010
	Class I highway Class II highway
Shoulder width It	Terrain V Level Rolling
Lane width	Two-way hourly volume 1063 veh/h
Lane width tt	Directional split 65 / 35 Peak-hour factor, PHF 0.92
↓ Shoulder widthtt	No-passing zone 100
	Show North Arrow % Trucks and Buses , P _T 3 %
Segment length, L ₁ mi	% Recreational vehicles, P _R 0%
37.	Access points/ mi 16
Average Travel Speed	
Grade adjustment factor, f _G (Exhibit 20-7)	1.00
Passenger-car equivalents for trucks, E _T (Exhibit 20-9)	1,2
Passenger-car equivalents for RVs, E _R (Exhibit 20-9)	1,0
Heavy-vehicle adjustment factor, $f_{HV} = \frac{1}{1+P_T(E_{T}-1)+P_R(E_{R}-1)}$	0.994
Two-way flow rate ¹ , v_p (pc/h) v_p =V/ (PHF * f_G * f_{HV})	1162
v _p * highest directional split proportion ² (pc/h)	755
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Field Measured speed, S _{FM} mi/h	Base free-flow speed, BFFS _{FM} mi/ Adj. for lane width and shoulder width ³ , f _{LS} (Exhibit 20-5)
Observed volume, V _f veh/h	mi/ 4.
·	Adj. for access points, f _A (Exhibit 20-6)
Free-flow speed, FFS FFS= S_{FM} +0.00776(V_{p} f_{HV}) 39,7 mi/h	mi/
	Free-flow speed, FFS (FSS=BFFS-f _{i,S} -f _A)
	mi/
Adj. for no-passing zones, f _{np} (mi/h) (Exhibit 20-11)	2,2
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v _p -f _{np}	28.5
Percent Time-Spent-Following	
Grade Adjustment factor, f _G (Exhibit 20-8)	1,00
Passenger-car equivalents for trucks, E _T (Exhibit 20-10)	1.1
Passenger-car equivalents for RVs, E _R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, $f_{HV} = \frac{1}{1+P_T(E_T-1)+P_R(E_R-1)}$	0.997
Two-way flow rate ¹ , v_p (pc/h) $v_p = V/$ (PHF * f_G * f_{HV})	1159
p* highest directional split proportion ² (pc/h)	753
Base percent time-spent-following, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} p)	63.9
Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12)	10.7
Percent time-spent-following, PTSF(%) PTSF=BPTSF+f _{d/np}	74.6
Level of Service and Other Performance Measures Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	E
/olume to capacity ratio v/c = V _o / 3,200	0.36
Peak 15-min veh-miles of travel, VMT ₁₅ (veh- mi) VMT ₁₅ = 0.25L _t (V/PHF)	144

Peak-hour vehicle-miles of travel, VMT ₆₀ (veh-mi) VMT ₆₀	_D =V*L _t	
Peak 15-min total travel time, TT ₁₅ (veh-h) TT ₁₅ = VMT ₁₅ /AT	5.1	
Notes		
1. If $v_p >= 3,200$ pc/h, terminate analysis-the LOS is F. 2. If highest d		tional split v _p >= 1,700 pc/h, terminated anlysis-the LOS is F.

Copyright © 2000 University of Florida, All Rights Reserved

TWO-WAY TWO-LANE HIGHWAY General Information	Site Information	DIECI
Analyst Brian Gaffney	Highway	SR-106 Lewisburg Pike
Agency or Company Clinard Engineering	From/To	Old Peytonsville to Henpeck Ln
Date Performed 4/28/2008 Analysis Time Period Existing	Jurisdiction Analysis Year	Williamson County 2013
Input Data	Analysis rear	2013
		Class I highway Class II highway
Shoulder width	CONTRACTOR CONTRACTOR	Terrain Level Rolling
Lane width		Two-way hourly volume 974 veh/h
Lane width		Directional split 65 / 35
Shoulder width t		Peak-hour factor, PHF 0.92 No-passing zone 100
	Show North Arrow	% Trucks and Buses , P _T 3 %
Segment length, L _t mi	WOTHSTITTING WOLKS	% Recreational vehicles, P _R 0%
		Access points/ mi 28
Average Travel Speed		Proceed political IIII
Grade adjustment factor, f _G (Exhibit 20-7)		1,00
Passenger-car equivalents for trucks, E _T (Exhibit 20-9)		1,2
Passenger-car equivalents for RVs, E _R (Exhibit 20-9)	0	1.0
Heavy-vehicle adjustment factor, $f_{HV} = f_{HV} = 1/(1 + P_T(E_T-1) + P_R(E_R-1))$		0.994
Two-way flow rate ¹ , v_p (pc/h) $v_p = V/$ (PHF * f_G * f_{HV})		1065
p * highest directional split proportion ² (pc/h)		692
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Field Measured speed, S_{FM} mi/h weh/h Dbserved volume, V_f veh/h Free-flow speed, FFS FFS= S_{FM} +0.00776(V_f f_{HV}) 36.7 mi/h		and shoulder width ³ , f _{LS} (Exhibit 20-5) m hts, f _A (Exhibit 20-6) m
	Free-flow speed, Fl	FS (FSS=BFFS-f _{LS} -f _A)
Adj. for no-passing zones, f _{np} (mi/h) (Exhibit 20-11)		2,4
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v _p -f _{np}		26.0
Percent Time-Spent-Following		
Grade Adjustment factor, f _G (Exhibit 20-8)		1.00
Passenger-car equivalents for trucks, E _T (Exhibit 20-10)		1.1
Passenger-car equivalents for RVs, E _R (Exhibit 20-10)		1.0
Heavy-vehicle adjustment factor, $f_{HV} = f_{HV} = 1/(1 + P_T(E_{T}-1) + P_R(E_{R}-1))$		0.997
wo-way flow rate 1 , v_p (pc/h) $v_p = V/(PHF * f_G * f_{HV})$		1062
p * highest directional split proportion ² (pc/h)		690
		60.7
Base percent time-spent-following, BPTSF(%) BPTSF=100(1-e ^{-0,000879v} p)	•	11.7
Base percent time-spent-following, BPTSF(%) BPTSF=100(1-e $^{-0.000879}v_p$) dj. for directional distribution and no-passing zone, $f_{d/hp}$ (%)(Exh. 20-12)		11.7
Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12) Percent time-spent-following, PTSF(%) PTSF=BPTSF+f _{d/np}		72.4
Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12) Percent time-spent-following, PTSF(%) PTSF=BPTSF+f _{d/np} Level of Service and Other Performance Measures		72.4
Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12) Percent time-spent-following, PTSF(%) PTSF=BPTSF+f _{d/np}		
Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12) Percent time-spent-following, PTSF(%) PTSF=BPTSF+f _{d/np} Level of Service and Other Performance Measures Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)		72.4 E

5/14/2008

Peak-hour vehicle-miles of travel, VMT ₆₀ (veh- mi) VMT ₆₀ =V*L	t
Peak 15-min total travel time, TT ₁₅ (veh-h) TT ₁₅ = VMT ₁₅ /ATS	2,3
Notes	
1. If $v_p >= 3,200$ pc/h, terminate analysis-the LOS is F. 2. If	f highest directional split v _p >= 1,700 pc/h, terminated anlysis-the LOS is F.

Copyright © 2000 University of Florida, All Rights Reserved

TWO-WAY TWO-LANE HIGHWA			
General Information Analyst Brian Gaffney	Site Information		
Agency or Company Clinard Engineering	Highway SR-106 Lewisburg Pike From/To Henpeck Ln to Bowman Rd		
Date Performed 4/28/2008 Analysis Time Period Existing	Jurisdiction Williamson County Analysis Year 2013		
Input Data	Analysis Year 2013		
	Class I highway Class II highway		
1 Shoulder widthtt	Terrain V Level Rolling		
Lane width	Two-way hourly volume 979 veh/h		
Lane width	Directional split 70 / 30 Peak-hour factor, PHF 0.92		
\$\frac{1}{3} \text{ Shoulder width } \frac{1}{3} \text{t}	No-passing zone 100		
	Show North Arrow % Trucks and Buses , P _T 3 %		
Segment length, L _t mi	% Recreational vehicles, P _R 0%		
i.	Access points/ mi 34		
Average Travel Speed			
Grade adjustment factor, f _G (Exhibit 20-7)	1,00		
Passenger-car equivalents for trucks, E _T (Exhibit 20-9)	1,2		
Passenger-car equivalents for RVs, E _R (Exhibit 20-9)	1,0		
Heavy-vehicle adjustment factor, $f_{HV} = f_{HV} = 1/(1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.994		
Two-way flow rate 1, v_p (pc/h) $v_p = V/(PHF * f_G * f_{HV})$	1071		
v _p * highest directional split proportion ² (pc/h)	750		
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed		
	Base free-flow speed, BFFS _{FM}		
Field Measured speed, S _{FM} mi/h	Adj. for lane width and shoulder width ³ , f _{LS} (Exhibit 20-5)		
Observed volume, V _f veh/h	m 8		
Free-flow speed, FFS FFS= S_{FM} +0.00776(V_{p} / f_{HV}) 35.2 mi/h	Adj. for access points, f _A (Exhibit 20-6)		
FM STORY OF THE ST			
	Free-flow speed, FFS (FSS=BFFS-f _{LS} -f _A)		
	m		
Adj. for no-passing zones, f _{np} (mi/h) (Exhibit 20-11)	2.4		
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v _p -f _{np}	24.5		
Percent Time-Spent-Following			
Grade Adjustment factor, f _G (Exhibit 20-8)	1.00		
Passenger-car equivalents for trucks, E _T (Exhibit 20-10)	1.1		
Passenger-car equivalents for RVs, E _R (Exhibit 20-10)	1,0		
Heavy-vehicle adjustment factor, $f_{HV} = \frac{1}{1 + P_T(E_T-1) + P_R(E_R-1)}$	0.997		
Two-way flow rate ¹ , v_p (pc/h) $v_p = V/$ (PHF * f_G * f_{HV})	1067		
/p * highest directional split proportion ² (pc/h)	747		
Base percent time-spent-following, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} p)	60.9		
Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12)	11,8		
Percent time-spent-following, PTSF(%) PTSF=BPTSF+f d/np	72.7		
Level of Service and Other Performance Measures Level of Service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	E		
	0.33		
/olume to capacity ratio v/c v/c=V _p / 3,200	0.00		
/olume to capacity ratio v/c v/c=V _p / 3,200 Peak 15-min veh-miles of travel,VMT ₁₅ (veh- mi) VMT ₁₅ = 0.25L _t (V/PHF)	239		

Peak-hour vehicle-miles of travel, VMT ₆₀ (veh- mi) VMT ₆₀ =V*L _t	
Peak 15-min total travel time, TT ₁₅ (veh-h) TT ₁₅ = VMT ₁₅ /ATS	9,8
Notes	
1. If v _p >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If high	est directional split v _p >= 1,700 pc/h, terminated anlysis-the LOS is F.

Copyright © 2000 University of Florida, All Rights Reserved

TWO-WAY TWO-LANE HIGHWA General Information	Site Information
Analyst Brian Gaffney	Highway SR-106 Lewisburg Pike
Agency or Company Clinard Engineering Date Performed 4/24/2008	From/To Bowman Rd to Dallas Blvd
Analysis Time Period Existing	Jurisdiction Williamson County Analysis Year 2013
Input Data	
	Class I highway Class II highway
\$\frac{1}{2} \text{ Shoulder width } tt	Terrain Level Rolling
Lane width	Two-way hourly volume 960 veh/h
—⇒ ↓ Lane widthtt	Directional split 70 / 30 Peak-hour factor, PHF 0.92
Shoulder width tt	No-passing zone 100
Segment length, L	Show North Arrow % Trucks and Buses , P _T 3 %
Styllier tengal, 4	% Recreational vehicles, P _R 0%
	Access points/ mi 26
Average Travel Speed	·
Grade adjustment factor, f _G (Exhibit 20-7)	1.00
Passenger-car equivalents for trucks, E _T (Exhibit 20-9)	1,2
Passenger-car equivalents for RVs, E _R (Exhibit 20-9)	1.0
Heavy-vehicle adjustment factor, $f_{HV} = \frac{1}{(1 + P_T(E_T-1) + P_R(E_R-1))}$	0.994
Two-way flow rate ¹ , v_p (pc/h) $v_p = V/$ (PHF * f_G * f_{HV})	1050
* highest directional split proportion ² (pc/h)	735
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
	Base free-flow speed, BFFS _{FM} m
Field Measured speed, S _{FM} mi/h	Adj. for lane width and shoulder width ³ , f _{LS} (Exhibit 20-5)
Observed volume, V _f veh/h	Adj. for access points, f _A (Exhibit 20-6)
Free-flow speed, FFS FFS= S_{FM} +0.00776(V_f/f_{HV}) 37.2 mi/h	m
	Erro flow around EES (ESS-DEES (f)
	Free-flow speed, FFS (FSS=BFFS-f _{LS} -f _A)
Adj. for no-passing zones, f _{np} (mi/h) (Exhibit 20-11)	2.5
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v _p -f _{np}	26.6
	1.00
Grade Adjustment factor, f _G (Exhibit 20-8)	
Passenger-car equivalents for trucks, E _T (Exhibit 20-10)	1.1
Passenger-car equivalents for RVs, E _R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, $f_{HV} = 1/(1 + P_T(E_T-1) + P_R(E_R-1))$	0.997
Two-way flow rate ¹ , v_p (pc/h) $v_p = V/$ (PHF * f_G * f_{HV})	1047
p * highest directional split proportion ² (pc/h)	733
Base percent time-spent-following, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} p)	60.2
dj, for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12)	12.0
Percent time-spent-following, PTSF(%) PTSF=BPTSF+f d/np	72,2
evel of Service and Other Performance Measures	·
evel of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	E 0.22
/olume to capacity ratio v/c v/c=V _p / 3,200	0.33
Peak 15-min veh-miles of travel, VMT ₁₅ (veh-mi) VMT ₁₅ = 0.25L _t (V/PHF)	183

Peak-hour vehicle-miles of travel, VMT ₆₀ (veh- mi) VM	r ₆₀ =V*L _t	
Peak 15-min total travel time, TT ₁₅ (veh-h) TT ₁₅ = VMT ₁₅ /	6.9	
Notes		
1. If $v_p >= 3,200$ pc/h, terminate analysis-the LOS is F.	2. If highest direct	ional split v _p >= 1,700 pc/h, terminated anlysis-the LOS is F.

Copyright © 2000 University of Florida, All Rights Reserved

TWO-WAY TWO-LANE HIGHWAY General Information	_	STILL
Analyst Brian Gaffney	Site Information Highway	SR-106 Lewisburg Pike
Agency or Company Clinard Engineering	From/To	Dallas Blvd to SR-397
Date Performed 4/28/2008 Analysis Time Period Existing	Jurisdiction	Williamson County
Analysis Time Period Existing Input Data	Analysis Year	2013
		Class I highway Class II highway
ŭas		
\$\frac{1}{x}\$ Shoulder widthtt	_T	Terrain Level Rolling
t Lane width		Two-way hourly volume 1206 veh/h Directional split 70 / 30
— ►		Peak-hour factor, PHF 0.92
I Shoulder width tt	$ \setminus / $	No-passing zone 100
•	Show North Arrow	% Trucks and Buses , P _T 3 %
Segment length, L _t mi		% Recreational vehicles, P _R 0%
		Access points/ mi 11
Average Travel Speed		
Grade adjustment factor, f _G (Exhibit 20-7)		1,00
Passenger-car equivalents for trucks, E _T (Exhibit 20-9)		1,1
Passenger-car equivalents for RVs, E _R (Exhibit 20-9)		1.0
Heavy-vehicle adjustment factor, $f_{HV} = \frac{1}{1 + P_T(E_T-1) + P_R(E_R-1)}$		0.997
Two-way flow rate ¹ , v_p (pc/h) $v_p = V/(PHF * f_G * f_{HV})$		1315
/p * highest directional split proportion ² (pc/h)		921
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Field Measured speed, S _{FM} mi/h	Base free-flow spec Adj. for lane width a	ed, BFFS $_{ extsf{FM}}$ m and shoulder width 3 , $f_{ extsf{LS}}$ (Exhibit 20-5)
	,	m
	Adj. for access poir	nts, f _A (Exhibit 20-6)
Free-flow speed, FFS FFS=S _{FM} +0.00776(V/ f _{HV}) 41.0 mi/h		m
	F	50 (500 P550 (() 4
	Free-flow speed, Fi	FS (FSS=BFFS-f _{LS} -f _A)
		111
Adj. for no-passing zones, f _{np} (mi/h) (Exhibit 20-11)		1.9
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v _p -f _{np}		28.9
Percent Time-Spent-Following	T	1.00
Grade Adjustment factor, f _G (Exhibit 20-8)		
Passenger-car equivalents for trucks, E _T (Exhibit 20-10)		1.0
Passenger-car equivalents for RVs, E _R (Exhibit 20-10)		1.0
Heavy-vehicle adjustment factor, f _{HV} =1/(1+ P _T (E _T -1)+P _R (E _R -1))		1.000
Two-way flow rate 1 , v_{p} (pc/h) v_{p} =V/ (PHF * f_{G} * f_{HV})		1311
p * highest directional split proportion ² (pc/h)		918
Base percent time-spent-following, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} p)		68.4
dj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12)		9,2
Percent time-spent-following, PTSF(%) PTSF=BPTSF+f d/np		77.6
evel of Service and Other Performance Measures evel of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)		E
/olume to capacity ratio v/c v/c=V _o / 3,200		0.41
Peak 15-min veh-miles of travel,VMT ₁₅ (veh- mi) VMT ₁₅ = 0.25L _t (V/PHF)		131

Peak-hour vehicle-miles of travel, VMT ₆₀ (veh- mi) VM	T ₆₀ =V*L _t	
Peak 15-min total travel time, TT ₁₅ (veh-h) TT ₁₅ = VMT ₁₅ /	ATS	4,5
Notes		
1. If v _p >= 3,200 pc/h, terminate analysis-the LOS is F.	2. If highest direct	onal split v _p >= 1,700 pc/h, terminated anlysis-the LOS is F _s

Copyright © 2000 University of Florida, All Rights Reserved

					LO	NG RE	ΞPC	RT							
General Inf	formation					Site Information									
Analyst Agency or (٥٠.	nard E Asso	Gaffney Inginee ciates			li A	nters vrea	ection Type diction				6 & SR ther are of Fran	eas		
Date Perfor Time Period			/2008 M					sis Year				2013	KIII I		
Intersectio	n Geometry														
Grade = 0			0 1	1											
						Gra	ide =	0							
1	<u>با</u>							0							
1	7					1		1							
0						V		1							
Grade = 0															
Volume an	d Timing In	1 nut	1	1		Gra	de =	0							17
v orallio dil	<u></u>	J U U		EB		1	W	В	Т		NB			SB	
			LT	TH	RT	LT	TI		\top	LT	TH	RT	LT	TH	RT
Volume (vpl	n)		163	459	6	35	19		T	11	352	171	182	123	67
% Heavy ve	eh		0	0	0	0	0	0	Ι	0	0	0	0	0	0
PHF			0.90	0.90	0.90	0.90	0.9			.90	0.90	0.90	0.90	0.90	0.90
Actuated (P.			Р	Р	Р	P	P			Р	P	Р	Р	Р	Р
Startup lost			2.0	2.0		2.0	2.0		_	2.0	2.0	2.0	2.0	2.0	
Ext. eff. gree	en		2.0	2.0		2.0	2.0			2.0	2.0	2.0	2.0	2.0	
Arrival type			3	3	-	3	3		_	3	3	3	3	3	-
Unit Extensi		_	3.0	3.0	_	3.0	3.0			3.0	3.0	3.0	3.0	3.0	
	TOR Volume		0	10.0	0	0	10	0	_	0	40.0	0	0	40.0	0
Lane Width	m NIV		12.0 N	12.0		12.0	12.			2.0	12.0	12.0	12.0	12.0	A./
Parking (Y c	N	N	<u> </u>	N	+	N		N	N		N				
Parking/hr							-		+						
Bus stops/hi						0	0		+	0	0	0	0	0	
Ped timing				3.2			3.2	2			3.2			3.2	
	Excl. Left	EW F	Perm	03		04		Excl. L	eft NS Perm			n 07			08
Timing	G = 5.0	G = 3		G =		G =		G = 5.0)	G = 15.0			G = G =		
	Y = 5				Y = Y = 5 Y = Y = Y =										
Ouration of A	Analysis (hrs) = 0.25									Сус	le Leng	gth C =	80.0		

VOLUI	ME ADJ	USTM	ENT A	ND SA	ATUR/	ATION	FLOV	/ RAT	E WOI	RKSHI	EET	
General Inform	ation											
Project Description	State R	oute 10	6 (Lewis	sburg Pi	lke) TPI	7						
Volume Adjust	ment											
		EB			WB			NB	.		SB	
	LŢ	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Volume	163	459	6	35	198	349	11	352	171	182	123	67
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow Rate	181	510	7	39	220	388	12	391	190	202	137	74
Lane Group	L	TR		L	TR		L	T	R	L	TR	
Adj. flow rate	181	517		39	608		12	391	190	202	211	
Prop. LT or RT	0.000		0.014	0.000		0.638	0.000	ten.	0.000	0.000		0.351
Saturation Flov	Rate			-								
Base satflow	1900	1900		1900	1900		1900	1900	1900	1900	1900	
Num. of lanes	1	1	0	1	1	0	1	1	1	1	1	0
fVV	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fHV	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fg	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fp	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fbb	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fa	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
fLU	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
fLT	0.950	1.000		0.950	1.000		0.950	1.000	(144)	0.950	1.000	2440
Secondary fLT	0.185		***	0.258			0.356		: :	0.200		
fRT		0.998		#	0.904		-	1.000	0.850	(#)	0.947	
fLpb	1.000	1.000		1.000	1.000	1880	1.000	1.000		1.000	1.000	
fRpb	1,775.2	1.000			1.000			1.000	1.000	:452	1.000	
Adj. satflow	1805	1896		1805	1718		1805	1900	1615	1805	1800	
Sec. adj. satflow	352			491			676			380		

		CAPA	CIT	Y AND	LOS	NOR	KSHE	ET						
General Information	on													
Project Description S	tate Route	106 (Le	ewisb	urg Plk	e) TPR									
Capacity Analysis	;													
		EB			WB			NB			SB			
Lane group	L	TR		L _c	TR		L	T	R	L	TR			
Adj. flow rate	181	517		39	608		12	391	190	202	211			
Satflow rate	1805	1896		1805	1718		1805	1900	1615	1805	1800			
Lost time	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0			
Green ratio	0.56	0.44		0.56	0.44		0.31	0.19	0.31	0.31	0.19			
Lane group cap.	289	830		359	752		282	356	505	208	338			
v/c ratio	0.63	0.62		0.11	0.81		0.04	1.10	0.38	0.97	0.62			
Flow ratio		0.27			0.35			0.19	0.12		0.12			
Crit. lane group	N	N		N	Y		N	N	N	N	N			
Sum flow ratios						0	.71							
Lost time/cycle						15	5.00							
Critical v/c ratio		0.88												
Lane Group Capa	city, Cor	ntrol D	elay	, and	LOS De	etern	ninatio	n						
		EB			WB			NB			SB			
Lane group	L	TR		L_{\odot}	TR		L	T	R	L	TR			
Adj. flow rate	181	517		39	608		12	391	190	202	211			
Lane group cap.	289	830		359	752		282	356	505	208	338			
v/c ratio	0.63	0.62		0.11	0.81		0.04	1.10	0.38	0.97	0.62			
Green ratio	0.56	0.44		0.56	0.44		0.31	0.19	0.31	0.31	0.19			
Unif. delay d1	12.7	17.4		10.0	19.6		19.5	32.5	21.4	26.2	29.9			
Delay factor k	0.50	0.50		0.50	0.50		0.50	0.50	0.50	0.50	0.50			
Increm. delay d2	9.9	3.5		0.6	9.1		0.3	76.8	2.1	55.3	8.4			
PF factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000			
Control delay	22.6	20.9		10.6	28.7		19.8	109.3	23.6	81.5	38.3			
Lane group LOS	С	С		В	С		В	F	С	F	D			
Apprch. delay	21	.3		2	7.6		8	0.0			59.4			
Approach LOS	(2			С			F			Ε			
Intersec. delay	44	44.6 Intersection LOS D												

SUPPLEMENTAL								T TURNS FRO ED PHASES	OM EXCLUSIVI	
General Informati	on									
Project Description S	State F	Route 106 (l	Leu	visburg Plke) TF	PR				
v/c Ratio Comput	ation									
				EB		Wi	В	NB	SB	
Cycle length, C (s)							80	0.0	iki	
Prot. phase eff. green	intvl, g	ı (s)		5.0		5.0)	5.0	5.0	
Opposed queue eff. gr	een in	tvl, gq (s)		22.95		18.1	3	8.63	16.00	
Unopposed green intvl	, gu (s)		17.05		21.8	37	11.37	4.00	
Red time, r(s)				35.0		35.0	0	55.0	55.0	
Arrival rate, qa (veh/s)				0.05		0.0	1	0.00	0.06	
Prot. phase departure	rate, s	p (veh/s)		0.501		0.50)1	0.501	0.501	
Perm. phase departure	rate,	ss (veh/s)		0.23	0.2		5	0.33	0.53	
Xperm				0.51		0.08	8	0.02	0.53	
X _{prot} (N/A for lagging l	eft-tur	ns)		0.80		0.17	7	0.08	1.34	
Uniform Queue Size a	and De	elay Comp	uta	tions						
Queue at start of greer	arrov	v, Qa		1.76		0.38	3	0.18	3.09	
Queue at start of unsat Qu	urated	d green,		1.15	0.20)	0.03	1.63	
Residual queue, Qr				0.00		0.00)	0.00	0.86	
Uniform delay, d1				12.7		10.0)	19.5	26.2	
Uniform Queue Size a	nd De	elay Equati	ion	s						
	Case	Qa		Qu		Qr		d ₁		
f X _{perm} <= 1.0 & X _{prot} <= 1.0	1	qar		Qa g q		0	[0.5/(q a0 q _{a)}	C)][rQa + Qa ^{2/(Sp - (}	Pas) + gqQu + Qu ^{2/(S} s -	
f Xperm <= 1.0 & Xprot > 1.0	qar		Qr + qagq	Qa	- g(S _P - Qa)	[0.5/(qa(Q _{u²/(} s _{s -} 0	C)][rQa + g(Qa + (la)	Qr) +gq (Qr + Qu) +		
f Xperm > 1.0 & Xprot <= 1.0	Qr + qar		Qa Q q	Qu	- gu(Ss - qa)	[0.5/(qa(Qa ^{2/(Sp - C}	C)][gqQu + gu(Qa + la)	- Qr) + r (Qr + Qa) +		
X _{perm} <= 1.0 4 0				$q_a(r + g_q)$		0	[0.5/(qaC)][r + gq)Qu + Qu ^{2/(S_S - Q_{a)}}			
f X _{perm} > 1.0 (lagging efts)	Qu - gu(Ss Qa)	-	qa(r + gq)		0	[0.5/(qa0 q _{a)}	C)][r + gq)Qu + gu($Q_u + Q_{a)} + Q_{a^{2/(S_p - 1)}}$		

	I	BACK	-OF-	QUEU	E WO	RKS	HEET					
General Information	1											
Project Description Sta	te Route 10	6 (Lewi	sburg	Plke) 7	rpr							
Average Back of Qu	iene											
		EB	l n=	1	WB	LDT		NB	I DT	1.7	SB	Loz
Lane group	LT L	TH TR	RT	LT L	TH TR	RT	LT L	TH T	RT R	LT L	TH TR	RT
Init. queue/lane	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	_
Flow rate/lane	181	517		39	608		12	391	190	202	211	
Satflow per lane	513	1896		637	1718		902	1900	1615	665	1800	
Capacity/lane	289	830		359	752		282	356	505	208	338	
Flow ratio	0.35	0.27		0.06	0.35		0.01	0.21	0.12	0.30	0.12	
v/c ratio	0.63	0.62		0.11	0.81		0.04	1.10	0.38	0.97	0.62	
l factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3		3	3		3	3	3	3	3	
Platoon ratio	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Q1	1.8	8.9		0.4	11.8		0.2	8.7	3.3	3.3	4.3	
kв	0.4	0.9		0.5	0.9		0.4	0.5	0.7	0.4	0.5	
Q2	0.7	1.5		0.1	3.1		0.0	7.6	0.4	2.6	0.8	
Q avg.	2.5	10.4		0.4	14.9		0.2	16.3	3.7	5.9	5.1	
Percentile Back of C	Queue (95	th pe	rcen	tile)					A.			
fB%	2.2	1.7		2.5	1.7		2.6	1.6	2.1	1.9	2.0	
BOQ, Q%	5.6	17.9		1.1	24.5		0.5	26.8	7.6	11.3	10.0	
Queue Storage Rati	0											
Q spacing	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Q storage	0	0		0	0		0	0	0	0	0	
Avg. Ra												
95% Rq%												

Copyright © 2000 University of Florida, All Rights Reserved

General Info Analyst Agency or Co Date Perform Time Period Intersection Grade = 0	o. <i>Cli</i> ned	nard E Asso 4/23	Gaffneg Enginee ociates /2008 PM			ار م م م	nters vrea urisc	nforn ection Type diction sis Y	n		City o	6 & SR ther are of Fran 2013	eas		
Agency or Co Date Perform Time Period Intersection Grade = 0	o. <i>Cli</i> ned	nard E Asso 4/23	nginee ciates /2008 PM	ering		م ل م	rea urisc	Type diction	n		All of	ther are of Fran	eas		
Time Period Intersection Grade = 0			PM	1									KIIII		
Grade = 0	Geometry		0 1	1		Gre									
1	_ <u>/</u>		0 1	1		Gr									
	<u></u> ≯					Gr									
	→					Gra	ade =	0							
1	7							0							
1	•					<u></u>		1							
0						¥		1							
Grade = 0															
Volume and	Timing Ing	out 1	1	1		Gra	de =	0							
				ΕB			W				NB			SB	
			LT	TH	RT	LT	Th	_	RT	LT	TH	RT	LT	TH	RT
Volume (vph)			233	365	31	105	22		56	32	378	123	126	201	45
% Heavy veh			0	0	0	0	0		0	0	0	0	0	0	0
PHF Actuated (P/A			0.90 P	0.90 P	0.90 P	0.90 P	0.9 P		.90 P	0.90 P	0.90 P	0.90 P	0.90 P	0.90 P	0.90 P
Startup lost tir			2.0	2.0	-	2.0	2.0		,-	2.0	2.0	2.0	2.0	2.0	F
Ext. eff. green			2.0	2.0		2.0	2.0			2.0	2.0	2.0	2.0	2.0	
Arrival type			3	3		3	3			3	3	3	3	3	
Unit Extension			3.0	3.0		3.0	3.0			3.0	3.0	3.0	3.0	3.0	
Ped/Bike/RTC	OR Volume		0		0	0			0	0		0	0		0
Lane Width			12.0	12.0		12.0	12.	_	\rightarrow	12.0	12.0	12.0	12.0	12.0	
Parking (Y or	N)		N		N	N	_		N	N		N	N		N
Parking/hr															
Bus stops/hr			0	0		0	0			0	0	0	0	0	
Ped timing				3.2			3.2	2			3.2			3.2	
	Excl. Left	EW F	Perm	03		04		Exc	l. Lef	t NS	Perm		07		08
	G = 15.0	G = 3		G =		G =		G =			20.0	G =		G =	
Duration of An	Y = 5	$Y = \xi$		Y =		Y =		Y =	5	Y =		Y =	90.0	Y = '	

VOLU	ME ADJ	USTM	ENT A	ND SA	ATUR/	ATION	FLOV	/ RAT	E WOI	RKSHI	EET	
General Inform	ation											
Project Description	State R	oute 10	6 (Lewis	sburg Pi	lke) TPI	7						
Volume Adjust	ment			_			1					
		EB			WB			NB		SB		
	LT	TH	RT	LT	ТН	RT	LT	TH	RT	LT	TH	RT
Volume	233	365	31	105	221	256	32	378	123	126	201	45
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow Rate	259	406	34	117	246	284	36	420	137	140	223	50
Lane Group	L	TR		L	TR		L_{i}	T	R	L	TR	
Adj. flow rate	259	440		117	530		36	420	137	140	273	
Prop. LT or RT	0.000		0.077	0.000	3	0.536	0.000	5 818 57	0.000	0.000	::##6:	0.183
Saturation Flow	v Rate				<u>'</u>							
Base satflow	1900	1900		1900	1900		1900	1900	1900	1900	1900	
Num. of lanes	1	1	0	1	1	0	1	1	1	1	1	0
fVV	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fH∨	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fg	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fp	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fbb	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fa	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
fLU	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
fLT	0.950	1.000		0.950	1.000		0.950	1.000		0.950	1.000	/
Secondary fLT	0.133			0.226		1 418 2	0.295		3 44	0.160		8 77 3
fRT		0.988			0.920		22	1.000	0.850		0.973	
fLpb	1.000	1.000		1.000	1.000		1.000	1.000	(944)	1.000	1.000	:==:
fRpb	1555	1.000			1.000		mm.	1.000	1.000	1 7.7 3	1.000	
Adj. satflow	1805	1878		1805	1747		1805	1900	1615	1805	1848	
Sec. adj. satflow	253			429			561)##:	304		

		CAPA	CIT	Y AND	LOS	WOR	KSHE	ET				
General Informat	ion											
Project Description	State Route	9 106 (Le	ewist	urg Plk	e) TPR							
Capacity Analysi	s											
		EB			WB			NB			ŞB	
Lane group	L	TR		L	TR		L	T	R	L	TR	
Adj. flow rate	259	440		117	530		36	420	137	140	273	
Satflow rate	1805	1878		1805	1747		1805	1900	1615	1805	1848	
Lost time	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Green ratio	0.56	0.33		0.56	0.33		0.33	0.22	0.44	0.33	0.22	
Lane group cap.	399	626		468	582		256	422	718	184	411	
v/c ratio	0.65	0.70		0.25	0.91		0.14	1.00	0.19	0.76	0.66	
Flow ratio		0.23			0.30			0.22	0.08		0.15	
Crit. lane group	N	N		N	Y		N	Y	.N	N	N	
Sum flow ratios				91		C	.72					
Lost time/cycle						20	0.00					
Critical v/c ratio						0	.93					
Lane Group Capa	icity, Cor	ntrol D	elay	, and	LOS D	etern	ninatio	n				
		EB			WB			NB			SB	
Lane group	L	TR		L	TR		L	T	R	L	TR	
Adj. flow rate	259	440		117	530		36	420	137	140	273	
Lane group cap.	399	626		468	582		256	422	718	184	411	
v/c ratio	0.65	0.70		0.25	0.91		0.14	1.00	0.19	0.76	0.66	
Green ratio	0.56	0.33		0.56	0.33		0.33	0.22	0.44	0.33	0.22	
Unif. delay d1	15.7	26.1		11.9	28.7		21.3	35.0	15.2	24.0	31.9	
Delay factor k	0.50	0.50		0.50	0.50		0.50	0.50	0.50	0.50	0.50	
Increm. delay d2	7.9	6.5		1.3	20.8		1.1	42.7	0.6	25.2	8.2	
PF factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
Control delay	23.7	32.6		13.2	49.5		22.5	77.6	15.8	49.2	40.2	
Lane group LOS	С	С		В	D		С	E	В	D	D	
Apprch. delay	29	3		4	2.9		6	0.0			43.2	
Approach LOS	()			D			E			D	
Intersec. delay	43	43.2 Intersection LOS D										

SUPPLEMENTAL								T TURNS FRO ED PHASES	OM EXCLUSIVE	
General Informati	on									
Project Description S	State R	Route 106 (Leu	visburg Plke) TF	PR				
v/c Ratio Comput	ation									
				EB		W	3	NB	SB	
Cycle length, C (s)							90	.0		
Prot. phase eff. green i	intvl, g	(s)		15.0		15.0	0	5.0	5.0	
Opposed queue eff. gr	een in	tvl, gq (s)		25.04		19.4	11	12.51	21.00	
Unopposed green intvl	, gu (s)		9.96		15.5	i9	12.49	4.00	
Red time, r(s)				40.0		40.0	0	60.0	60.0	
Arrival rate, qa (veh/s)				0.07		0.03	3	0.01	0.04	
Prot. phase departure	rate, s	veh/s)		0.501		0.50	11	0.501	0.501	
Perm. phase departure	rate,	ss (veh/s)		0.25	0.2		7	0.31	0.53	
Xperm			1.02	0.2		7	0.06	0.46		
X _{prot} (N/A for lagging l	eft-turi	ns)		0.53		0.24	4	0.26	1.01	
Uniform Queue Size a	and De	elay Comp	uta	tions						
Queue at start of greer	arrow	/, Q a		2.94		1.30)	0.60	2.33	
Queue at start of unsat Qu	urated	l green,		1.80		0.63	3	0.13	0.71	
Residual queue, Qr				0.06		0.00)	0.00	0.02	
Uniform delay, d1				15.7		11.9	9	21.3	24.0	
Uniform Queue Size a	Y		ion	S	_					
	Case	Qa		Qu		Qr		d1		
If Xperm <= 1.0 & Xprot <= 1.0						0	[0.5/(qa(q _{a)}	C)][rQa + Qa ^{2/(S_{p -} 0}	ls) +gqQu + Qu ^{2/(S} s -	
If X _{perm} <= 1.0 & X _{prot} > 1.0	qar		Qr + qagq	Qa	ı - g(Sp - Qa)	[0.5/(qa(Q _{u²/(} s _{s -} 0	C)][rQa + g(Qa + (la)	Qr) + gq (Qr + Qu) +		
If Xperm > 1.0 & Xprot <= 1.0	Qr + qar		qagq	Qu	- gu(Ss - qa)	[0.5/(qa(Qa ^{2/(\$p - (}	C)][gqQu + gu(Qa + la)	$-Q_r$) + $\Gamma(Q_r + Q_a)$ +		
f X _{perm} <= 1.0 4 0				$q_a(r + g_q)$		0	[0.5/(QaC)][r + gq)Qu + Qu ^{2/(S_s - Qa)}			
If X _{perm} > 1.0 (lagging lefts)	Qu - gu(Ss Qa)	-	qa(r + gq)		0	[0.5/(qa0 q _{a)}	C)][r + gq)Qu + gu(Qu + Qa) + Qa ^{2/(S} p -		

		ВАСК	-OF-	QUEU	E WO	RKS	HEET					
General Information	n											
Project Description St	ate Route 10	06 (Lewi	isburg	Plke)	TPR							
Average Back of C	ueue											
	LT	EB TH	RT	LT	WB TH	RT	LT	NB TH	RT	SB LT TH R		
Lane group	L	TR	I NI	L	TR	K	L	T	R	L	TR	RT
Init. queue/lane	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Flow rate/lane	259	440		117	530		36	420	137	140	273	
Satflow per lane	719	1878		842	1747		768	1900	1615	554	1848	
Capacity/lane	399	626		468	582		256	422	718	184	411	
Flow ratio	0.36	0.23		0.14	0.30		0.05	0.22	0.08	0.25	0.15	
v/c ratio	0.65	0.70		0.25	0.91		0.14	1.00	0.19	0.76	0.66	
I factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3		3	3		3	3	3	3	3	
Platoon ratio	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Q1	3.2	9.6		1.4	12.7		0.6	10.5	2.1	2.4	6.2	
kв	0.6	0.8		0.7	0.8		0.4	0.6	0.9	0.4	0.6	
Q2	1.0	1.8		0.2	4.6		0.1	5.6	0.2	0.9	1.1	
Q avg.	4.3	11.4		1.6	17.3		0.7	16.1	2.3	3.4	7.4	
Percentile Back of	Queue (9	th pe	rcen	tile)			•	•		•		
fв%	2.0	1.7		2.3	1.6		2.5	1.6	2.2	2.1	1.8	
BOQ, Q%	8.7	19.4		3.7	28.3		1.7	26.4	5.1	7.1	13.5	
Queue Storage Rat	io											
Q spacing	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Q storage	0	0		0	0		0	0	0	0	0	
Avg. RQ												
95% RQ%												

Copyright © 2000 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UMI	MARY					
General Information			Site I	nform	nati	on					
Analyst Agency/Co. Date Performed Analysis Time Period	Clinard Engineering Jurisdiction City of						ewisburg Pike & Moss City of Franklin 2013				
Project Description Sta	te Route 106 (L	Lewisburg Pike)	TPR								
East/West Street: Moss	Lane		North/S	South S	Stree	et: <i>Lewisl</i>	burg Pike				
Intersection Orientation:	North-South		Study I	Period	(hrs): <i>0.25</i>					
Vehicle Volumes and	d Adjustme	nts									
Major Street	•	Northbound					Southboo	und			
Movement	1	2	3			4	5		6	3	
	L	Т	R			L	Т		F	₹	
Volume	14	677	0			0	388		8		
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.9	12	
Hourly Flow Rate, HFR	15	735	0			0	421		8	1	
Percent Heavy Vehicles	0					0					
Median Type				Undiv	⁄idec	1					
RT Channelized			0						0	1	
Lanes	1	1	0			0	1		0	1	
Configuration	L	Τ							TF	7	
Upstream Signal		0					0				
Minor Street		Westbound					Eastbou	nd			
Movement	7	8	9			10	11		12		
	L	Т	R			L	Т		F	₹	
Volume	0	0	0			38	0		20		
Peak-Hour Factor, PHF	0.92	0.92	0.92	'		0.92	0.92		0.92		
Hourly Flow Rate, HFR	0	0	0			41	0		21	1	
Percent Heavy Vehicles	0	0	0	ĺ		0	0		0		
Percent Grade (%)		0					0				
Flared Approach		N	1				N				
Storage		0					0	_			
RT Channelized		 	0				 		0		
	0	0	0			0	0	-	0		
Lanes Configuration	U	0	0			U		-	U		
<u> </u>							LR				
Delay, Queue Length, ar							1				
Approach	NB	SB							stbound		
Movement	1	4	7	8		9	10	11		12	
Lane Configuration	L							LR			
v (vph)	15							62			
C (m) (vph)	1141	İ						267	╅		
v/c	0.01	İ						0.23	十		
95% queue length	0.04	1						0.88	╁		
<u> </u>									+		
Control Delay	8.2						-	22.5	4		
LOS	Α						ļ	С			
Approach Delay								22.5			
Approach LOS								С			
Rights Reserved											

Rights Reserved

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

	TWO-	WAY STOP	CONTR	OL S	SUM	IMARY					
General Information	on		Site	nfor	mat	ion					
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 PM	ney gineering	Intersection Jurisdiction Analysis Year Lewisburg Pike & Mos City of Franklin 2013						Noss		
	State Route 106	(Lewisburg Pik									
East/West Street: Mos							sburg Pike				
Intersection Orientation	: North-South		Study	Period	d (hr	s): <i>0.25</i>					
Vehicle Volumes a	nd Adjustm	ents									
Major Street		Northbound					Southbo	und			
Movement	1	2	3			4	5			6	
	<u> </u>	T	R			<u>L</u>	T			R	
Volume	7	365	0	-		0	720			15	
Peak-Hour Factor, PHF		0.92 396	0.92 0			0.92 0	0.92 782).92 16	
Hourly Flow Rate, HFR Percent Heavy Vehicles		396				0	702				
Median Type	0		<u> </u>	Undi	vido						
RT Channelized	1		0	Onai	vide	J	1			0	
Lanes	1	1	0		_	0	1			0	
Configuration	L	<i>T</i>				U	'			TR	
Upstream Signal	<u> </u>	0					0			111	
Minor Street	1	Westbound					Eastbou	ınd			
Movement	7	8	9			10	11	T		12	
iviovernent	'	T	R			L	T			R	
Volume	0	0	0			11	0	-		20	
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92			0.92	
Hourly Flow Rate, HFR		0	0	-		11	 	0		21	
Percent Heavy Vehicles	7	0	0			0	0	一十		0	
Percent Grade (%)		0					0				
Flared Approach		l N					N				
Storage		0					0	\dashv			
RT Channelized	1	 	0				 			0	
Lanes	0	0	0			0	0	$\overline{}$		0	
Configuration	 	 	Ť				LR				
Delay, Queue Length,	and Loval of S	orvico									
Approach	NB	SB		Westb	OLING		1 ,	Eastbo	nund		
Movement	1	4	7	8		9	10	1		12	
		4	/	°		9	10			12	
Lane Configuration	L						-	LF			
v (vph)	7			<u> </u>				32			
C (m) (vph)	833			ļ				29			
v/c	0.01							0.1	1		
95% queue length	0.03							0.3	6		
Control Delay	9.4							18.	5		
LOS	Α							С			
Approach Delay								18.5			
Approach LOS							†	С			
ucsanoaTM		vright © 2003 Univers	CEL 1.	A11 D1 . 1	D	1				Version 4 1d	

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

Lane Configuration LT LR v (vph) 16 9 C (m) (vph) 1135 249 v/c 0.01 0.04 95% queue length 0.04 0.11 Control Delay 8.2 20.0 LOS A C Approach Delay		TWO-	WAY STOP	CONTR	OL S	UM	MARY						
AgeiccyCo. Climate Engineering AgeiccyCo. Climate Engineering Analysis Time Period AW	General Information			Site I	nform	nati	on						
SastWest Street: Poplar Street North/South Street: Lewisburg Pike Intersection Orientation: North-South Study Period (hrs): 0.25	Agency/Co. Date Performed	Clinard Engineering Jurisdiction City of 4/23/2008 Analysis Year 2013						City of Fr	City of Franklin				
Intersection Orientation: North-South Study Period (hrs): 0.25		te Route 106 (L	Lewisburg Pike)	TPR									
Vehicle Volumes and Adjustments	East/West Street: Popla	r Street		North/S	South S	Stree	et: <i>Lewisl</i>	burg Pike					
Major Street	Intersection Orientation:	North-South		Study I	Period	(hrs): <i>0.25</i>						
Major Street	Vehicle Volumes and	d Adjustme	nts										
Control Cont		•						Southboo	und				
Volume 15 720 0 0 393 8 Peak-Hour Factor, PHF 0.92	Movement	1	2	3			4	5		6			
Peak-Hour Factor, PHF 0.92		L	Т	R			L	Т		R			
Hourly Flow Rate, HFR													
Percent Heavy Vehicles			0.92	0.92	<u>'</u>			0.92		0.92			
Median Type Undivided RT Channelized 0 <			782	0				427	<u> </u>	8			
RT Channelized		0											
Lanes					Undiv	/idec	1						
Configuration LT	RT Channelized			0									
Upstream Signal			1	0			0	1		0			
Minor Street Westbound Eastbound Movement 7 8 9 10 11 12 Volume 0 0 0 6 0 3 Peak-Hour Factor, PHF 0.92 0.92 0.92 0.92 0.92 0.92 Hourly Flow Rate, HFR 0 0 0 6 0 3 Percent Heavy Vehicles 0 0 0 6 0 3 Percent Grade (%) 0 0 0 0 0 0 Percent Grade (%) 0 0 0 0 0 0 Flared Approach N N N N N S Storage 0 0 0 0 0 0 0 Lanes 0 </td <td></td> <td>LT</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>TR</td>		LT								TR			
Movement 7 8 9 10 11 12 Volume 0 0 0 6 0 3 Peak-Hour Factor, PHF 0.92	Upstream Signal		0					0					
L	Minor Street		Westbound					Eastbound					
Volume 0 0 0 6 0 3 Peak-Hour Factor, PHF 0.92 0	Movement	7	8	9			10	11		12			
Peak-Hour Factor, PHF 0.92		L	Т	R			L	Т		R			
Hourly Flow Rate, HFR	Volume	0	0	0			6	0 ;		3			
Percent Heavy Vehicles 0 0 0 0 0 Percent Grade (%) 0 0 0 0 Flared Approach N N N N Storage 0 0 0 0 RT Channelized 0 0 0 0 Lanes 0 0 0 0 0 Configuration LR 0 0 0 0 Delay, Queue Length, and Level of Service Approach NB SB Westbound Eastbound Movement 1 4 7 8 9 10 11 1 Lane Configuration LT V(vph) LR V(vph) LR V(vph) 9 V(vph) Up <	Peak-Hour Factor, PHF	0.92	0.92	0.92	·		0.92	0.92 0		0.92			
Percent Grade (%) 0	Hourly Flow Rate, HFR	0	0	0			6	0		3			
N	Percent Heavy Vehicles	0	0	0			0	0		0			
Storage 0<	Percent Grade (%)		0					0					
RT Channelized 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Flared Approach		N					N					
RT Channelized	Storage		0					0					
Lanes 0 1 0 <td></td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td>\neg</td> <td>0</td>				0					\neg	0			
Configuration LR Delay, Queue Length, and Level of Service Approach NB SB Westbound Eastbound Movement 1 4 7 8 9 10 11 1 Lane Configuration LT Image: Lane Configuration of the configu		0	0				0	0	\dashv				
Delay, Queue Length, and Level of Service Approach NB SB Westbound Eastbound Movement 1 4 7 8 9 10 11 - Lane Configuration LT Image: Length or configuration or configura			 	t –	$\overline{}$				-+				
Approach NB SB Westbound Eastbound Movement 1 4 7 8 9 10 11 Lane Configuration LT Image: Configuration of the conf		ad Lovel of Co	rvico										
Movement 1 4 7 8 9 10 11 Lane Configuration LT LT LR LR LR LR V(vph) 16 9 D	<u>, </u>	1	1	•	Maath	01100	I		Easthouse	1			
Lane Configuration LT LR v (vph) 16 9 C (m) (vph) 1135 249 v/c 0.01 0.04 95% queue length 0.04 0.11 Control Delay 8.2 20.0 LOS A C Approach Delay										1			
v (vph) 16 9 C (m) (vph) 1135 249 v/c 0.01 0.04 95% queue length 0.04 0.11 Control Delay 8.2 20.0 LOS A C Approach Delay			4	/	8		9	10		12			
C (m) (vph) 1135 249 v/c 0.01 0.04 95% queue length 0.04 0.11 Control Delay 8.2 20.0 LOS A C Approach Delay 20.0 20.0								ļ					
v/c 0.01 0.04 95% queue length 0.04 0.11 Control Delay 8.2 20.0 LOS A C Approach Delay 20.0	` ' '												
95% queue length 0.04 0.11 Control Delay 8.2 20.0 LOS A C Approach Delay	C (m) (vph)	1135	<u></u>						249				
Control Delay 8.2 20.0 LOS A C Approach Delay	v/c	0.01							0.04				
Control Delay 8.2 20.0 LOS A C Approach Delay	95% queue length	0.04							0.11				
LOS			i							1			
Approach Delay 20.0	•		 							1			
			+					 					
Annrogen LUS I I I I I I I I I I I I I I I I I I I													
Rights Reserved	Approach LOS								С				

Rights Reserved

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

	TWO-	WAY STOP	CONTR	OL S	UMI	MARY						
General Information			Site I	nform	natio	on						
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard Eng 4/23/2008 PM		Interse Jurisdi Analys	ction	r		Poplar					
Project Description Sta	te Route 106 (L	ewisburg Pike)	TPR									
East/West Street: Popla		,		South S	Stree	t: <i>Lewisi</i>	burg Pike					
Intersection Orientation:	North-South): 0.25						
Vehicle Volumes an	d Adiustmei	nts										
Major Street		Northbound		1			Southboo	ınd				
Movement	1	2	3			4	5		6			
	L	Т	R			L	T		R			
Volume	8	388	0			0	730		15			
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.92			
Hourly Flow Rate, HFR	8	421	0			0	793		16			
Percent Heavy Vehicles	0					0						
Median Type				Undiv	/idec	1						
RT Channelized			0				1	0				
_anes	0	1	0			0	1		0			
Configuration	LT								TR			
Jpstream Signal		0					0					
Minor Street		Westbound					Eastbound					
Movement	7	8	9			10	11		12			
	L	T	R			L	T	\neg	R			
Volume	0	0	0			2	0		3			
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92					
Hourly Flow Rate, HFR	0	0	0.02			2	0					
Percent Heavy Vehicles	0	0	0			0	0	\neg	0			
Percent Grade (%)		0					0					
Flared Approach		l N	Γ				l N	\neg				
			 					_				
Storage		0					0					
RT Channelized		<u> </u>	0						0			
Lanes	0	0	0			0	0		0			
Configuration							LR					
Delay, Queue Length, ai	nd Level of Se	rvice										
Approach	NB	SB	,	Westbound Eastbound				t				
Movement	1	4	7			10	11	12				
Lane Configuration	LT							LR	1			
v (vph)	8	 			_			5	†			
` ' '	825	-						277	+			
C (m) (vph)									+			
//C	0.01							0.02	╄			
95% queue length	0.03						ļ	0.06	Ļ			
Control Delay	9.4							18.2				
LOS	Α							С				
Approach Delay								18.2	•			
Approach LOS								С				
Rights Reserved	<u> </u>	J_					1					

Rights Reserved

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UMI	MARY			
General Information			Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard Eng 4/23/2008 AM		Interse Jurisdi Analys	ction	r		Lewisbur City of Fr 2013		Soloman
Project Description Sta	te Route 106 (L	ewisburg Pike)	TPR						
East/West Street: Solom		,		South S	Stree	et: <i>Lewisi</i>	burg Pike		
Intersection Orientation:	North-South): <i>0.25</i>			
Vehicle Volumes and	d Adiustme	nts							
Major Street		Northbound					Southboo	und	
Movement	1	2	3	$\overline{}$		4	5		6
	L	Т	R	$\neg \uparrow$		L	T		R
Volume	15	730	0			0	401		8
Peak-Hour Factor, PHF	0.92	0.92	0.92	· I		0.92	0.92		0.92
Hourly Flow Rate, HFR	16	<i>7</i> 93	0			0	435		8
Percent Heavy Vehicles	0					0			
Median Type				Undiv	/idec	d			
RT Channelized			0				1		0
Lanes	0	1	0			0	1		0
Configuration	LT								TR
Upstream Signal		0		$\neg \uparrow$			0		
Minor Street		Westbound		Î			Eastbou		
Movement	7	8	9			10	11		12
	L	T	R			L	T	\neg	R
Volume	0	0	0			18	0	-	10
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0.02			19	0	\neg	10
Percent Heavy Vehicles	0	0	0			0	0	\neg	0
Percent Grade (%)		0					0		
Flared Approach		l N					l N		
• • • • • • • • • • • • • • • • • • • •		0					0	_	
Storage		0					0		
RT Channelized		ļ	0						0
Lanes	0	0	0			0	0		0
Configuration		<u> </u>					LR		
Delay, Queue Length, ar	1								
Approach	NB	SB	'	Westbo	ounc	k	E	Eastboun	d
Movement	1	4	7	8		9	10	11	12
Lane Configuration	LT						ĺ	LR	1
v (vph)	16	1						29	1
C (m) (vph)	1128						 	245	+
v/c	0.01	+					 	0.12	+
									+
95% queue length	0.04							0.40	+
Control Delay	8.2	J						21.7	
LOS	Α							С	
Approach Delay								21.7	
Approach LOS								С	
Rights Reserved	1								

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	MARY			
General Information	n		Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard En 4/23/2008 PM		Interse Jurisdi Analys	ction	ır		Lewisbur City of Fr 2013	g Pike & S anklin	Soloman
Project Description St.		Lewisburg Pike) TPR						
East/West Street: Soloi		<u> </u>		South	Stree	et: <i>Lewisi</i>	burg Pike		
Intersection Orientation:	North-South): 0.25			
Vehicle Volumes ar	nd Adjustme	nts				•			
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5	1	6
	Ĺ	Т	R			L	T		R
Volume	8	393	0			0	745		15
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	8	427	0			0	809		16
Percent Heavy Vehicles	0					0			
Median Type				Undi	vide	d			
RT Channelized	1		0				1		0
Lanes	0	1	0			0	1		0
Configuration	LT								TR
Upstream Signal	1	0					0		
Minor Street	1	Westbound	•		Eastbound				
Movement	7	8	9	10		11		12	
	Ĺ	T	R			L	T		R
Volume	0	0	0			5	0	\dashv	10
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0			5	0		10
Percent Heavy Vehicles	0	0	0			0	0	\neg	0
Percent Grade (%)		0					0		
Flared Approach	†	T N	1				T N		
	+	0	+				0	_	
Storage		U	 				0	_	
RT Channelized	ļ		0						0
Lanes	0	0	0			0	0		0
Configuration							LR		
Delay, Queue Length, a									
Approach	NB	SB		Westb	ound	t		Eastbound	l
Movement	1	4	7	8		9	10	11	12
Lane Configuration	LT							LR	1
v (vph)	8							15	1
C (m) (vph)	814			\vdash			 	283	
v/c	0.01			\vdash				0.05	+
							-		
95% queue length	0.03			<u> </u>				0.17	<u> </u>
Control Delay	9.5							18.4	
LOS	Α							С	<u> </u>
Approach Delay								18.4	
Approach LOS								С	
Rights Reserved		I							

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

Analyst Brian Gaffney Intersection Agency/Co. Clinard Engineering Date Performed 4/23/2008 Analysis Time Period AM Project Description State Route 106 (Lewisburg Pike) TPR East/West Street: Old Peytonsville Rd North/South Stre Intersection Orientation: North-South Vehicle Volumes and Adjustments	ion						
Agency/Co. Date Performed A/23/2008 Analysis Time Period Project Description State Route 106 (Lewisburg Pike) TPR East/West Street: Old Peytonsville Rd Intersection Orientation: North-South North/South Street Study Period (hrs.)							
East/West Street: Old Peytonsville Rd North/South Stre Intersection Orientation: North-South Study Period (hrs	Jurisdiction			Lewisburg Pike & Peytonsville City of Franklin 2013			
East/West Street: Old Peytonsville Rd North/South Stre Intersection Orientation: North-South Study Period (hrs							
	et: Lewisk	ourg Pike					
Vehicle Volumes and Adjustments	s): 0.25						
Major Street Northbound		Southbou	nd				
Movement 1 2 3	4	5		6			
L T R	L	T		R			
Volume 0 737 23	37	303		0			
Peak-Hour Factor, PHF 0.92 0.92 0.92	0.92	0.92		0.92			
Hourly Flow Rate, HFR 0 801 24	40	329		0			
Percent Heavy Vehicles 0	0	-					
Median Type Undivide	d						
RT Channelized 0				0			
Lanes 0 1 0	0	1		0			
Configuration TR	LT	à					
Upstream Signal 0		0					
Minor Street Westbound		Eastboun	d				
Movement 7 8 9	10	11	_ _	12			
L T R	L,	T 0		R			
	15 0			0			
Peak-Hour Factor, PHF 0.92 0.92 0.92	0.92	0.92		0.92			
Hourly Flow Rate, HFR 3 0 16	0	0		0			
Percent Heavy Vehicles 0 0 0	0	0		0			
Percent Grade (%)		0					
Flared Approach N		N					
Storage 0		0					
RT Channelized 0				0			
Lanes 0 0 0	0	0		0			
Configuration LR							
Delay, Queue Length, and Level of Service		-					
Approach NB SB Westbound	d	E	astbound	b			
Movement 1 4 7 8	9	10	11	12			
ane Configuration LT LR				1			
v (vph) 40 19				\top			
C (m) (vph) 814 329				+-			
/c 0.05 0.06	 	 		+-			
	-	—		+-			
95% queue length 0.15 0.18	ļ			+			
Control Delay 9.7 16.6				1			
LOS A C							
Approach Delay 16.6							
Approach LOS C							
Lights Reserved							

 $HCS2000^{\mathsf{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

		D-WAY STOP	CONTR	OL SU	MMARY					
General Information	1		Site I	nform	ation					
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard E. 4/23/2008 PM	ngineering	Jurisdi	Intersection Jurisdiction Analysis Year			Lewisburg Pike & Peytonsville City of Franklin 2013			
Project Description Sta	ate Route 106	(Lewisburg Pike	e) TPR							
East/West Street: Old P	eytonsville Ra			South St	reet: Lewis	sburg Pike				
Intersection Orientation:	North-South		Study	Period (hrs): <i>0.25</i>					
Vehicle Volumes an	d Adjustme	ents								
Major Street		Northbound				Southbo	und			
Movement	1	2	3		4	5		6		
	L	Т	R		Ļ	Т		R		
Volume	0	401	8		13	620		0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92		
Hourly Flow Rate, HFR	0	435	8		14	673		0		
Percent Heavy Vehicles	0	ж.			0			**		
Median Type		-		Ųndivi	ded	-r				
RT Channelized			0					0		
anes	0	1	0		0	1		0		
Configuration			TR		LT					
Jpstream Signal		0				0				
Minor Street		Westbound				Eastbou	ınd			
Movement	7	8	9		10	11		12		
	L	Т	R		L	Т		R		
/olume	8	0		26 0		0		0		
Peak-Hour Factor, PHF	0.92	0.92	0.92	?	0.92	0.92		0.92		
Hourly Flow Rate, HFR	8	0	28		0	0		0		
Percent Heavy Vehicles	0	0	0		0	0		0		
Percent Grade (%)		0				0				
Flared Approach		N				N				
Storage		0				0				
RT Channelized			0					0		
anes	0	0	0		0	0		0		
Configuration		LR								
Delay, Queue Length, a	nd Level of S	ervice								
Approach	NB	SB		Westbou	und	1	Eastboun	d		
Movement	1	4	7	8	9	10	11	12		
ane Configuration		LT	-	LR	$+$ $\check{}$	1	 '	+-'-		
		14				+	_	+		
(vph)				36		-				
(m) (vph)		1128		443				+		
r/c		0.01		0.08		1				
95% queue length		0.04		0.26						
Control Delay		8.2		13.8						
.OS		Α		В						
Approach Delay	+=:	(200 2)		13.8						
Approach LOS						ati bisancia di sancia di				

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

	TWO	-WAY STOP	CONTR	OL S	UM	MARY				
General Information	1		Site	nforr	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 PM		Jurisd	Intersection Lewisburg Pike & H Jurisdiction City of Franklin Analysis Year 2013					enpeck	
Project Description Sta	ate Route 106 (Lewisburg Pike) TPR			-				
East/West Street: Henp	eck Lane			South	Stree	et: <i>Lewis</i>	burg Pike			
Intersection Orientation:	North-South	*	Study	Period	l (hrs): <i>0.25</i>				
Vehicle Volumes ar	d Adjustme	nts								
Major Street		Northbound					Southboo	und		
Movement	1	2	3			4	5		6	
	L	Т	R		_	L	Т		R	
Volume	75	266	11			18	547		48	
Peak-Hour Factor, PHF	0.92	0.92	0.93	2	_	0.92	0.92		0.92	
Hourly Flow Rate, HFR	81	289	0		_	0	594		52	
Percent Heavy Vehicles	0	1,000		111	: -1 -	0) -2			
Median Type RT Channelized		1	1 ^	Ųndi	vided]	_			
	1	 	0		_		1		0	
Lanes Configuration	1 L	1 T	0		-	0	1		0 TR	
Upstream Signal	<u> </u>	0			_		0		IK	
Minor Street			<u> </u>				Eastbound			
Movement	7	Westbound 8	9		-	10	11		12	
Movement	<u> </u>	T	R		-	L	T	_	R	
Volume	1	0	6	_		52	0	_	116	
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92		0.92	
Hourly Flow Rate, HFR	0.92	0.92	0.92		_	56	0.92		126	
Percent Heavy Vehicles	0	0	0			0	0		0	
Percent Grade (%)	Ť	0					0			
Flared Approach	 	T N	1				T N			
Storage	-	0					1 0			
RT Channelized	 	-	 	-	_		0		0	
			0		-		-		0	
Lanes	0	0	0		_	1	0	_	1	
Configuration		<u> </u>	<u> </u>	_	_	L			R	
Delay, Queue Length, a										
Approach	NB	SB		Westb	_		+	Eastbound		
Movement	1	4	7	8		9	10	11	12	
Lane Configuration	Ĺ						L		R	
v (vph)	81						56		126	
C (m) (vph)	949						226		492	
v/c	0.09						0.25		0.26	
95% queue length	0.28						0.95		1.01	
Control Delay	9.1			1			26.1		14.8	
LOS	A			\vdash			D		В	
Approach Delay							 	18.3		
Approach LQS							-	C		
Approach LOS							1,	U		

HCS2000TM Version 4.1d Copyright © 2003 University of Florida, All Rights Reserved

	TWO	D-WAY STOP	CONTR	OL S	UM	MARY			
General Informatio	n		Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008 AM	ngineering 3			г		Lewisbu City of F 2013	rg Pike & ranklin	Ellington
Project Description St	ate Route 106	(Lewisburg Pike) TPR						
East/West Street: Elling			North/	South 9	Stre	et: <i>Lewis</i>	burg Pike		
Intersection Orientation:	North-South		Study	Period	(hrs): 0.25			
Vehicle Volumes ar	nd Adjustm	ents							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	Т	R			L ₀	T		R
Volume	45	582	12			3	277		22
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	632	13			3	301		0
Percent Heavy Vehicles	0	S ee S				0	:		
Median Type				Undiv	/ided	ŀ			
RT Channelized			0						0
Lanes	0	1	0			0	1		0
Configuration			TR			LT			
Upstream Signal		Q				0			
Minor Street		Westbound		Eastbound					
Movement	7	8	9	9 10		11		12	
	L	T	R			Ľ	T		R
Volume	20	0	16	16 12		0		16	
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	21	0	17			0	0		0
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized			0	+			1		0
anes	0	0	0	-		0	0		0
Configuration	†	LR	 		_			 	
	and Lavel of C				_				
Delay, Queue Length, a			r	\ A / II	_	ı.		F 0	.1
Approach	NB	SB		Westbo	ounc			Eastbour	_
Vovement	1	4	7	8		9	10	11	12
ane Configuration		LT		LR			i.K.		
v (vph)		3		38					
C (m) (vph)		950		354	1				
ı/c		0.00		0.11	1				
95% queue length		0.01		0.36	_		1		
Control Delay		8.8		16.4	_				
OS		A		70.4 C			1		
					•		-		
Approach Delay		(**)		16.4	ŧ				
Approach LOS		UMB(С					

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UM	MARY			
General Information	n		Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 AM		Interse Jurisdi Analys	ction	r		Lewisbur Glenn City of Fr 2013	_	Douglas
Project Description St	ate Route 106 (Lewisburg Pike) TPR						
East/West Street: Doug				South S	Stree	et: <i>Lewisi</i>	burg Pike		
Intersection Orientation:	North-South): <i>0.25</i>	-		
Vehicle Volumes ar	nd Adjustme	nts							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	Т	R			L	Т		R
Volume	12	582	0			0	314		6
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	13	632	0			0	341		6
Percent Heavy Vehicles	0			Undiv	ial -	0			
Median Type		<u> </u>	1 0	Unail	viaec	7	1	1	0
RT Channelized	0	1	0	\longrightarrow		0	1		0
Lanes	LT	1	0	\dashv		U	<u>'</u>		
Configuration	L1	0		\longrightarrow			0		TR
Upstream Signal									
Minor Street	7	Westbound	9			10	Eastbou	ina I	12
Movement		8 T	R R			10	11 T	-	
Volume	L	_				L	ļ	_	R
Peak-Hour Factor, PHF	0.92	0 0.92	0.92)		11 0.92	0.92	-	6 0.92
Hourly Flow Rate, HFR	0.92	0.92	0.92			11	0.92		6
Percent Heavy Vehicles	0	0	0			0	0	$\overline{}$	0
Percent Grade (%)		0	<u> </u>				0		
Flared Approach	1	T N	1	$\overline{}$			l N	$\overline{}$	
Storage		0	+				0	_	
RT Channelized	+	1 0	1				"	-	0
	0		0			0		_	0
Lanes	0	0	0			0	0 LR		0
Configuration	<u> </u>	<u> </u>	<u> </u>	ļ			LR		
Delay, Queue Length, a	The state of the s			144 11			1		
Approach	NB	SB		Westb		ı		Eastbou	
Movement	1	4	7	8		9	10	11	12
Lane Configuration	LT			<u> </u>			ļ	LR	
v (vph)	13							17	
C (m) (vph)	1223							343	
v/c	0.01							0.05	
95% queue length	0.03			1				0.16	
Control Delay	8.0							16.0	
LOS	A			T				С	1
Approach Delay								16.0	
Approach LOS								C	
Rights Reserved		·					I.		

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	SUM	MARY			
General Information	n		Site	Infori	mati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaft Clinard Er 4/23/2008 PM	ngineering	Interso Jurisd Analys		ar		Lewisbui Glenn City of Fi 2013		Douglas
Project Description S	State Route 106	(Lewisburg Pil	ke) TPR						
East/West Street: Dou				South	Stre	et: <i>Lewi</i>	sburg Pike		
Intersection Orientation	: North-South)	Study	Period	d (hrs	s): <i>0.25</i>			
Vehicle Volumes a	nd Adiustm	ents							
Major Street	1	Northbound			Ĩ		Southbo	und	
Movement	1	2	3			4	5		6
	L	Т	R			L	Т		R
Volume	6	314	0			0	582		12
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR	_	341	0			0	632		13
Percent Heavy Vehicles	s 0					0			
Median Type				Undi	vided	1			
RT Channelized			0						0
Lanes	0	1	0			0	1		0
Configuration	LT								TR
Upstream Signal		0					0		
Minor Street		Westbound					Eastbou		
Movement	7	8	9			10	11		12
	L	Т	R			L	Т		R
Volume	0	0	0			9	0		5
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR	_1	0	0			9	0		5
Percent Heavy Vehicles	s 0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized		1	0						0
Lanes	0	0	0			0	0		0
Configuration	1	İ					LR		
Delay, Queue Length,	and Level of S	Service					•		
Approach	NB	SB		Westb	ound		Ι ,	astboun	d
Movement	1	4	7	8		9	10	11	12
Lane Configuration	LT	-	,	 "	· -	J	10	LR	12
				 			-		
v (vph)	6			<u> </u>			 	14	+
C (m) (vph)	950							323	
v/c	0.01			<u> </u>				0.04	
95% queue length	0.02							0.14	
Control Delay	8.8							16.6	
LOS	Α				\neg			С	
Approach Delay				-				16.6	
Approach LOS							†	С	
HCS2000 TM		vright © 2003 Univer	sity of Florida	All Digi	hte Das	arvad	1		Version 4.1

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	D-WAY STOP	CONTR	OL S	UMI	MARY			
General Information	n	22	Site I	nform	natio	on			
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2006 PM	ingineering 8	Jurisdi Analys	section diction diction City of Franklin 2013			Ellington		
Project Description S		(Lewisburg Pike) TPR						
East/West Street: Ellin							burg Pike		
Intersection Orientation:	North-South		Study	Period	(hrs)): 0.25			
Vehicle Volumes a	nd Adjustm	ents							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	I	R			L	I		R
Volume	45	307	13			20	634		22
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	333	14			21	689		0
Percent Heavy Vehicles	0	2000				0			
Median Type				Undiv	ided				
RT Channelized			0						0
Lanes	0	1	0			0	1		0
Configuration			TR			LT			
Jpstream Signal		0					0		
Minor Street		Westbound					Eastboo	ınd	
Movement	7	8	9			10	11		12
	L	Т	R			Ľ	T		R
Volume	8	0	7		12		0		16
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.92
Hourly Flow Rate, HFR	8	0	7			0	0		0
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized			0						0
Lanes	0	0	0			0	0		0
Configuration		LR							
Delay, Queue Length,	and Level of S				_				
Approach	NB	SB		Westbo	hund			Eastboun	d
Movement	1	4	7	8	1	9	10	11	12
ane Configuration		LT			\dashv	3	10	- ''	+ '-
				LR	-		1	 	-
/ (vph)		21		15	_				+
C (m) (vph)		1223		350	$\overline{}$				
ı/c		0.02		0.04	\rightarrow				
95% queue length		0.05		0.13					
Control Delay		8.0		15.7					
_OS		Α		С	\neg			1	
Approach Delay				15.7	_		1		-!
Approach LOS		PP-1		C			 		
Rights Reserved	55	1,545					L		

 $HCS2000^{\mathsf{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	D-WAY STOP	CONTR	ROL SUI	MMARY					
General Information			Site	Informa	tion					
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gai Clinard E 4/23/2008 AM	ngineering	Jurisd	Intersection Jurisdiction Analysis Year			Lewisburg Pike & St Georges City of Franklin 2013			
Project Description Sta	te Route 106	(Lewisburg Pike	e) TPR							
East/West Street: St. Ge	eorge's Way			South Str	eet: Lewis	sburg Pike				
Intersection Orientation:	North-South		Study	Period (h	rs): <i>0.25</i>					
Vehicle Volumes an	d Adjustm	ents								
Major Street		Northbound				Southbo	und			
Movement	1	2	3		4	5		6		
	L	Т	R		L	T		R		
Volume	45	647	7		6	288		22		
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92		
Hourly Flow Rate, HFR	0	703	7		6	313		0		
Percent Heavy Vehicles	0	***			0	144		77		
Median Type				Undivid	ed					
RT Channelized			0					0		
anes	0	1	0		0	1		0		
Configuration			TR		LT	0				
Jpstream Signal		0								
Minor Street		Westbound		Eastboo		und				
Movement	7	8	9		10	11		12		
	L	T	R		12	T T		R		
/olume	11	0	26			0		16		
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92		
Hourly Flow Rate, HFR	11	0	28		0	0		0		
Percent Heavy Vehicles	0	0	0		0	0		0		
Percent Grade (%)		0				0				
Flared Approach		N				N				
Storage		0				0				
RT Channelized			0				i i	0		
anes	0	0	0		0	0		0		
Configuration		LR								
Delay, Queue Length, ar	d Level of S	ervice								
Approach	NB	SB		Westbour	nd	T	Eastboun	4		
Movement	1	4	7	8	9	10	11	12		
ane Configuration		LT			+ -	10	 	12		
				LR	-		-			
(vph)		6		39			 	-		
(m) (vph)		899		367						
/c		0.01		0.11						
5% queue length		0.02		0.35						
Control Delay		9.0		16.0						
.OS		Α		Ç						
pproach Delay		(##)		16.0				-		
pproach LOS				C		+				
ights Reserved	2007	<u> </u>				4				

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	D-WAY STOP	CONTR	OL SU	MMARY				
General Information	n		Site I	nforma	ation				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Ga Clinard E 4/23/2008 PM	ngineering	Interse Jurisdi Analys			Lewisburg Pike & St Georges City of Franklin 2013			
Project Description S	tate Route 106	(Lewisburg Pike) TPR						
East/West Street: St. (George's Way	- V		South St	reet: Lewi	sburg Pike			
ntersection Orientation	: North-South		Study	Period (ł	nrs): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents							
Major Street		Northbound				Southbo	und		
Vovement	1	1 2			4	5		6	
	L	T	R		L	T		R	
Volume	45	275	6		21	665		22	
Peak-Hour Factor, PHF		0.92	0.92	?	0.92	0.92		0.92	
lourly Flow Rate, HFR	0	298	6		22	722		0	
Percent Heavy Vehicles	0) (100 0)			0	***			
Median Type				Ųndivid	ded	_			
RT Channelized			0					0	
anes	0	1	0		0	1		0	
Configuration			TR		LT	+			
Jpstream Signal		0	<u> </u>			0			
linor Street		Westbound	1 .			Eastbou	ınd	10	
Movement	7	8	9		10	11		12	
7.	L _e	T	R		<u> </u>	T		R	
/olume	3	0	13		12	0		16	
Peak-Hour Factor, PHF Hourly Flow Rate, HFR		0.92		0.92 0.9		0.92		0.92 0	
Percent Heavy Vehicles	3	0	14		0	0	_	0	
Percent Heavy vehicles	0		0					0	
	-	0				0			
lared Approach		N				N			
Storage		0				0			
RT Channelized	4		0					0	
anes	0	0	0		0	0		0	
Configuration		LR							
Delay, Queue Length,	and Level of S	ervice							
Approach	NB	SB		Westbou	ınd		Eastboun	d	
Novement	1	4	7	8	9	10	11	12	
ane Configuration		LT		LR					
(vph)		22		17					
C (m) (vph)		1268		546				1	
/c		0.02		0.03	1	1		1	
5% queue length		0.05	-	0.10	-	+		+	
Control Delay		7.9	-		-	 		+	
				11.8				-	
os		Α		В					
pproach Delay		(**		11.8					
pproach LOS		1	В						

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

	TWC	-WAY STOP	CONTR	OL S	UM	MARY				
General Informatio	n		Site I	nforr	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 AM	ngineering	Interse Jurisdi Analys	ction	ır		Lewisbu City of F 2013		Bov	vman
Project Description Si		(Lewisbura Pike) TPR							
East/West Street: Bow				South	Stree	et: Lewis	bura Pike			
Intersection Orientation:): 0.25				
Vehicle Volumes a	nd Adjustme	nte			-	<u> </u>				
Major Street		Northbound					Southbo	und		
Movement	1	2	3		_	4	5	, dirid		6
	i	T	R			Ė	Ť			R
Volume	7	678	4			0	289			2
Peak-Hour Factor, PHF	0.92	0.92	0.92)	-	0.92	0.92			92
Hourly Flow Rate, HFR	7	736	0			0	314			3
Percent Heavy Vehicles	0	(24)	124			0	144		2	-
Median Type	İ	***************************************	*	Undi	vided	1				
RT Channelized			0				0			
Lanes	0	1	0			0	1		()
Configuration	LT								Т	R
Jpstream Signal		0	3				0		0	
Minor Street		Westbound		_	_		Eastbound			
Movement	7	8	9			10	11		12	
	Ĺ	1	R			Ĺ	Т			R
Volume	6	0	14			72	0		1	
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.9	
Hourly Flow Rate, HFR	0	0	0			78	0			9
Percent Heavy Vehicles	0	0	0			0	0		()
Percent Grade (%)		Q					0			
Flared Approach	7	T N					T N			
Storage	_	0					0			
RT Channelized		+	0)
	1 0				-		 			
Lanes	0	0	0			0	0)
Configuration	4						LR			
Delay, Queue Length, a										
Approach	NB	SB		Westb				Eastbou	nd	
Movement	1	4	7	8		9	10	11		12
ane Configuration	LT [©]	•						LR		
v (vph)	7							97		
C (m) (vph)	1244		1-1				1	283		
//c	0.01							0.34	\dashv	
95% queue length	0.02						 	1.47	\dashv	
Control Delay	7.9						-	24.2	+	
				_			-		\dashv	
LOS	Α							С		
Approach Delay	22	22						24.2		
Approach LOS								С		

HCS2000TM Version 4.1d Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UM	MARY				
General Information	n		Site I	nforr	mati	on		*		
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 PM	ngineering I	Interse Jurisdi Analys	ction	ar		Lewisbur City of Fr 2013	g Pike & E anklin	Bowman	
		(Lewisburg Pike) TPR							
East/West Street: Bow						et: <i>Lewis</i>	burg Pike			
Intersection Orientation:			Study	Period	d (hrs	s): 0.25				
Vehicle Volumes a	nd Adjustme	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5		6	
	L	J	R			L	T		R	
Volume	9	285	4			0	660		42	
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.92	
Hourly Flow Rate, HFR	9	309	0		_	0	717		45	
Percent Heavy Vehicles	0	(/		-,.	<u>L</u>	0				
Median Type				Ųndi	vided	<u> </u>			_	
RT Channelized	-		0		<u> </u>				0	
Lanes	0	1	0		_	0	1		0	
Configuration	LT								TR	
Jpstream Signal		0					0			
Minor Street		Westbound					Eastbou	ınd		
Movement	7	8	9			10	11		12	
	L	Т	R			L	Т		R	
Volume	6	0	14			32	0		7	
Peak-Hour Factor, PHF	0.92	0.92	0.92		_	0.92	0.92		0.92	
Hourly Flow Rate, HFR	0	0	0			34	0		7	
Percent Heavy Vehicles	0	0	0			0	0		0	
Percent Grade (%)		0					0			
Flared Approach		N					N		341	
Storage		0					0			
RT Channelized			0						0	
_anes	0	0	0			0	0		0	
Configuration							LR			
Delay, Queue Length, a	and Level of Se	ervice								
Approach	NB	SB	,	Westb	ounc	<u> </u>		Eastbound	<u></u>	
Movement	1	4	7	8		9	10	11	12	
ane Configuration	LT			٣				LR	<u> </u>	
(vph)	9						 	41	†	
C (m) (vph)	859			 			-	264	-	
							 		+	
//c	0.01			-			-	0.16	-	
95% queue length	0.03							0.54		
Control Delay	9.2							21.1		
.OS	Α							С		
Approach Delay								21.1		

 $HCS2000^{\text{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

		D-WAY STOF	CONTR	OL SU	MMARY			
General Informatio			Site I	nforma	tion			
Analyst Agency/Co. Date Performed	4/23/2008	ngineering	Interse Jurisdi Analys			Lewisbui City of Fi 2013	rg Pike & ranklin	Holly Hil
Analysis Time Period	AM							
Project Description S	tate Route 106	(Lewisburg Pike						
East/West Street: Holly					eet: Lewis	burg Pike		
Intersection Orientation:			Study	Perioa (n	rs): 0.25			
Vehicle Volumes a	nd Adjustm							
Major Street		Northbound				Southbo	und	
Movement	1	2	3		4	5		6
Volume	4	695	R 7		14	7 265		R 7
Peak-Hour Factor, PHF	0.92	0.92	0.92	,	0.92	0.92		0.92
Hourly Flow Rate, HFR	0.92	755	7	-	15	288		0.92
Percent Heavy Vehicles	0	755			0	200		
Median Type	 			Ųndivide				
RT Channelized	1	1	0	0 O			$\neg \neg$	0
_anes	0	1	0 0		1		0	
Configuration				TR LT		+		
Jpstream Signal	·	0	 			0		
Minor Street		Westbound					ınd	
Movement	7	8	9		10	11	and T	12
	L	T	R		L	T		R
Volume	7	0	49		32	0	<u> </u>	8
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92
Hourly Flow Rate, HFR	7	0	53		0	0		0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized	1		0			 		0
anes	0	0	0		0	0		0
Configuration	Ť	LR	†			— <u> </u>		
Delay, Queue Length, a	and Level of S							
Approach	NB	SB	·	Westbour	nd		Eastboun	d
Movement	1	4	7	8	9	10	11	12
ane Configuration		LT	- '	LR	+	10		1 12
					+	-	 	+
/ (vph)		15		60	-	-	 	-
C (m) (vph)		859		379			ļ	
//c		0.02		0.16				
95% queue length		0.05		0.56				
Control Delay		9.3		16.3				
.os		Α		С				
Approach Delay				16.3	*		10.0	

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	D-WAY STOP	CONTR	OL SU	JMM	IARY					
General Information	n		Site I	nform	atio	n					
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008 PM	ngineering 3					Lewisbu City of F 2013		k Holly Hill		
Project Description S		(Lewisburg Pike									
East/West Street: Holl							burg Pike				
Intersection Orientation			Study Period (hrs): 0.25								
Vehicle Volumes a	nd Adjustm	ents									
Major Street		Northbound					Southbo	ound			
Movement	1	2	3			4	5		6		
	L	Т	R			L	Т		R		
Volume	4	295	6			33	618		7		
Peak-Hour Factor, PHF	0.92	0.92	0.92	2).92	0.92		0.92		
Hourly Flow Rate, HFR	0	320	6			35	671		0		
Percent Heavy Vehicles	0	155				0					
Median Type			_	Undivided							
RT Channelized			0					0			
Lanes	0	1	0			0	1		0		
Configuration			TR			LT					
Upstream Signal		0				0					
Minor Street		Westbound					Eastbo	und			
Movement	7	8	9	9 10		11		12			
	L	Т	R			L	T		R		
Volume	4	0	26			32	0		8		
Peak-Hour Factor, PHF	0.92	0.92	0.92	?	0	.92	0.92		0.92		
Hourly Flow Rate, HFR	4	0	28			0	0		0		
Percent Heavy Vehicles	0	0	0			0	0		0		
Percent Grade (%)		0					0				
Flared Approach		N					N				
Storage		0					0				
RT Channelized			0						0		
Lanes	0	0	0			0	0		0		
Configuration	Ť	LR	† <u> </u>				† 	_	10.		
Delay, Queue Length,	and Laval of S				_		-				
Approach	NB NB	SB		Westbo	und		T	Eastbou	nd		
					und		10	_			
Movement	1	4	7	8	-	9	10	11	12		
Lane Configuration		LT		LR	_				—		
/ (vph)		35		32							
C (m) (vph)		1245		579							
//c		0.03		0.06							
95% queue length		0.09		0.18							
Control Delay		8.0		11.6	_				\neg		
LOS		A		В	-			1	\neg		
Approach Delay				11.6			 				
		2552				 		1912			
Approach LOS Lights Reserved	**			В			J				

HCS2000TM Version 4.1d

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	ŲΜ	MARY			
General Information	on		Site	Inforr	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 AM	ngineering			nr		Lewisbur City of Fr 2013	rg Pike & i ranklin	Donelson
Project Description S	State Route 106	Lewisburg Pike) TPR						
East/West Street: Doi	nelson Creek Pai	kway		South	Stree	et: <i>Lewis</i>	burg Pike		
Intersection Orientation						s): 0.25			
Vehicle Volumes a	and Adjustme	nts		221040					
Major Street		Northbound					Southbo	und	
Movement	1	2	3	~ =		4	5		6
		T	R			L	T		R
Volume	130	521	4			9	256		32
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR		566	0			0	278	3	34
Percent Heavy Vehicles	s 0	: 45				0			77
Median Type				Undi	vided	d			
RT Channelized			0						0
Lanes	1	1	0			0	1		1
Configuration	L	T					Ť		R
Jpstream Signal		0					0		
Minor Street		Westbound					Eastbou	ınd	
Movement	7	8	9			10	11		12
	L	Т	R			L	T		R
Volume	3	0	24			63	0		65
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR		0	0			68	0		70
Percent Heavy Vehicles	s 0	0	0			0	0		0
Percent Grade (%)		0					Q		
Flared Approach		N					Ň		
Storage		0					0		
RT Channelized			0				+		0
anes	0	0	0		_	1	0		1
Configuration	-	1	├			Ĺ	 		R
Delay, Queue Length,	and lavel of Co	m.i.e.	<u> </u>						
Approach	NB NB	SB		Westb			T	Caathaus	
					_		+	Eastboun	
Movement	1	4	7	8		9	10	11	12
ane Configuration	L						L		R
/ (vph)	141						68		70
C (m) (vph)	1260						203		766
r/c	0.11						0.33		0.09
95% queue length	0.38						1.40		0.30
Control Delay	8.2						31.4		10.2
OS	A						D		B
Approach Delay					-		+ -	20.6	1 "
							 		
Approach LOS Lights Reserved	***							С	

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UM	MARY				
General Information	on		Site	Infori	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 PM	ngineering	Interso Jurisd Analys		ar		Lewisbur City of Fr 2013		Donelson	
Project Description S	State Route 106	(Lewisburg Pike) TPR							
East/West Street: Doi	nelson Creek Pa	rkway		South	Stree	et: Lewis	burg Pike			
Intersection Orientation	n: North-South): 0.25				
Vehicle Volumes a	and Adjustme	ents				-				
Major Street	T	Northbound					Southbo	und		
Movement	1	2	3			4	5		6	
	L	T	R			L	Т		R	
Volume	61	218	4			9	605		67	
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92		0.92	
Hourly Flow Rate, HFR		236	0			0	657		72	
Percent Heavy Vehicles	s 0	***	===			0	-			
Median Type				Undi	vided	1				
RT Channelized			0						0	
Lanes	1	1	0			0	1		1	
Configuration	L	T					T		R	
Upstream Signal		0					0			
Minor Street		Westbound					Eastbou	ınd		
Movement	7	8	9			10	11		12	
	L	T	R			L	T		R	
Volume	3	0	24			55	0		183	
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92		0.92	
Hourly Flow Rate, HFR		0	0			59	0		198	
Percent Heavy Vehicles	s 0	0	0			0	0		0	
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0						0	
Lanes	0	0	0			1	0		1	
Configuration			1			L			R	
Delay, Queue Length,	and Level of So	ervice								
Approach	NB	SB	1	Westb	ound		1	Eastboun		
Movement	1	4	7	8		9	10	11	12	
Lane Configuration	L	- T		 	_	3	L 10		R	
	66			-						
v (vph)							59		198	
C (m) (vph)	884				_		243		468	
v/c	0.07						0.24		0.42	
95% queue length	0.24						0.92		2.07	
Control Delay	9.4						24.5		18.2	
LOS	Α						С		С	
Approach Delay	0.77	s e .				-	1	19.7		
Approach LOS	7.25						1	С		
Rights Reserved										

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved Version 4.1d

	TWO	D-WAY STOP	CONTR	OL SUN	MARY			
General Information	on		Site I	nformat	ion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gat Clinard E 4/23/2008 AM	ngineering	Interse Jurisd Analys			Lewisbur City of Fi 2013	g Pike & L ranklin)allas
Project Description S	State Route 106	(Lewisburg Pike) TPR					
East/West Street: Dal.	las Blvd/ School	Entrance		South Stre	eet: Lewis	burg Pike		
Intersection Orientation	ı: North-South		Study	Period (hr	s): 0.25			
Vehicle Volumes a	nd Adjustm	ents			7			
Major Street	1	Northbound				Southbo	und	
Movement	1	2	3		4	5		6
		Т	R		L	T		R
Volume	7	659	7		105	239		18
Peak-Hour Factor, PHF		0.92	0.92	?	0.92	0.92		0.92
Hourly Flow Rate, HFR		716	7		114	259		19
Percent Heavy Vehicles	s 0	-			0			
Median Type			Undivided					
RT Channelized			0				0	
_anes	1	1	0		1	1		1
Configuration	L		TR		L	T		R
Jpstream Signal		0				0		
Minor Street		Westbound				Eastbou	ınd	
Movement	7	8	9		10	11		12
	L	T	R		L _i	T		R
Volume	2	0	47		116	0		48
Peak-Hour Factor, PHF		0.92	0.92		0.92	0.92		0.92
Hourly Flow Rate, HFR	2	0	51		126	0		52
Percent Heavy Vehicles	6 0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
_anes	0	1	0		0	1		1
Configuration		LTR	Ť		LT			R
Delay, Queue Length,	and Lovel of S							
Approach	NB NB	SB		Westboun	d	I	Eastbound	4
Movement								
	1	4	7	8	9	10	11	12
ane Configuration	L	L		LTR		LT		R
(vph)	7	114		53		126		52
C (m) (vph)	1296	889		395		120		785
<i>/</i> /c	0.01	0.13		0.13		1.05		0.07
5% queue length	0.02	0.44		0.46		7.26		0.21
Control Delay	7.8	9.6		15.5		165.8		9.9
.OS	Α	Α		С		F		A
Approach Delay		722		15.5	-	 	120.3	
Approach LOS				C		†	F F	
ights Reserved				U			Γ	

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL SUN	IMARY				
General Information	on		Site I	nformat	tion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gat Clinard E 4/23/2008 PM	ngineering	Interse Jurisdi Analys			Lewisbur City of Fr 2013	rg Pike & L ranklin	Dallas	
Project Description S	tate Route 106	(Lewisburg Pike,) TPR						
East/West Street: Dali				South Stre	eet: <i>Lewis</i>	burg Pike			
Intersection Orientation	: North-South		Study	Period (hr	s): 0.25	7054			
Vehicle Volumes a	nd Adjustm	ents							
Major Street		Northbound				Southbo	und		
Movement	1	2	3		4	5	- 7	6	
,	L,	T	R		L	T		R	
Volume	23	262	3		42	718		84	
Peak-Hour Factor, PHF		0.92	0.92	?	0.92	0.92		0.92	
Hourly Flow Rate, HFR	24	284	3		45	780	8.	91	
Percent Heavy Vehicles	0				0				
Median Type				Undivide	ed				
RT Channelized			0					0	
Lanes	1	1	0		1	1		1	
Configuration	L		TR		Ĺ			R	
Jpstream Signal		0				0			
Minor Street		Westbound				Eastbou	ınd		
Movement	7	8	9		10	11		12	
	Ĺ	T	R		L	T		R	
√olume	5	0	56		54	0		16	
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92	
Hourly Flow Rate, HFR	5	0	60	77:	58	0		17	
Percent Heavy Vehicles	0	0	0		0	0		0	
Percent Grade (%)		0				0			
Flared Approach		N				N			
Storage		0				0			
RT Channelized			0			†		0	
anes	0	1	0		0	1		1	
Configuration	1	LTR	Ť		LT	†		R	
Delay, Queue Length,	and Laval of S						_		
Approach	NB	SB		Westboun	v d	T	Eastbound	4	
				Y				_	
Movement	1	4	7	8	9	10	11	12	
ane Configuration	L	L		LTR	ļ	LT		R	
(vph)	24	45		65		58		17	
C (m) (vph)	783	1287		561		136		399	
r/c	0.03	0.03		0.12		0.43		0.04	
95% queue length	0.09	0.11	8	0.39	Al Al	1.87	1	0.13	
Control Delay	9.7	7.9		12.3		49.8		14.4	
OS	A	A		В	1	E		В	
Approach Delay				12.3	1	+	41.8	1 2	
Approach LOS	nas:	S 44 5		В		J	E		

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved Version 4.1d

	TWO	-WAY STOP	CONTR	OL S	UM	MARY				
General Information	n		Site I	nforr	nat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gat Clinard E 4/23/2008 AM	ngineering	Interse Jurisdi Analys	iction	ar		Lewisbu Landin City of F 2013	•		Moores
Project Description S	tate Route 10	6 (Lewisburg Pi	ke) TPR							
East/West Street: Mod				South	Stre	et: <i>Lewi</i> s	sburg Pike	,		
Intersection Orientation	: North-Sout	h	Study	Perioc	l (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustn	nents								
Major Street		Northbound					Southbo	ound		
Movement	1	2	3			4	5			6
	L	Т	R			<u>L</u>	T			R
Volume	0	836	8			11	355			0
Peak-Hour Factor, PHF Hourly Flow Rate, HFR	0.92 0	0.92 908	0.92 8	<u>:</u>		0.92 11	0.92 385		(0.92 0
Percent Heavy Vehicles				-		0		\dashv		
Median Type	,			Undivided						
RT Channelized	+		0	Orian	naec	<i>.</i>	1	1		0
Lanes	0	1	0	-		1	1	\dashv		0
Configuration	 	† '	TR			L	T			
Upstream Signal	†	0	1				0	\dashv		
Minor Street	†	Westbound					Eastbo	und		
Movement	7	8	9			10	11	1		12
	L	Т	R			L	Т			R
Volume	7	0	16			0	0			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		().92
Hourly Flow Rate, HFR	7	0	17			0	0			0
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0				ĺ	ĺ		0
Lanes	0	0	0			0	0			0
Configuration	1	LR						ĺ		
Delay, Queue Length,	and Level of	Service								
Approach	NB	SB	,	Westb	ounc	t		Eastb	ound	
Movement	1	4	7	8		9	10	1	1	12
Lane Configuration		L		LR				1		
v (vph)		11		24	_			1		
C (m) (vph)	-	753		262	_			 		
v/c		0.01		0.0			1	+		
95% queue length		0.04		0.30				╫		
Control Delay	-	9.9		20.	_			╁		
				20.	ı		<u> </u>	╀		
LOS		Α			1					
Approach Delay				20.	I		-			
Approach LOS HCS2000 TM		 pyright © 2003 Univer		С						

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UMM	ARY			
General Information	n		Site I	nforn	natior)			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 PM	ngineering	Interse Jurisdi Analys		r		Lewisbu Landin City of F 2013	rg Pike & ranklin	Moores
Project Description S	tate Route 106	6 (Lewisburg Pi	ke) TPR						
East/West Street: Mod				South 9	Street:	Lewi	sburg Pike		
Intersection Orientation	: North-Souti	h	Study	Period	(hrs):	0.25			
Vehicle Volumes a	nd Adjustm	nents							
Major Street		Northbound					Southbo	und	
Movement	1	2	3		4		5		6
	L	Т	R		L	•	Т		R
Volume	0	358	4		26		828		0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?	0.9		0.92		0.92
Hourly Flow Rate, HFR	0	389	4		28		899		0
Percent Heavy Vehicles	0				0				
Median Type	<u> </u>			Undiv	rided				
RT Channelized	<u> </u>		0						0
Lanes	0	1	0		1		1		0
Configuration			TR		L		T		
Upstream Signal		0					0		
Minor Street		Westbound					Eastbou	ınd	
Movement	7	8	9		10)	11		12
	L	Т	R		L	-	Т		R
Volume	20	0	8		0		0		0
Peak-Hour Factor, PHF		0.92	0.92	?	0.9		0.92		0.92
Hourly Flow Rate, HFR	21	0	8		0		0		0
Percent Heavy Vehicles	0	0	0		0		0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized	1	1	0						0
Lanes	0	0	0		0		0		0
Configuration	1	LR							
Delay, Queue Length,	and Level of	Service					•		
Approach	NB	SB	,	Westbo	ound		1	Eastboun	d
Movement	1	4	7	8	<u> </u>	9	10	11	12
	<u>'</u>	L	,	LR		J	10	 ''	12
Lane Configuration					\dashv		-	-	+
v (vph)		28		29					
C (m) (vph)		1177		208			<u> </u>	<u> </u>	
v/c		0.02		0.14	<u> </u>				
95% queue length		0.07		0.48	3				
Control Delay		8.1		25.1					
LOS		Α		D					
Approach Delay				25.1	'		1		-1
Approach LOS							 		
HCS2000 TM	ļ.	ovright © 2003 Univer			D	1			Version 4.

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	MARY			
General Information	 1		Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard En 4/23/2008 AM		Interse Jurisdi Analys	ction	ır		Lewisbur City of Fr 2013	g Pike & E anklin	ssex
Project Description Sta		Lewisbura Pike) TPR						
East/West Street: Esse				South	Stree	et: <i>Lewisi</i>	bura Pike		
Intersection Orientation:): 0.25	<u> </u>		
Vehicle Volumes ar	d Adjustma	nte			`	,			
Major Street	T Aujustine	Northbound					Southbo	und	
Movement	1	2	3			4	5		6
NIO VOITIONE	i i	<u>-</u> T	R			<u> </u>	Ť		R
Volume	9	845	0			0	343		11
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	9	918	0			0	372		11
Percent Heavy Vehicles	0					0			
Median Type	1	,	1	Undi	vided	d	1	Į.	
RT Channelized	İ		0						0
Lanes	0	1	0			0	1		0
Configuration	LT								TR
Upstream Signal		0					0		
Minor Street	1	Westbound		Fa			Eastbou	nd	
Movement	7	8	9	9 10		11	1	12	
WOVERNOTIC	† '	T	R		L		T		R
Volume	0	0	0			48	0	_	20
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92	\dashv	0.92
Hourly Flow Rate, HFR	0	0.32	0.02			52	0.02	$\overline{}$	21
Percent Heavy Vehicles	0	0	0			0	0	\dashv	0
Percent Grade (%)	 	0					0		
Flared Approach	1	T N	1				l N		
			 					_	
Storage	<u> </u>	0					0		
RT Channelized	ļ	ļ	0						0
Lanes	0	0	0			0	0		0
Configuration							LR		
Delay, Queue Length, a	nd Level of Se	rvice							
Approach	NB	SB	1	Westb	ounc	d		Eastbound	ł
Movement	1	4	7	8		9	10	11	12
Lane Configuration	LT							LR	1
v (vph)	9					-		73	1
	1187			\vdash			 		+
C (m) (vph)				 			-	222	1
v/c	0.01			<u> </u>				0.33	
95% queue length	0.02			<u> </u>		<u></u>	ļ	1.37	<u> </u>
Control Delay	8.1							29.0	
LOS	Α							D	
Approach Delay								29.0	-
Approach LOS								D	
Rights Reserved									

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	-WAY STOP	CONTR	OL S	UM	MARY			
General Information	 1		Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard En 4/23/2008 PM		Interse Jurisdi Analys	ction	ır		Lewisbur City of Fr 2013	g Pike & E anklin	ssex
	ate Route 106 (i	Lewisbura Pike) TPR						
East/West Street: Esse.				South	Stree	et: <i>Lewisi</i>	bura Pike		
Intersection Orientation:): 0.25	<u> </u>		
Vehicle Volumes an	d Adjustma	nte				,			
Major Street	T Aujustine	Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	i i	T	R			L	Ť		R
Volume	4	362	0			0	801		25
Peak-Hour Factor, PHF	0.92	0.92	0.92	•		0.92	0.92		0.92
Hourly Flow Rate, HFR	4	393	0			0	870		27
Percent Heavy Vehicles	0					0		İ	
Median Type		•		Undi	vide	d			
RT Channelized	ĺ		0						0
Lanes	0	1	0			0	1		0
Configuration	LT								TR
Upstream Signal		0					0		
Minor Street	1	Westbound					Eastbou	nd	
Movement	7	8	9	9 10		11	1	12	
	i	T	R			L	T	\neg	R
Volume	0	0	0			11	0	-	26
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0			11	0	\neg	28
Percent Heavy Vehicles	0	0	0			0	0	\neg	0
Percent Grade (%)		0				-	0		
Flared Approach	†	T N	1				l N	1	
Storage	+	0	 				0	_	
RT Channelized	-	1 0					-		
			0						0
Lanes	0	0	0			0	0		0
Configuration							LR		
Delay, Queue Length, a									
Approach	NB	SB		Westb	ound	<u>k</u>	I	Eastbound	
Movement	1	4	7	8		9	10	11	12
Lane Configuration	LT							LR	
v (vph)	4							39	
C (m) (vph)	765			\vdash				276	1
v/c	0.01			 			 	0.14	
	0.01			 			 	0.14	_
95% queue length				 			-		-
Control Delay	9.7							20.2	
LOS	Α							С	
Approach Delay								20.2	
Approach LOS								С	
Rights Reserved									

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	IMARY				
General Information	1		Site I	nforr	nat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 AM	ney gineering	Interse Jurisdi Analys	ction	ar		Lewisbu City of F 2013			Gardner
		(Lewisburg Pil	ke) TPR							
East/West Street: Gard		, ,		South	Stre	et: <i>Lewis</i>	burg Pike	ļ		
Intersection Orientation:	North-South		Study	Perioc	l (hr	s): <i>0.25</i>				
Vehicle Volumes ar	nd Adjustm	ents								
Major Street	-	Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
Volume	0	818	8			11	351			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	<u>'</u>		0.92	0.92		(0.92
Hourly Flow Rate, HFR	0	889	8			11	381			0
Percent Heavy Vehicles	0					0				
Median Type		<u> </u>	1 -	Undi	/idea	<u> </u>	Í			
RT Channelized			0				 			0
Lanes	0	1	0 TD			1	1 T			0
Configuration			TR			L	+			
Upstream Signal	T	0					0			
Minor Street		Westbound	1 0			1.0	Eastboo	und T		
Movement	7	8	9			10	11			12
	L	T	R			L	T			R
Volume	2	0	5			0	0			0
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92			0.92
Hourly Flow Rate, HFR	2	0	5	-		0	0			0
Percent Heavy Vehicles	0	0	0			0	0	ļ		0
Percent Grade (%)		0	1				0	1		
Flared Approach		N					N			
Storage		0					0			
RT Channelized		ļ	0							0
Lanes	0	0	0			0	0			0
Configuration		LR								
Delay, Queue Length, a	í	ř					•			
Approach	NB	SB	1	Nestb	ound	t		Eastb	ound	
Movement	1	4	7	8		9	10	1	1	12
Lane Configuration		L		LR	•					
v (vph)		11		7				Î		
C (m) (vph)		765		271	1		ĺ			
v/c		0.01		0.03	3					
95% queue length		0.04		0.08			†	1		
Control Delay	+	9.8		18.0			 	T		
LOS	+	A.		C				\vdash		
Approach Delay				18.0	6	<u> </u>	 	<u> </u>		
				18.0 C	9		 			
Approach LOS		 vright © 2003 Univers					<u> </u>			Version 4

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	IMARY					
General Information	າ		Site I	nforr	nat	ion					\neg
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 PM	ney gineering	Interse Jurisdi Analys	ction	ar		Lewisbu City of F 2013			Gardn	er
		(Lewisburg Pil	ke) TPR								\neg
East/West Street: Gard		, 3		South	Stre	et: <i>Lewis</i>	sburg Pike	ı			\neg
Intersection Orientation:	North-South		Study	Perioc	l (hr	s): <i>0.25</i>					
Vehicle Volumes an	d Adjustm	ents									
Major Street	•	Northbound					Southbo	und			
Movement	1	2	3			4	5			6	
	L	Т	R			L	Т			R	
Volume	0	350	4			25	819			0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		(0.92	
Hourly Flow Rate, HFR	0	380	4			27	890			0	
Percent Heavy Vehicles	0					0					
Median Type			•	Undi	vided	d	•				
RT Channelized			0				<u> </u>			0	
Lanes	0	1	0			1	1			0	
Configuration			TR			L	T				
Upstream Signal		0					0				
Minor Street		Westbound					Eastbou	und			
Movement	7	8	9			10	11			12	
	L	Т	R			L	Т			R	
Volume	5	0	2			0	0			0	
Peak-Hour Factor, PHF	0.92	0.92	'	0.92		0.92	0.92		C).92	
Hourly Flow Rate, HFR	5	0	2			0	0			0	
Percent Heavy Vehicles	0	0	0			0	0			0	
Percent Grade (%)		0					0	-			
Flared Approach		N					N				
Storage		0					0				
RT Channelized			0							0	
Lanes	0	0	0			0	0			0	
Configuration		LR									
Delay, Queue Length, a	nd Level of S	Service									$\overline{}$
Approach	NB	SB	1	Westb	ound		[Eastb	ound		
Movement	1	4	7	8		9	10	1	1	12	2
Lane Configuration		L		LR	,		†				\neg
v (vph)		27		7			<u> </u>				
C (m) (vph)		1186		215							
v/c		0.02		0.0				\vdash			-
95% queue length		0.02		0.0			 	\vdash			\dashv
							-	\vdash			\dashv
Control Delay		8.1		22.3	3		<u> </u>				
LOS		Α		С			ļ	<u></u>			
Approach Delay		22.3									
Approach LOS		C									
MC52000TM	C	right © 2003 Univers	C.E1 1.	A 11 D 1	. D					Versio	4.1

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

					LQ	NG RI	EPO	ORT							
General In	formation							Informa	tion						
Analyst Agency or (Date Perfor Time Period	med	inard E Asso 4/23	Gaffne Ingine Iciates 1/2008			li A J	nters Area Iuris	section Type diction sis Yea		Sł	City (Mack ther ar of Frar 2013	eas	ər	
Intersectio	n Geometry														
Grade = 0			0 1	1		Gra	ade =	0							
1	4					*									
1	<i>→</i>					-		1							
1	7					√		1							
Grade = 0															
Volume an	d Timing In	1 put	1	1		Gra	ide =	0							8
				EB			<u>,</u> W		_		NB	,		SB	
Valore e Vosel	- \		LT	TH	RT	LT	TI		_	_T	TH	RT	LT	TH	RT
Volume (vpl			6	614	26	377	93		_	5	203	616	108	70	6
% Heavy ve	5 11		0 0.92	0.92	0 0.92	0.92	0.9		_) 92	0 0.92	0 0.92	0.92	0.92	0.92
Actuated (P.	/A)		0.92 P	P	0.92 P	0.92 P	0.9 P		_	92	0.92 P	0.92 P	0.92 P	0.92 P	0.92 P
Startup lost			2.0	2.0	2.0	2.0	2.0			.0	2.0	2.0	2.0	2.0	+-
Ext. eff. gree			2.0	2.0	2.0	2.0	2.0		_	.0	2.0	2.0	2.0	2.0	
Arrival type			3	3	3	3	3	3		3	3	3	3	3	
Unit Extensi			3.0	3.0	3.0	3.0	3.0	3.0		.0	3.0	3.0	3.0	3.0	
	ΓOR Volume		0		0	0		0	_)		0	0		0
Lane Width			12.0	12.0	12.0	12.0	12.	_	_	2.0	12.0	12.0	12.0	12.0	
Parking (Y c	or N)		Ν		N	N	_	N	1	V		, N	N		N
Parking/hr									\perp						
Bus stops/hi			0	0	0	0	0	0		0	0	0	0	0	
Ped timing				3.2			3.2	2			3.2			3.2	
	Excl. Left	EW F	Perm	03		04	_	Excl. L	eft	NS	S Perm	Ţ	07	T	08
T	G = 5.0	G = 8		G =		G =		G = 5.	_	_	= 15.0	G =		G =	
Timing	Y = 5	Y = 5		Y =		Y =		Y = 5			= 5	Y =		Y =	
Duration of A	Analysis (hrs) = 0.2	5							Сус	le Leng	gth C =	125.	0	

VOLUME ADJUSTMENT AND SATURATION FLOW RATE WORKSHEET													
General Inform	ation												
Project Description	State R	oute 10	6 (Lewis	sburg P	lke) TPI	₹							
Volume Adjustr	ment						,						
		EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Volume	6	614	26	377	935	196	25	203	616	108	70	6	
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow Rate	7	667	28	410	1016	213	27	221	670	117	76	7	
Lane Group	L	T	R	L	T	R	L	T	R	L	TR		
Adj. flow rate	7	667	28	410	1016	213	27	221	670	117	83		
Prop. LT or RT	0.000		0.000	0.000	144	0.000	0.000	ien:	0.000	0.000		0.084	
Saturation Flow	Rate												
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Num. of lanes	7	1	1	1	1	1	1	1	1	1	1	0	
fVV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fHV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
fLU	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
fLT	0.950	1.000		0.950	1.000		0.950	1.000	9423	0.950	1.000	1220	
Secondary fLT	0.093			0.283			0.516			0.200		> **	
fRT		1.000	0.850	**	1.000	0.850	H.	1.000	0.850		0.987		
fLpb	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	(44 8)	
fRpb		1.000	1.000		1.000	1.000		1.000	1.000	11.	1.000		
Adj. satflow	1805	1900	1615	1805	1900	1615	1805	1900	1615	1805	1876		
Sec. adj. satflow	177			538		24	981			380		:==:	

		CA	PACIT	Y ANI) LOS	WORK	KSHEE	Т							
General Informa	tion														
Project Description	State Ro	ute 106	(Lewisi	burg Plk	e) TPR										
Capacity Analys	is														
		EB			WB			NB			SB				
Lane group	L	T	R	L,	T	R	L	T	R	L	TR				
Adj. flow rate	7	667	28	410	1016	213	27	221	670	117	83				
Satflow rate	1805	1900	1615	1805	1900	1615	1805	1900	1615	1805	1876				
Lost time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0				
Green ratio	0.72	0.64	0.88	0.72	0.64	0.88	0.20	0.12	0.88	0.20	0.12				
Lane group cap.	192	1216	1421	438	1216	1421	229	228	1421	133	225				
v/c ratio	0.04	0.55	0.02	0.94	0.84	0.15	0.12	0.97	0.47	0.88	0.37				
Flow ratio		0.35	0.02		0.53	0.13		0.12	0.41		0.04				
Crit. lane group	N	N	N	N	N	N	N	N	Ν	N	N				
Sum flow ratios		0.83													
Lost time/cycle						10.0	Q								
Critical v/c ratio	0.90														
Lane Group Capacity, Control Delay, and LOS Determination															
		EB			WB			NB			SB				
Lane group	L_{\odot}	T	R	L	T	R	L	T	R	L	TR				
Adj. flow rate	7	667	28	410	1016	213	27	221	670	117	83				
Lane group cap.	192	1216	1421	438	1216	1421	229	228	1421	133	225				
v/c ratio	0.04	0.55	0.02	0.94	0.84	0.15	0.12	0.97	0.47	0.88	0.37	П			
Green ratio	0.72	0.64	0.88	0.72	0.64	0.88	0.20	0.12	0.88	0.20	0.12				
Unif. delay d1	18.7	12.5	0.9	28.2	17.4	1.0	40.7	54.8	1.5	48.1	50.6				
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50				
Increm. delay d2	0.4	1.8	0.0	29.6	6.9	0.2	1.0	52.2	1.1	51.0	4.6				
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000				
Control delay	19.0	14.3	0.9	57.9	24.3	1.3	41.8	106.9	2.7	99.1	55.2				
Lane group LOS	В	В	Α	E	С	Α	D	F	A	F	Ε				
Apprch. delay	13	3.8		2	9.7		2	8.9			80.9				
Approach LOS		В			С			С			F				
Intersec. delay	29	9.2				Intersec	tion LO	S			С				

SUPPLEMENTAL								T TURNS FRO ED PHASES	OM EXCLUSIVE
General Informati	on								
Project Description S	State R	oute 106 (Leu	visburg Plke	e) TF	PR			
v/c Ratio Comput	ation								
				EB		WI	В	NB	SB
Cycle length, C (s)							128	5.0	
Prot. phase eff. green	intvl, g	(s)		5.0		5.0)	5.0	5.0
Opposed queue eff. gr	een in	tvl, gq (s)		58.32		26. <i>4</i>	19	5.32	15.40
Unopposed green intvl	, gu (s)		26.68		58.5	51	14.68	4.60
Red time, r(s)				35.0		35.0	0	100.0	100.0
Arrival rate, qa (veh/s)				0.00		0.1	1	0.01	0.03
Prot. phase departure	rate, s	p (veh/s)		0.501		0.50	11	0.501	0.501
Perm. phase departure	erm. phase departure rate, ss (veh/s					0.22	2	0.37	0.46
Xperm			0.04		0.76	6	- 0.03	0.31	
Xprot (N/A for lagging I	ns)		0.03		1.82	2	0.31	1.36	
Uniform Queue Size a	and De	elay Comp	uta	tions					
Queue at start of greer			0.07			3.99	9	0.75	3.25
Queue at start of unsat Qu	urated	l green,		0.11		6.49	Э	0.04	1.62
Residual queue, Qr		E		0.00		2.08	5	0.00	0.91
Uniform delay, d1				18.7		28.2	2	40.7	48.1
Uniform Queue Size a	r —		ion	s	_		10		
	Case	Qa		Qu		Qr		d1	
If Xperm <= 1.0 & Xprot <= 1.0						0	[0.5/(qa0 q _{a)}	C)][rQa + Qa ^{2/(Sp - (}	^{ls)} +gqQu + Qu ^{2/(S} s -
If Xperm <= 1.0 & Xprot > 1.0	2	qar		Qr + qagq	Qa	a - g(Sp - Qa)	[0.5/(qa0 Qu ^{2/(\$s - q}	C)][rQa + g(Qa + (la)	Qr) + gq (Qr + Qu) +
If Xperm > 1.0 & Xprot <= 1.0	3	Qr + qar		Qagq	Qu	- gu(Ss - Qa)	[0.5/(qa0 Qa ^{2/(} S _{p -} 0		- Qr) + r (Qr + Qa) +
lf X _{perm} <= 1.0 (lagging lefts)	4	0		qa(r + gq)		0	[0.5/(qaC	C)][r + gq)Qu + Qu²	(S _s - Q _{a)}
If X _{perm} > 1.0 (lagging lefts)	5	Qu - gu(Ss - Qa)		qa(r + gq)		0	[0.5/(qaC)][r + gq)Qu + gu(Qu + Qa) + q _{a)}		Qu + Qa) + Qa ^{2/(S} p -

		BAC	K-OF	-QUE	JE WC	ORKSI	HEET					
General Information	on											
Project Description S	tate Route	106 (Le	wisburg	g Plke)	TPR							
Average Back of (Queue						4					
	LT	EB TH	RT	LT	WB TH	RT	LT	NB Tu	RT	LT	SB TH	RT
Lane group	L	T	R	L	T	R	L	TH T	R	L	TR	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Flow rate/lane	7	667	28	410	1016	213	27	221	670	117	83	
Satflow per lane	267	1900	1615	608	1900	1615	1146	1900	1615	665	1876	
Capacity/lane	192	1216	1421	438	1216	1421	229	228	1421	133	225	
Flow ratio	0.03	0.35	0.02	0.67	0.53	0.13	0.02	0.12	0.41	0.18	0.04	
v/c ratio	0.04	0.55	0.02	0.94	0.84	0.15	0.12	0.97	0.47	0.88	0.37	
l factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3	3	3	3	3	3	3	3	3	-3	
Platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Q1	0.1	12.8	0.1	4.1	27.3	1.0	0.8	7.6	4.8	3.4	2.7	
kв	0.5	1.6	1.8	0.8	1.6	1.8	0.5	0.5	1.8	0.4	0.5	
Q2	0.0	1.9	0.0	4.9	6.6	0.3	0.1	3.3	1.6	1.5	0.3	
Q avg.	0.1	14.8	0.2	9.1	33.9	1.3	0.8	11.0	6.4	4.8	2.9	
Percentile Back of	Queue (95th p	ercer	itile)								
fB%	2.6	1.7	2.6	1.8	1.6	2.4	2.4	1.7	1.9	2.0	2.2	
BOQ, Q%	0.2	24.4	0.4	16.0	54.3	3.2	2.0	18.8	12.0	9.6	6.3	
Queue Storage Ra		,				,						_
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Q storage	0	0	0	0	0	0	0	0	0	0	0	
Avg. Ra												
95% RQ%												

HCS2000TM

Copyright © 2000 University of Florida, All Rights Reserved

General Info Analyst Agency or Co Date Perform Time Period Intersection	E Clin ned	ard E. Asso 4/23/ P	Gaffney nginee ciates (2008 M			lı A	oite I nters Area	nformati ection			Mack	Hatche	ır	
Analyst Agency or Co Date Perform Time Period Intersection	E Clin ned	ard E. Asso 4/23/ P	nginee ciates /2008 M			lı A	nters Area	ection			Mack	Hatche	∍r	
Intersection	Geometry					r	Intersection SR 106 & Mack Hatcher Area Type All other areas Jurisdiction City of Franklin Analysis Year 2013							
	Ocometry				-		_							
Grade = 0		1								_		_		
			0 1 المس	1										
						Gra	ade =	0						
1	<u>_</u>					Ł.		1						
1 -						◄		1						
1	7					\checkmark		1						
Grade = 0														
Volume and	Timing lan	1	1	1		Gra	de =	0						
volume and	Tilling inpi	ut T		EB		1	W	D		NB			SB	
		- 1	LT	TH	RT	LT	TH		LT	TH	RT	LT	TH	RT
Volume (vph)	_	\neg	24	1068	108	357	406	\rightarrow	33	62	268	116	291	21
% Heavy veh		\neg	0	0	0	0	0	0	0	0	0	0	0	0
PHF	·	$\neg \neg$	0.92	0.92	0.92	0.92	0.9		0.92	0.92	0.92	0.92	0.92	0.92
Actuated (P/A	()		P92	P	P	P 0.92	0.3. P	P	0.92 P	P	P. 92	0.92 P	P	P
Startup lost tir	0/		2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Ext. eff. greer			2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Arrival type			3	3	3	3	3	3	3	3	3	3	3	
Unit Extension	n		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	
Ped/Bike/RTC	OR Volume		Q		0	0		0	0		0	0		0
Lane Width			12.0	12.0	12.0	12.0	12.0) 12.0	12.0	12.0	12.0	12.0	12.0	
Parking (Y or	N)		Ν		Ν	N	Г	N	N		N	N		N
Parking/hr							Т							
Bus stops/hr		\neg	0	0	0	0	0	0	0	0	0	0	0	\vdash
Ped timing			-	3.2		Ť	3.2		Ť	3.2		Ť	3.2	
	Fuel 1 - 6 T		т.		- 1		J. Z		(I		_	07		
		EW P		03		04		Excl. Le	-	S Perm	_	07		08
		G = 5		G =		G =		G = 5.0				G =		
	Y = 5 Nalysis (hrs)	Y = 5		Y =		Y =		Y = 5	Y =	: 5 le Leng	Y =		Y =	

VOLUME ADJUSTMENT AND SATURATION FLOW RATE WORKSHEET													
General Inform	ation												
Project Description	State R	oute 10	6 (Lewi:	sburg P	lke) TPI	7							
Volume Adjust	ment			1			r						
		EB			WB			NB			SB		
	LT	TH	RT	LT	ТН	RT	LT	TH	RT	LT	TH	RT	
Volume	24	1068	108	357	406	49	33	62	268	116	291	21	
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow Rate	26	1161	117	388	441	53	36	67	291	126	316	23	
Lane Group	L,	T	R	L	T	R	L	T	R	L	TR		
Adj. flow rate	26	1161	117	388	441	53	36	67	291	126	339		
Prop. LT or RT	0.000		0.000	0.000		0.000	0.000	1999	0.000	0.000		0.068	
Saturation Flov	v Rate		- Asia							di-			
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Num. of lanes	1	1	1	1	1	1	1	1	1	1	1	0	
fVV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fHV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
fLU	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
fLT	0.950	1.000		0.950	1.000		0.950	1.000). .	0.950	1.000	(S te)	
Secondary fLT	0.342			0.073			0.200		-	0.535		-	
fRT		1.000	0.850		1.000	0.850	22	1.000	0.850	1 22 1	0.990		
fLpb	1.000	1.000		1.000	1.000		1.000	1.000	(.)	1.000	1.000	: :	
fRpb		1.000	1.000		1.000	1.000	#	1.000	1.000	340	1.000		
Adj. satflow	1805	1900	1615	1805	1900	1615	1805	1900	1615	1805	1881		
Sec. adj. satflow	651			138			380		(ere)	1017		(41 2)	

		CA	PACI	ΓΥ ΑΝ	D LOS	WORI	SHEE	T						
General Informa	ition													
Project Description	State Ro	ute 106	(Lewis	burg PIk	(e) TPR									
Capacity Analys	sis													
		EB			WB			NB			SB			
Lane group	L	T	R	L	T	R	L	T	R	L	TR			
Adj. flow rate	26	1161	117	388	441	53	36	67	291	126	339			
Satflow rate	1805	1900	1615	1805	1900	1615	1805	1900	1615	1805	1881			
Lost time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Green ratio	0.67	0.48	0.76	0.67	0.48	0.76	0.24	0.14	0.86	0.24	0.14			
Lane group cap.	599	905	1230	330	905	1230	158	271	1384	280	269			
v/c ratio	0.04	1.28	0.10	1.18	0.49	0.04	0.23	0.25	0.21	0.45	1.26			
Flow ratio		0.48	0.07		0.23	0.03		0.04	0.18		0.14			
Crit. lane group	N	N	N	N	N	N	N	N	N	N	Υ			
Sum flow ratios						1.2	8							
Lost time/cycle						15.0	00							
Critical v/c ratio		1.49												
Lane Group Cap	acity, C	ontro	l Dela	y, and	LOS [)eterm	inatio	า						
		EB			WB	111		NB			SB			
Lane group	L	T	R	L	T	R	L	T	R	L	TR			
Adj. flow rate	26	1161	117	388	441	53	36	67	291	126	339			
Lane group cap.	599	905	1230	330	905	1230	158	271	1384	280	269			
v/c ratio	0.04	1.28	0.10	1.18	0.49	0.04	0.23	0.25	0.21	0.45	1.26			
Green ratio	0.67	0.48	0.76	0.67	0.48	0.76	0.24	0.14	0.86	0.24	0.14			
Unif. delay d1	7.5	27.5	3.2	35.2	18.8	3.1	32.3	40.0	1.3	34.5	45.0			
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50			
Increm. delay d2	0.1	135.8	0.2	106.3	1.9	0.1	3.3	2.2	0.3	5.2	143.5			
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Control delay	7.6	163.3	3.4	141.5	20.6	3.1	35.7	42.2	1.7	39.7	188.5			
Lane group LOS	Α	F	Α	F	С	Α	D	D	Α	D	F			
Apprch. delay	14	5.8		7	2.8		1	1.6			148.2			
Approach LOS		_		Ε				В			F			
Intersec. delay	10	7.7				Intersec	tion LOS	S			F			

SUPPLEMENTAL I								T TURNS FRO ED PHASES	OM EXCLUSIV
General Informati	on								
Project Description S	State R	oute 106 (Leu	visburg Plke	e) T	PR			
v/c Ratio Comput	ation								
				EB		W	В	NB	SB
Cycle length, C (s)							10	5.0	
Prot. phase eff. green i	ntvl, g	(s)		15.0		15.	0	5.0	5.0
Opposed queue eff. gr	een in	tvl, gq (s)		17.85		51.0	00	16.00	5.00
Unopposed green intvl	, gu (s)		37.15		4.0	0	4.00	15.00
Red time, r(s)				35.0		35.	0	80.0	80.0
Arrival rate, qa (veh/s)				0.01		0.0	9	0.01	0.04
Prot. phase departure i	rate, s	p (veh/s)		0.501		0.50)1	0.501	0.501
Perm. phase departure	rate,	ss (veh/s)		0.27		0.5	3	0.53	0.38
Xperm			0.04		2.3	9	0.09	0.12	
X _{prot} (N/A for lagging l	ns)		0.05		0.6	1	0.34	1.19	
Uniform Queue Size a	and De	elay Comp	uta	tions					v.01
Queue at start of greer	arrow	/, Q a	0.25			6.1	4	0.80	2.80
Queue at start of unsat Qu	urated	l green,		0.13		4.6	8	0.16	1.27
Residual queue, Qr				0.00		2.93	3	0.00	0.47
Jniform delay, d1				7.5		35.2	2	32.3	34.5
Uniform Queue Size a			ion	S	_		_		
	Case	Qa		Qu	L	Qr		d1	
f Xperm <= 1.0 & Xprot <= 1.0	1	qar		Qa g q		0	[0.5/(Qa0 q _{a)}	C)][rQa + Qa ^{2/(S_{p -} C}	^{As)} + g qQu + Qu ^{2/(S} s -
f Xperm <= 1.0 & Xprot > 1.0	2	qar		Qr + qagq	Q	a - g(Sp - Qa)	[0.5/(qa(Qu ^{2/(\$s - C}	C)][rQa + g(Qa + (la)	Qr) +gq (Qr + Qu) +
f Xperm > 1.0 & Xprot <= 1.0	3	Qr + qar		Qa g q	Q	u - G u(Ss - Qa)	[0.5/(qa(Qa ^{2/(} S _{p -} 0	C)][gqQu + gu(Qa + la)	$-Q_r) + r(Q_r + Q_a) +$
f X _{perm} <= 1.0 lagging lefts)	4	0		$q_a(r + g_q)$		0	[0.5/(qa0	C)][r + gq)Qu + Qu²	_U (S _{s -} Q _{a)}
f X _{perm} > 1.0 (lagging efts)	ו ט	Qu - gu(Ss Qa)	-	qa(r + gq)		0	[0.5/(qa0 q _{a)}	C)][r + gq)Qu + gu($Q_u + Q_a) + Q_a^{2/(S_p)}$

		BAC	K-OF	-QUE	JE WC	DRKSI	HEET					
General Information												
Project Description State	Route	106 (Le	wisbur	g Plke)	TPR							
Average Back of Qu	eue											
	LT	EB TH	RT	LT	WB TH	RT	LT	NB TH	RT	LT	SB	RT
Lane group	L	T	R	L	T	R	L	T	R	L	TR	KI
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Flow rate/lane	26	1161	117	388	441	53	36	67	291	126	339	
Satflow per lane	898	1900	1615	495	1900	1615	665	1900	1615	1175	1881	
Capacity/lane	599	905	1230	330	905	1230	158	271	1384	280	269	
Flow ratio	0.03	0.61	0.07	0.78	0.23	0.03	0.05	0.04	0.18	0.11	0.18	
v/c ratio	0.04	1.28	0.10	1.18	0.49	0.04	0.23	0.25	0.21	0.45	1.26	
l factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3	3	3	3	3	3	3	3	3	3	
Platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Q1	0.3	33.9	0.9	4.4	8.8	0.4	0.8	1.7	1.5	2.9	9.9	
kв	0.9	1.2	1.5	0.6	1.2	1.5	0.4	0.5	1.6	0.5	0.5	
Q2	0.0	36.7	0.2	10.1	1,1	0.1	0.1	0.2	0.4	0.4	10.7	
Q avg.	0.3	70.6	1.0	14.5	9.9	0.4	0.9	1.9	1.9	3.3	20.6	
Percentile Back of Q	ueue (95th p	ercer	ntile)								
fв%	2.5	1.6	2.4	1.7	1.7	2.5	2.4	2.3	2.3	2.1	1.6	
BOQ, Q%	0.7	113	2.5	24.0	17.2	1.1	2.2	4.3	4.3	6.9	33.4	
Queue Storage Ratio												
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Q storage	0	0	0	0	0	0	0	0	0	0	0	
Avg. Ra												
95% RQ%		ļ										

HCS2000TM

Copyright © 2000 University of Florida, All Rights Reserved

TWO-WAY TWO-LANE HIGHWAY	SEGMENT WORKSHEET
General Information	Site Information
Analyst Brian Gaffney Agency or Company Clinard Engineering	Highway SR-106 Lewisburg Pike From/To SR-248 to Old Peytonsville
Date Performed 4/28/2008	Jurisdiction Williamson County
Analysis Time Period Existing Input Data	Analysis Year 2033
	Class I highway Class II highway
\$\frac{1}{2} \text{ Shoulder width } \tag{tt}	Terrain V Level Rolling
Lane width ft	Two-way hourly volume 1513 veh/h Directional solit 65 / 35
Lane width tt	Peak-hour factor, PHF 0.92
I Shoulder widthtt	No-passing zone 100
Communication I will	Show North Arrow % Trucks and Buses , P _T 3 %
Segment length, Lլ mi	% Recreational vehicles, P _R 0%
	Access points/ mi 16
Average Travel Speed	
Grade adjustment factor, f _G (Exhibit 20-7)	1.00
Passenger-car equivalents for trucks, E _T (Exhibit 20-9)	1.1
Passenger-car equivalents for RVs, E _R (Exhibit 20-9)	1,0
Heavy-vehicle adjustment factor, $f_{HV} = f_{HV} = 1/(1 + P_T(E_T - 1) + P_R(E_R - 1))$	0.997
Two-way flow rate ¹ , v _p (pc/h) v _p =V/ (PHF * f _G * f _{HV})	1649
v _p * highest directional split proportion ² (pc/h)	1072
Free-Flow Speed from Field Measurement	Estimated Free-Flow Speed
Field Measured speed, S _{FM} mi/h	Base free-flow speed, BFFS _{FM} mi/ Adj. for lane width and shoulder width ³ , f _{LS} (Exhibit 20-5)
Observed volume, V _f veh/h	mi/ 4.
, ,	Adj. for access points, f _A (Exhibit 20-6)
Free-flow speed, FFS FFS= S_{FM} +0.00776(V_{f} f_{HV}) 39.7 mi/h	·· mi/
	Free-flow speed, FFS (FSS=BFFS-f _{LS} -f _A) mi/
Adi fanna anaisan an fi (milk) (Ediki) OC 44)	1.5
Adj. for no-passing zones, f _{np} (mi/h) (Exhibit 20-11)	
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v _p -f _{np} Percent Time-Spent-Following	25.5
Grade Adjustment factor, f _G (Exhibit 20-8)	1.00
Passenger-car equivalents for trucks, E _T (Exhibit 20-10)	1,0
Passenger-car equivalents for RVs, E _R (Exhibit 20-10)	1.0
Heavy-vehicle adjustment factor, $f_{HV} = 1/(1 + P_T(E_T-1) + P_R(E_R-1))$	1.000
Two-way flow rate 1 , v_{p} (pc/h) v_{p} =V/ (PHF * f_{G} * f_{HV})	1645
v _p * highest directional split proportion ² (pc/h)	1069
Base percent time-spent-following, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} p)	76.4
Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12)	6.6
Percent time-spent-following, PTSF(%) PTSF=BPTSF+f d/np	83.0
Level of Service and Other Performance Measures Level of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)	Ī E
Volume to capacity ratio v/c v/c=V _p / 3,200	0.52
Volume to capacity ratio v/c v/c=V _p / 3,200 Peak 15-min veh-miles of travel,VMT ₁₅ (veh- mi) VMT ₁₅ = 0.25L _t (V/PHF)	206

Peak-hour vehicle-miles of travel, VMT ₆₀ (veh- mi) VM	Γ ₆₀ =V*L _t	
Peak 15-min total travel time, TT ₁₅ (veh-h) TT ₁₅ = VMT ₁₅ /	8,1	
Notes		
1. If $v_p >= 3,200$ pc/h, terminate analysis-the LOS is F.	2. If highest dire	ctional split v _p >= 1,700 pc/h, terminated anlysis-the LOS is F.

HCS2000[™]

Copyright © 2000 University of Florida, All Rights Reserved

TWO-WAY TWO-LANE HIGHWA' General Information	Site Information	HEEI
Analyst Brian Gaffney Agency or Company Clinard Engineering Date Performed 4/28/2008 Analysis Time Period Existing	Highway From/To Jurisdiction Analysis Year	SR-106 Lewisburg Pike Old Peytonsville to Henpeck Ln Williamson County 2033
Input Data		
Shoulder width the Lane width the Lane width the Lane width the Shoulder width the Shoulder width the Segment length, L ₁ mi	Show Borth Arrow	Class I highway Terrain Terrain Terrain Terrain Terrain Tevel Two-way hourly volume Directional split Peak-hour factor, PHF No-passing zone Trucks and Buses , P _T Recreational vehicles, P _R Class II highway Rolling 1387 veh/h 65 / 35 0.92 100 3 % 9.92 100 9.93 100 9.93 100 9.93 100 9.9
Average Travel Speed		
Grade adjustment factor, f _G (Exhibit 20-7)		1,00
Passenger-car equivalents for trucks, E _T (Exhibit 20-9)		1,1
Passenger-car equivalents for RVs, E _R (Exhibit 20-9)	1	1.0
Heavy-vehicle adjustment factor, $f_{HV} = \frac{1}{1 + P_T(E_T-1) + P_R(E_R-1)}$	1	0.997
Two-way flow rate ¹ , v_p (pc/h) v_p =V/ (PHF * f_G * f_{HV})	1	1512
v _p * highest directional split proportion ² (pc/h)		983
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed
Field Measured speed, S_{FM} mi/h Observed volume, V_f veh/h Free-flow speed, FFS FFS= S_{FM} +0.00776(V_f / f_{HV}) 36.7 mi/h	Adj. for access point	and shoulder width ³ , f_{LS} (Exhibit 20-5) m 7 s, f_A (Exhibit 20-6) m S (FSS=BFFS- f_{LS} - f_A)
Adj. for no-passing zones, f _{np} (mi/h) (Exhibit 20-11)		1,6
Average travel speed, ATS (mi/h) ATS=FFS-0.00776v _p -f _{np}		23.4
Percent Time-Spent-Following		
Grade Adjustment factor, f _G (Exhibit 20-8)	T .	1.00
Passenger-car equivalents for trucks, E _T (Exhibit 20-10)		1.0
Passenger-car equivalents for RVs, E _R (Exhibit 20-10)		1.0
Heavy-vehicle adjustment factor, $f_{HV} = \frac{1}{1+P_T(E_{T}-1)+P_R(E_{R}-1)}$		1.000
Two-way flow rate 1 , v_p (pc/h) $v_p = V/$ (PHF $^*f_G ^*f_{HV}$)		1508
/p * highest directional split proportion ² (pc/h)		980
		73.4
Base percent time-spent-following, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} p)		7.5
Base percent time-spent-following, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} p) Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12)		
Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12) Percent time-spent-following, PTSF(%) PTSF=BPTSF+f _{d/np}		80.9
Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12)		80.9 E
Adj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12) Percent time-spent-following, PTSF(%) PTSF=BPTSF+f _{d/np} Level of Service and Other Performance Measures		

Peak-hour vehicle-miles of travel, VMT ₆₀ (veh- mi) VM	T ₆₀ =V*L _t	
Peak 15-min total travel time, TT ₁₅ (veh-h) TT ₁₅ = VMT ₁₅ /	ATS	3,7
Notes		
1. If v _p >= 3,200 pc/h, terminate analysis-the LOS is F.	2. If highest direct	onal split v _p >= 1,700 pc/h, terminated anlysis-the LOS is F.

 $HCS2000^{\mathsf{TM}}$

Copyright © 2000 University of Florida, All Rights Reserved

	-	SHEET				
	-0-	SR-106 Lewishuro Pike				
Agency or Company Clinard Engineering	From/To	Henpeck Ln to Bowman Rd				
V		Williamson County				
Date Performed 4/28/2008 Analysis Time Period Existing Analysis Time Period Existing Analysis Time Period Existing Analysis Year 2033		2033				
Lec		Class I highway Class II highway				
\$\frac{1}{2} \text{ Shoulder width } \text{tt}						
Lane widthtt						
Lane width						
\$\frac{1}{x}\$ Shoulder width \$\frac{1}{x}\$	$ \setminus / $	No-passing zone 100				
•	Show North Arrow	% Trucks and Buses , P _T 3 %				
Segment length, L _t mi		% Recreational vehicles, P _R 0%				
		Access points/ mi 34				
Average Travel Speed						
Grade adjustment factor, f _G (Exhibit 20-7)		1.00				
Passenger-car equivalents for trucks, E _T (Exhibit 20-9)		1.1				
Passenger-car equivalents for RVs, E _R (Exhibit 20-9)		1.0				
Heavy-vehicle adjustment factor, $f_{HV} = f_{HV} = 1/(1 + P_T(E_T - 1) + P_R(E_R - 1))$		0,997				
Two-way flow rate ¹ , v_p (pc/h) v_p =V/ (PHF * f_G * f_{HV})	8	1520				
		1064				
Free-Flow Speed from Field Measurement		Estimated Free-Flow Speed				
Observed volume, V _f veh/h						
	Free-flow speed, Fl	FS (FSS=BFFS-f _{LS} -f _A) mi				
kdj. for no-passing zones, f _{np} (mi/h) (Exhibit 20-11)		1.6				
everage travel speed, ATS (mi/h) ATS=FFS-0.00776v _p -f _{np}		21.8				
Percent Time-Spent-Following						
Grade Adjustment factor, f _G (Exhibit 20-8)		1.00				
Passenger-car equivalents for trucks, E _T (Exhibit 20-10)		1,0				
Passenger-car equivalents for RVs, E _R (Exhibit 20-10)		1.0				
Heavy-vehicle adjustment factor, $f_{HV} = f_{HV} = 1/(1 + P_T(E_T-1) + P_R(E_R-1))$		1.000				
wo-way flow rate 1 , v_{p} (pc/h) v_{p} =V/ (PHF * f_{G} * f_{HV})		1515				
p * highest directional split proportion ² (pc/h)		1061				
lase percent time-spent-following, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} p)		73.6				
dj. for directional distribution and no-passing zone, f _{d/hp} (%)(Exh. 20-12)		7.5				
ercent time-spent-following, PTSF(%) PTSF=BPTSF+f d/np		81.1				
evel of Service and Other Performance Measures evel of service, LOS (Exhibit 20-3 for Class I or 20-4 for Class II)		E				
folume to capacity ratio v/c = V _p / 3,200	,	0.47				
reak 15-min veh-miles of travel, VMT ₁₅ (veh- mi) VMT ₁₅ = 0.25L _t (V/PHF)		341				

Peak-hour vehicle-miles of travel, VMT ₆₀ (veh-mi) VMT ₆₀ =V*L _t	
Peak 15-min total travel time, TT ₁₅ (veh-h) TT ₁₅ = VMT ₁₅ /ATS	15,6
Notes	
1. If $v_p \ge 3,200$ pc/h, terminate analysis-the LOS is F. 2. If highe	st directional split v _p >= 1,700 pc/h, terminated anlysis-the LOS is F.

HCS2000TM

Copyright © 2000 University of Florida, All Rights Reserved

		SEGMENT WORKS		_		
General Information Analyst	Brian Gaffney	Site Information Highway	SR-106 Lewisburg Pike			
Agency or Company	Clinard Engineering	From/To	Bowman Rd to Dallas Blvd			
Date Performed Analysis Time Period	4/24/2008 Existing	Jurisdiction Analysis Year	Williamson County 2033			
Input Data		V lary ele Tear	2000			
ï	Ti di di di di di di di di di di di di di	,	Class I highway Class II highw	ay		
	\$ Shoulder width It		Terrain V Level Rolling			
	‡ Lane widthtt		Two-way hourly volume 1367 veh/h Directional split 70 / 30			
	T Lane widthft		Peak-hour factor, PHF 0.92			
	Shoulder width tt		No-passing zone 100			
Saama	ent length, L	Show North Arrow	% Trucks and Buses , P _T 3 %			
Jegine	The rengin, 4		% Recreational vehicles, P _R 0%			
			Access points/ mi 26			
Average Travel Speed						
Grade adjustment factor, f _G (Ex	xhibit 20-7)		1,00			
Passenger-car equivalents for t	trucks, E _T (Exhibit 20-9)		1.1			
Passenger-car equivalents for I	RVs, E _R (Exhibit 20-9)		1.0			
	or, $f_{HV} = f_{HV} = 1/(1 + P_T(E_T - 1) + P_R(E_R - 1))$		0.997			
Two-way flow rate ¹ , v _p (pc/h)	$v_p = V/(PHF * f_G * f_{HV})$		1490			
v _p * highest directional split pro	portion ² (pc/h)		1043			
Free-Flow S	peed from Field Measurement		Estimated Free-Flow Speed			
Field Measured speed, S _{FM} Observed volume, V _f Free-flow speed, FFS FFS=S _F	mi/h veh/h $_{\rm FM}^{+0.00776}(V_{/}^{+}f_{\rm HV}^{-})$ 37.2 mi/h	Adj. for lane width and shoulder width ³ , f _{LS} (Exhibit 20-5) Adj. for access points, f _A (Exhibit 20-6)				
	W I HV	Free-flow speed, FI	FS (FSS=BFFS-f _{LS} -f _A)	mi 37 mi		
				,,,,,		
Adj. for no-passing zones, f _{np} (mi/h) (Exhibit 20-11)		1.6			
			1.6			
Adj. for no-passing zones, f _{np} (Average travel speed, ATS (mi Percent Time-Spent-Followin	i/h) ATS=FFS-0,00776v _p -f _{np}					
Average travel speed, ATS (mi	i/h) ATS=FFS-0.00776v _p -f _{np}					
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (Ex	i/h) ATS=FFS-0.00776v _p -f _{np} g xhibit 20-8)		24.0			
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (Ex Passenger-car equivalents for to	i/h) ATS=FFS-0.00776v _p -f _{np} g xhibit 20-8) trucks, E _T (Exhibit 20-10)		1.00			
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (Ex Passenger-car equivalents for the Passenger-car equivalents for F	i/h) ATS=FFS-0.00776v _p -f _{np} g xhibit 20-8) trucks, E _T (Exhibit 20-10)		1.00			
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (Ex- Passenger-car equivalents for the Passenger-car equivalents for Followy-vehicle adjustment factor	i/h) ATS=FFS-0.00776 v_p - f_{np} g xhibit 20-8) trucks, E_T (Exhibit 20-10) RVs, E_R (Exhibit 20-10) or, f_{HV} f_{HV} =1/ (1+ P_T (E_T -1)+ P_R (E_R -1))		1.00 1.0 1.0			
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (Expanse) (Expan	$f_{p}(h) \text{ ATS=FFS-0.00776v}_{p} - f_{np}(h) = 0$ $f_{p}(h) = 0$		1.00 1.0 1.0 1.0			
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (Ex- Passenger-car equivalents for Fassenger-car equivalents for Fassenger-car equivalents for Fassenger-car eduivalents for Fassenger-car eduivalents for Fassenger-car equivalents fo	i/h) ATS=FFS-0.00776 v_p - f_{np} g xhibit 20-8) trucks, E_T (Exhibit 20-10) RVs, E_R (Exhibit 20-10) or, f_{HV} f_{HV} =1/ (1+ P_T (E_T -1)+ P_R (E_R -1)) v_p =V/ (PHF * f_G * f_{HV}) portion ² (pc/h)		1.00 1.0 1.0 1.0 1.000			
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (ExPassenger-car equivalents for Feavy-vehicle adjustment factor wo-way flow rate 1, v _p (pc/h) the highest directional split programs percent time-spent-following percent time-spent-fol	i/h) ATS=FFS-0.00776 v_p - f_{np} g xhibit 20-8) trucks, E_T (Exhibit 20-10) RVs, E_R (Exhibit 20-10) or, f_{HV} f_{HV} =1/(1+ P_T (E_T -1)+ P_R (E_R -1)) v_p =V/ (PHF * f_G * f_{HV}) portion ² (pc/h)		24.0 1.00 1.0 1.0 1.000 1486 1040			
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (Ex- Passenger-car equivalents for the Passenger-car equivalents for Following Heavy-vehicle adjustment factor Fwo-way flow rate 1, v _p (pc/h) Fy * highest directional split propagate in the spent-following in the spent-fol	i/h) ATS=FFS-0.00776 v_p - f_{np} g xhibit 20-8) trucks, E_T (Exhibit 20-10) RVs, E_R (Exhibit 20-10) or, f_{HV} f_{HV} =1/ (1+ P_T (E_T -1)+ P_R (E_R -1)) v_p =V/ (PHF * f_G * f_{HV}) portion ² (pc/h) ing, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} _p) and no-passing zone, $f_{d/hp}$ (%)(Exh. 20-12)		24.0 1.00 1.0 1.00 1.000 1486 1040 72.9			
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (Ex- Passenger-car equivalents for the spent-car equivalents for Following and Following the spent-following and for directional distribution and percent time-spent-following, Proved of Service and Other Percent Processing Service and Other Percent Time-Spent-following, Proved of Service and Other Percent Time-Spent-following, Proved of Service and Other Percent Time-Spent-following, Proved of Service and Other Percent Time-Spent-following, Proved of Service and Other Percent Time-Spent-following, Proved of Service and Other Percent Time-Spent-following, Proved of Service and Other Percent Time-Spent-following, Proved of Service and Other Percent Time-Spent-following, Proved of Service and Other Percent Time-Spent-following (Service and Other Percent Time-Spent-following)	i/h) ATS=FFS-0.00776 v_p - f_{np} g xhibit 20-8) trucks, E_T (Exhibit 20-10) RVs, E_R (Exhibit 20-10) or, f_{HV} f_{HV} =1/ (1+ P_T (E_T -1)+ P_R (E_R -1)) v_p =V/ (PHF * f_G * f_{HV}) portion ² (pc/h) ing, BPTSF(%) BPTSF=100(1-e ^{-0.000879} v_p) and no-passing zone, $f_{d/np}$ (%)(Exh. 20-12) TSF(%) PTSF=BPTSF+ $f_{d/np}$ erformance Measures		24.0 1.00 1.0 1.0 1.00 1.000 1486 1040 72.9 7.7 80.6			
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (Ex- Passenger-car equivalents for the sassenger-car equivalents for Following the sassenger-car equivalen	i/h) ATS=FFS-0.00776 v_p - f_{np} g xhibit 20-8) trucks, E_T (Exhibit 20-10) RVs, E_R (Exhibit 20-10) or, f_{HV} f_{HV} =1/ (1+ P_T (E_T -1)+ P_R (E_R -1)) v_p =V/ (PHF * f_G * f_{HV}) portion ² (pc/h) ing, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} p) and no-passing zone, $f_{d/hp}$ (%)(Exh. 20-12) TSF(%) PTSF=BPTSF+ $f_{d/np}$ erformance Measures 20-3 for Class I or 20-4 for Class II)		24.0 1.00 1.0 1.00 1.00 1.000 1486 1040 72.9 7.7 80.6			
Average travel speed, ATS (mi Percent Time-Spent-Following Grade Adjustment factor, f _G (Ex- Passenger-car equivalents for the spent-car equivalents for Following and Following the spent-following and for directional distribution and the spent-following and for directional distribution and the spent-following and for directional distribution and the spent-following and for directional distribution and the spent-following and for directional distribution and the spent-following	i/h) ATS=FFS-0.00776 v_p - f_{np} g xhibit 20-8) trucks, E_T (Exhibit 20-10) RVs, E_R (Exhibit 20-10) or, f_{HV} f_{HV} =1/ (1+ P_T (E_T -1)+ P_R (E_R -1)) v_p =V/ (PHF * f_G * f_{HV}) portion ² (pc/h) ing, BPTSF(%) BPTSF=100(1-e ^{-0.000879v} p) and no-passing zone, $f_{d/hp}$ (%)(Exh. 20-12) TSF(%) PTSF=BPTSF+ $f_{d/np}$ erformance Measures 20-3 for Class I or 20-4 for Class II)		24.0 1.00 1.0 1.0 1.00 1.000 1486 1040 72.9 7.7 80.6			

Peak-hour vehicle-miles of travel, VMT ₆₀ (veh- mi) VMT ₆	₆₀ =V*L _t	
Peak 15-min total travel time, TT ₁₅ (veh-h) TT ₁₅ = VMT ₁₅ /ATS		10.8
Notes		
1. If $v_p >= 3,200 \text{ pc/h}$, terminate analysis-the LOS is F.	2. If highest direc	ional split v _p >= 1,700 pc/h, terminated anlysis-the LOS is F.

HCS2000TM

Copyright © 2000 University of Florida, All Rights Reserved

General Information	TWO-WAY TWO-LANE HIGHWAY		SHEET
Analyst	Brian Gaffney	Site Information Highway	SR-106 Lewisburg Pike
Agency or Company	Clinard Engineering	From/To	Dallas Blvd to SR-397
Date Performed Analysis Time Period	4/28/2008 Existing	Jurisdiction Analysis Year	Williamson County 2033
Input Data	Existing	Pillalysis Teal	2033
1			Class I highway Class II highway
	‡ Shoulder widthtt		Terrain Level Rolling
-	Lane width tt		Two-way hourly volume 1613 veh/h
	Lane width tt		Directional split 70 / 30 Peak-hour factor, PHF 0.92
	\$\ Shoulder widtht	$1 \setminus 1 \neq 1$	No-passing zone 100
•		Show North Arrow	% Trucks and Buses , P _T 3 %
Segmen	it length, L _t mi		% Recreational vehicles, P _R 0%
			Access points/ mi 11
Average Travel Speed		•	
Grade adjustment factor, f _G (Ext	nibit 20-7)	,	1,00
Passenger-car equivalents for tr	ucks, E _T (Exhibit 20-9)		1.1
Passenger-car equivalents for R	Vs, E _R (Exhibit 20-9)		1.0
Heavy-vehicle adjustment factor	$f_{HV} = f_{HV} = 1/(1 + P_T(E_T - 1) + P_R(E_R - 1))$		0.997
Two-way flow rate ¹ , v _p (pc/h)	$v_p = V/(PHF * f_G * f_{HV})$		1759
* highest directional split prop	ortion ² (pc/h)		1231
Free-Flow Sp	eed from Field Measurement		Estimated Free-Flow Speed
Field Measured speed, S _{FM}	mi/h	Base free-flow spee Adj. for lane width a	and shoulder width ³ , f _{LS} (Exhibit 20-5)
Observed volume, V _f	veh/h		111
- Free-flow speed, FFS FFS=S _{FN}	4+0.00776(V ₂ / f _{1.1V}) 41.0 mi/h	Adj. for access poir	nts, f _A (Exhibit 20-6) m
	1 01001 / 0(17 1HV)		""
		Free-flow speed, FI	FS (FSS=BFFS-f _{LS} -f _A) 4'
			m m
Adj. for no-passing zones, f _{np} (n	ni/h) (Exhibit 20-11)		1,3
Average travel speed, ATS (mi/l	h) ATS=FFS-0.00776v _o -f _{pp}		26.0
Percent Time-Spent-Following			
Grade Adjustment factor, f _G (Ext	nibit 20-8)		1,00
Passenger-car equivalents for tru	ucks, E _T (Exhibit 20-10)		1.0
Passenger-car equivalents for R	Vs, E _R (Exhibit 20-10)		1.0
	$f_{HV} = 1/(1 + P_T(E_{T}-1) + P_R(E_{R}-1))$		1.000
wo-way flow rate ¹ , v _p (pc/h)			1753
* highest directional split prop			1227
r Base percent time-spent-followin			78.6
Adj. for directional distribution an	d no-passing zone, f _{d/hp} (%)(Exh. 20-12)		5.9
Percent time-spent-following, PT	SF(%) PTSF=BPTSF+f _{d/np}		84.5
evel of Service and Other Per	The state of the s		E
STOLDI SCIVICO, LOG (LAHIDIL ZU	-0 101 Class I UI 20-7 IUI Class II)		
	=V _p / 3,200		0.55
olume to capacity ratio v/c v/c	=V _p / 3,200 VMT ₁₅ (veh- mi) VMT ₁₅ = 0.25L _t (V/PHF)		0.55

Peak-hour vehicle-miles of travel, VMT ₆₀ (veh- mi) VMT ₆₀ =V*L _t	
Peak 15-min total travel time, TT ₁₅ (veh-h) TT ₁₅ = VMT ₁₅ /ATS	6,7
Notes	
1. If v _p >= 3,200 pc/h, terminate analysis-the LOS is F. 2. If highest direct	ctional split v _p >= 1,700 pc/h, terminated anlysis-the LOS is F,

HCS2000[™]

Copyright © 2000 University of Florida, All Rights Reserved

					LO	NG RE	PO	RT	'						
General Inf	ormation								matic	n					
Analyst Agency or 0 Date Perfor Time Perioc	Co. <i>Cli</i> med	nard E Asso 4/23,	Gaffney inginee ciates /2008 M			Ir A Ji	nters rea urisd	ection Type	on e		City o	6 & SR ther are of Fran 2033	eas		
Intersection	n Geometry														
Grade = 0			0 1 بر	1											
						Gra	ide =	0							
1	<u></u>							0							
1	7					1		1							
0						\(\)		1							
Grade = 0															
		1	1	1		Gra	de =	0							
Volume an	d Timing In	out													
				EB		 	W				NB			SB	L D.T.
			LT	TH	RT	LT	Th	_	RT.	LT	TH	RT	LT	TH	RT
Volume (vpl			232	651	9	50	281	1	496	13	444	215	259	175	95
% Heavy ve	en		0	0	0	0	0	-	0	0	0	0	0	0	0
PHF	/A \		0.90	0.90	0.90	0.90	0.90	0 (0.90	0.90	0.90	0.90	0.90	0.90	0.90
Actuated (Pa			P 2.0	P	P	P 2.0	P	+	Р	P 2.0	<i>P</i> 2.0	P 2.0	P 2.0	<i>P</i> 2.0	Р
Startup lost Ext. eff. gree			2.0	2.0	-	2.0	2.0			2.0	2.0	2.0	2.0	2.0	
Arrival type	VII		3	3		3	3	+		3	3	3	3	3	\vdash
Unit Extensi	on		3.0	3.0	—	3.0	3.0	, 		3.0	3.0	3.0	3.0	3.0	
	OR Volume		0	10.0	0	0	1 5.0	+	0	0.0		0.0	0	+	0
Lane Width	J. Volumo		12.0	12.0	Ť	12.0	12.0	0		12.0	12.0	12.0	12.0	12.0	۲
Parking (Y c	or N)		N N	7.2.0	N	N N	1.2.	+	N	N	1.2.0	N	N	1	N
Parking (1 c	/1 (¥ <i>)</i>		 ``	_	'V	1,4	\vdash	-	7.4	- ''		 ``	- ``	_	 ``
					_		0	-		0	0	0	0	0	
Bus stops/hi			0	0		0	_			·		U	1		L
Ped timing			<u></u>	3.2			3.2	2			3.2			3.2	
	Excl. Left	EW F	Perm	03		04		Ex	cl. Le	ft N	S Perm		07		38
Timina	G = 5.0	G = 3		G =		G =			= 5.0		= 15.0	G =		G =	
Timing	Y = 5	Y = 8	5	Y =		Y =		Υ=	5		= 5	Y =		Y =	
Duration of A	Analysis (hrs										le Leng				

VOLUN	/IE ADJ	USTM	ENT A	ND SA	ATURA	ATION	FLOV	V RAT	E WOI	RKSHI	EET	
General Informa	ation											
Project Description	State R	oute 10	6 (Lewis	sburg Pi	lke) TPI	₹						
Volume Adjustr	nent											
		EB			WB			NB			SB	
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Volume	232	651	9	50	281	496	13	444	215	259	175	95
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow Rate	258	723	10	56	312	551	14	493	239	288	194	106
Lane Group	L	TR		L	TR		L	T	R	L	TR	
Adj. flow rate	258	733		56	863		14	493	239	288	300	
Prop. LT or RT	0.000	#	0.014	0.000	=	0.638	0.000		0.000	0.000		0.353
Saturation Flow	Rate											
Base satflow	1900	1900		1900	1900		1900	1900	1900	1900	1900	
Num. of lanes	1	1	0	1	1	0	1	1	1	1	1	0
fW	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fHV	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fg	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fp	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fbb	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fa	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
fLU	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
fLT	0.950	1.000		0.950	1.000		0.950	1.000	2. 115 2	0.950	1.000	+
Secondary fLT	0.100		w.	0.100		aus	0.202			0.200		
fRT	10 00 2	0.998			0.904			1.000	0.850		0.947	
fLpb	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
fRpb	Selection of the select	1.000			1.000		344	1.000	1.000		1.000	
Adj. satflow	1805	1896		1805	1718		1805	1900	1615	1805	1799	
Sec. adj. satflow	190			190		-	384		-	380		

		CAPA	CIT	Y AND	LOS	VOR	KSHE	ET				
General Informatio	n											
Project Description Sta	ate Route	e 106 (Le	wist	ourg Plk	e) TPR							
Capacity Analysis	- 3											
		EB			WB			NB			SB	
Lane group	L	TR		L	TR		L	T	R	L	TR	
Adj. flow rate	258	733		56	863		14	493	239	288	300	
Satflow rate	1805	1896		1805	1718		1805	1900	1615	1805	1799	
Lost time	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Green ratio	0.56	0.44		0.56	0.44		0.31	0.19	0.31	0.31	0.19	
Lane group cap.	208	830		208	752		209	356	505	208	337	
v/c ratio	1.24	0.88		0.27	1.15		0.07	1.38	0.47	1.38	0.89	
Flow ratio		0.39			0.44			0.19	0.15		0.17	
Crit. lane group	N	N		N	N		Ν	N	N	Ν	N	
Sum flow ratios						1	.35					
Lost time/cycle						10	0.00					
Critical v/c ratio						1	.54					
Lane Group Capac	ity, Coı	ntrol D	elay	, and	LOS De	tern	ninatio	n				
		EB			WB			NB			SB	
Lane group	L	TR		L	TR		L	T	R	L	TR	
Adj. flow rate	258	733		56	863		14	493	239	288	300	
Lane group cap.	208	830		208	752		209	356	505	208	337	
v/c ratio	1.24	0.88		0.27	1.15		0.07	1.38	0.47	1.38	0.89	
Green ratio	0.56	0.44		0.56	0.44		0.31	0.19	0.31	0.31	0.19	
Unif. delay d1	19.5	20.6		14.3	22.5		20.1	32.5	22.2	26.5	31.7	
Delay factor k	0.50	0.50		0.50	0.50		0.50	0.50	0.50	0.50	0.50	
Increm. delay d2	142.2	13.1		3.2	81.6		0.6	189.8	3.2	200.0	27.7	
PF factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
Control delay	161.6	33.7		17.5	104.1		20.7	222.3	25.3	226.6	59.4	
Lane group LOS	F	С		В	F		С	F	С	F	Ε	
Apprch. delay	67	7.0		9	8.8		13	55. <i>4</i>			141.3	
Approach LOS		E F F F										
Intersec. delay	10	9.8			In	terse	ction LC	S			F	

SUPPLEMENTAL								T TURNS FRO	OM EXCLUSIVE			
General Informati	on											
Project Description S	State R	oute 106 (Lew	isburg Plke) TPR							
v/c Ratio Comput	ation											
				EB		WE	3	NB	SB			
Cycle length, C (s)							80	.0				
Prot. phase eff. green i	intvl, g	(s)		5.0		5.0)	5.0	5.0			
Opposed queue eff. gr	een in	tvI, gq (s)		36.00		30.9)1	13.00	16.00			
Unopposed green intvl	, gu (s))		4.00		9.09	9	7.00	4.00			
Red time, r(s)				<i>35.0</i>		35.0	0	55.0	55.0			
Arrival rate, qa (veh/s)				0.06		0.02	2	0.00	0.06			
Prot. phase departure i	rate, s	veh/s)		0.501		0.50)1	0.501	0.501			
Perm. phase departure	rate,	ss (veh/s)		0.53		0.23	3	0.30	0.53			
Xperm				1.09		0.29	9	0.04	0.55			
X _{prot} (N/A for lagging l	eft-turr	าร)		0.92		0.28	5	0.09	1.38			
Uniform Queue Size a	and De	elay Comp	uta	tions								
Queue at start of greer	arrow	/, Q a		2.22		0.54	4	0.21	3.18			
Queue at start of unsat Qu	urated	green,		2.08		0.48	8	0.05	1.75			
Residual queue, Qr				0.20		0.00)	0.00	0.96			
Uniform delay, d1				19.5		14.3	3	20,1	26.5			
Uniform Queue Size a	and De	lay Equat	ions	s								
	Case	Qa		Qu	Qr		<u>, </u>	d1				
If Xperm <= 1.0 & Xprot <= 1.0	1	qar		Qa Q q	0		[0.5/(Qa0 q _{a)}	C)][rQa + Qa ^{2/(S} p -	q _{s)} +g _q Q _u + Q _{u^{2/(S_s}.}			
If Xperm <= 1.0 & Xprot > 1.0	2	qar		Qr + qagq	Qa - g(s Q a)	Sp -	[0.5/(qa0 Qu ^{2/(\$s - 0}		Qr) +gq (Qr + Qu) +			
If Xperm > 1.0 & Xprot <= 1.0	3	Qr + qa r		Qagq	Qu - gu(qa)	Ss -	[0.5/(qa0 Qa ^{2/(} Sp.0		+ Qr) + r (Qr + Qa) +			
If X _{perm} <= 1.0 (lagging lefts)	4	0		$q_a(r + g_q)$	0		[0.5/(Qa0	$1.5/(q_aC)][r + g_q)Q_u + Q_u^{2/(S_{S-1}q_a)}$				
If X _{perm} > 1.0 (lagging lefts)	5	Qu - gu(Ss Qa)	-	qa(r + gq)	0		[0.5/(qa0 q _{a)}	C)][r + gq)Qu + gu	(Qu + Q _{a)} + Q _{a^{2/(S_p -}}			

		ВАСК	-OF-	QUEU	E WO	RKS	HEET					
General Information	า											
Project Description Sta	te Route 10	6 (Lewi	sburg	Plke) 1	rPR							
Average Back of Qu	ueue											
	17	EB	Loz	7.7	WB	БТ	ļ	NB	I DT	1.7	SB	l DT
Lane group	LT L	TH TR	RT	LT L	TH TR	RT	LT L	TH T	RT R	LT L	TH TR	RT
Init. queue/lane	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Flow rate/lane	258	733		56	863		14	493	239	288	300	
Satflow per lane	369	1896		369	1718		668	1900	1615	665	1799	
Capacity/lane	208	830		208	752		209	356	505	208	337	
Flow ratio	0.70	0.39		0.15	0.50		0.02	0.26	0.15	0.43	0.17	
v/c ratio	1.24	0.88		0.27	1.15		0.07	1.38	0.47	1.38	0.89	
l factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3		3	3		3	3	3	3	3	
Platoon ratio	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Q1	2.7	14.9		0.6	19.2		0.2	11.0	4.3	4.7	6.5	
kв	0.3	0.9		0.3	0.9		0.4	0.5	0.7	0.4	0.5	
Q2	7.7	5.0		0.1	18.8		0.0	18.8	0.6	11.1	2.6	
Q avg.	10.4	19.9		0.7	38.0		0.2	29.8	4.9	15.8	9.1	
Percentile Back of (Queue (95	ith pe	rcen	tile)								
fв%	1.7	1.6		2.5	1.6		2.6	1.6	2.0	1.6	1.8	
BOQ, Q%	17.9	32.2		1.7	60.8		0.6	47.7	9.6	26.0	16.0	
Queue Storage Rati	0											
Q spacing	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Q storage	0	0		0	0		0	0	0	0	0	
Avg. Rq												
95% Rq%												

 $HCS2000^{\text{TM}}$

Copyright © 2000 University of Florida, All Rights Reserved

					LO	NG RE	EPC	RT						
General Inf	formation							nformati	ion					
Analyst Agency or (Date Perfor	Co. <i>Cli</i> med	inard E Asso 4/23	Gaffneg Inginee ciates /2008			Ir A J	nters irea uriso	ection Type diction rsis Year		All o	06 & SF other and of Fran 2033	eas		
Time Period		F	PM				.,,	0.0 1 00.1						
Intersectio	n Geometry													
Grade = 0			0 1	1										
						Gra	ade =	0						
1	<i>*</i>							0						
1	7					1		1						
0	•					√		1						
Grade = 0														
		*	4	<i>≯</i> ₩										
		1	1	1		Gra	de =	0						
Volume an	d Timing In													
VOIGING an	u mining m	out		EB			W	B	Т	NB			SB	
			LT	TH	RT	LT	TI		L		RT	LT	TH	RT
Volume (vpł	١)		330	518	45	149	31.	4 364	40) 477	155	180	286	64
% Heavy ve			0	0	0	0	0	0	0		0	0	0	0
PHF			0.90	0.90	0.90	0.90	0.9	0 0.90	0.9	0.90	0.90	0.90	0.90	0.90
Actuated (P.	/A)		Р	P	P	P	P		P		P	P	Р	Р
Startup lost			2.0	2.0		2.0	2.0		2.	0 2.0	2.0	2.0	2.0	
Ext. eff. gree	en		2.0	2.0		2.0	2.0		2.	0 2.0	2.0	2.0	2.0	
Arrival type			3	3		3	3		3		3	3	3	
Unit Extensi			3.0	3.0		3.0	3.0		3.		3.0	3.0	3.0	
	OR Volume		0		0	0		0	0		0	0		0
₋ane Width			12.0	12.0		12.0	12.	0	12.	0 12.0	12.0	12.0	12.0	
Parking (Y o	r N)		N		N	N		N	N		N	N		N
arking/hr		6)					Γ		T					
Bus stops/hi	•		0	0		0	0		0	0	0	0	0	
Ped timing				3.2			3.2	2	Τ	3.2			3.2	
	Excl. Left EW Perm 03				T	04		Excl. Le			1	07	(08
The trans	G = 15.0	G = 3	30.0	G =		G =		G = 5.0		G = 20.0	G =		G=	
Timing	Y = 5	Y = 5		Y =		Y =		Y = 5		Y = 5	Y =		Y =	
Duration of A	Analysis (hrs) = 0.2	5	Cycle Length C = 90.0										

VOLUM	IE ADJ	USTM	ENT A	ND SA	ATUR/	ATION	FLOV	/ RAT	E WOI	RKSH	EET	
General Informa	ation						8					
Project Description		oute 10	6 (Lewis	sburg Pi	lke) TPI	7						
Volume Adjustr	nent			_			1					
		EB			WB			NB			SB	
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Volume	330	518	45	149	314	364	40	477	155	180	286	64
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow Rate	367	576	50	166	349	404	44	530	172	200	318	71
Lane Group	L	TR		L	TR		L	T	R	L	TR	
Adj. flow rate	367	626		166	753		44	530	172	200	389	
Prop. LT or RT	0.000		0.080	0.000	12111	0.537	0.000	1946	0.000	0.000		0.183
Saturation Flow	Rate									<u> </u>		-
Base satflow	1900	1900		1900	1900		1900	1900	1900	1900	1900	
Num. of lanes	1	1	0	1	1	0	1	1	1	1	1	0
fW	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fHV	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fg	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fp	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fbb	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
fa	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
fLU	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
fLT	0.950	1.000		0.950	1.000	1945	0.950	1.000		0.950	1.000	
Secondary fLT	0.114			Q.114			0.160		:==:	0.160		
fRT		0.988		#	0.920			1.000	0.850	1 48 8	0.973	
fLpb	1.000	1.000		1.000	1.000	220	1.000	1.000	8 44 8	1.000	1.000	(1 <u>2-2</u>)
fRpb		1.000			1.000			1.000	1.000	0 000 00	1.000	
Adj. satflow	1805	1877		1805	1747		1805	1900	1615	1805	1848	
Sec. adj. satflow	217		44	217			304		(44)	304		0 <u>22</u> 5

		CAPA	CIT	YAND	LOS	VOR	KSHE	ET					
General Informati	on												
Project Description S	State Route	106 (Le	wisb	urg Plke	e) TPR								
Capacity Analysis	3												
		EB			WB			NB			SB		
Lane group	L	TR		L	TR		L	T	R	L	TR		
Adj. flow rate	367	626		166	753		44	530	172	200	389		
Satflow rate	1805	1877		1805	1747		1805	1900	1615	1805	1848		
Lost time	2.0	2.0		2.0	2.0		2.0	2.0	2.0	2.0	2.0		
Green ratio	0.56	0.33		0.56	0.33		0.33	0.22	0.44	0.33	0.22		
Lane group cap.	385	626		385	582		184	422	718	184	411		
v/c ratio	0.95	1.00		0.43	1.29		0.24	1.26	0.24	1.09	0.95		
Flow ratio		0.33			0.33			0.22	0.11		0.21		
Crit. lane group	N	Y		N	N		N	N	N	Ν	N		
Sum flow ratios				·		0	.88						
Lost time/cycle						18	5.00						
Critical v/c ratio						1	.06						
Lane Group Capa	city, Cor	ntrol D	elay	, and l	_OS D∈	tern	ninatio	n					
		EB			WB			NB			SB		
Lane group	L	TR		L	TR		L	T	R	L	TR		
Adj. flow rate	367	626		166	753		44	530	172	200	389		
Lane group cap.	385	626		385	582		184	422	718	184	411		
v/c ratio	0.95	1.00		0.43	1.29		0.24	1.26	0.24	1.09	0.95		
Green ratio	0.56	0.33		0.56	0.33		0.33	0.22	0.44	0.33	0.22		
Unif. delay d1	25.8	30.0		15.6	30.0		22.6	35.0	15.5	28.7	34.5		
Delay factor k	0.50	0.50		0.50	0.50		0.50	0.50	0.50	0.50	0.50		
Increm. delay d2	35.5	36.0		3.5	144.7		3.0	133.3	0.8	91.5	32.8		
PF factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000		
Control delay	61.3	66.0		19.1	174.7		25.7	168.3	16.3	120.1	67.3		
Lane group LOS	E	Ε		В	F		С	F	В	F	Ε		
Apprch. delay	64	64.2 146.6 124.8 85.2											
Approach LOS	l l	E F F F											
Intersec. delay	10	5.3			Ir	terse	ction LC	S			F		

SUPPLEMENTAL								T TURNS FRO ED PHASES	OM EXCLUSIVE			
General Informati	on											
Project Description S	State R	oute 106 (Leu	visburg Plke	e) TPI	₹						
v/c Ratio Comput	ation											
				EB		WE	3	NB	SB			
Cycle length, C (s)							90	.0				
Prot. phase eff. green i	intvl, g	(s)		15.0		15.0)	5.0	5.0			
Opposed queue eff. gr	een in	tvl, gq (s)		31.00		31.0	0	19.30	21.00			
Unopposed green intvl	, gu (s)		4.00		4.00)	5.70	4.00			
Red time, r(s)				40.0		40.0)	60.0	60.0			
Arrival rate, qa (veh/s)				0.10		0.08	5	0.01	0.05			
Prot. phase departure	rate, s	p (veh/s)		0.501		0.50	1	0.501	0.501			
Perm. phase departure	rate,	ss (veh/s)		0.53		0.53	3	0.37	0.53			
Xperm				1.69		0.76	5	0.14	0.61			
X _{prot} (N/A for lagging l	eft-turi	ns)		0.75		0.34	4	0.32	1.33			
Uniform Queue Size a	and De	elay Comp	uta	tions								
Queue at start of greer	arrow	/, Q a		5.54		1.84	4	0.73	3.07			
Queue at start of unsat Qu	urated	I green,		3.16		1.43	3	0.24	1.76			
Residual queue, Qr				1.46		0.00)	0.00	0.82			
Uniform delay, d1				25.8		15.6	5	22.6	28.7			
Uniform Queue Size a			ion	S								
	Case	Qa		Qu	(Qr		d1				
If Xperm <= 1.0 & Xprot <= 1.0	1	qar		Qa g q		0	[0.5/(qa0 q _{a)}	C)][rQa + Qa ^{2/(S_{p-1})}	^q s) +gqQu + Qu ^{2/(S} s -			
If Xperm <= 1.0 & Xprot > 1.0	2	qar		Qr + qagq	$\begin{array}{cccccccccccccccccccccccccccccccccccc$							
If Xperm > 1.0 & Xprot <= 1.0	3	Qr + qar		Qa g q		gu(Ss - Qa)	[0.5/(qa(Qa ^{2/(S} p - 0	aC)][gqQu + gu(Qa + Qr) + r(Qr + Qa) + . q _{a)}				
If X _{perm} <= 1.0 (lagging lefts)	4	0		qa(r + gq)		0	[0.5/(qa0	(qaC)][r + gq)Qu + Qu ^{2/(S_s , q_{a)}}				
If X _{perm} > 1.0 (lagging lefts)	5	Qu - gu(Ss Qa)	-	qa(r + gq)		0	[0.5/(q a0 q _{a)}	C)][$r + g_q$)Qu + g_u (Qu + Qa) + $Q_a^{2/(S_1)}$				

	l	ВАСК	-OF-	QUEU	E WO	RKS	HEET					
General Informati	on											
Project Description S	State Route 10	6 (Lewi	sburg	Plke) 1	TPR							
Average Back of (Queue											
	1.7	EB	I DT	17	WB	L D.T.		NB	Lot	1.7	SB	L D.T.
Lane group	LT L	TH TR	RT	LT L	TH TR	RT	LT L	TH T	RT R	LT L	TH TR	RT
Init. queue/lane	0.0	0.0		0.0	0.0		0.0	0.0	0.0	0.0	0.0	
Flow rate/lane	367	626		166	753		44	530	172	200	389	
Satflow per lane	693	1877		693	1747		554	1900	1615	554	1848	
Capacity/lane	385	626		385	582		184	422	718	184	411	
Flow ratio	0.53	0.33		0.24	0.43		0.08	0.28	0.11	0.36	0.21	
v/c ratio	0.95	1.00		0.43	1.29		0.24	1.26	0.24	1.09	0.95	
l factor	1.000	1.000		1.000	1.000		1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3		3	3		3	3	3	3	3	
Platoon ratio	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00		1.00	1.00		1.00	1.00	1.00	1.00	1.00	
Q1	4.8	15.6		2.0	18.8		0.7	13.3	2.7	3.5	9.6	
kв	0.6	0.8		0.6	0.8		0.4	0.6	0.9	0.4	0.6	
Q2	4.2	8.0		0.4	24.4		0.1	16.1	0.3	4.1	4.3	
Q avg.	9.0	23.7		2.4	43.2		0.9	29.3	3.0	7.7	13.8	
Percentile Back o	f Queue (95	th pe	rcen	tile)	•							
fв%	1.8	1.6		2.2	1.6		2.4	1.6	2.2	1.8	1.7	
BOQ, Q%	15.9	38.1		5.4	69.2		2.1	47.0	6.4	13.9	23.0	
Queue Storage Ra												
Q spacing	25.0	25.0		25.0	25.0		25.0	25.0	25.0	25.0	25.0	
Q storage	0	0		0	0		0	0	0	0	0	
Avg. Ra												
95% Ra%												

HCS2000TM

Copyright © 2000 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	IMARY				
General Information	n		Site	nfor	nat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 AM	ney gineering	Interse Jurisd Analys		ar		Lewisbur City of F 2033			loss
	tate Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Mos			North/	South	Stre	et: <i>Lewis</i>	sburg Pike			
Intersection Orientation:	North-South		Study	Period	d (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	T	R			_ <u>L</u>	T			R
Volume	20	964	0	$\overline{}$		0	552			11
Peak-Hour Factor, PHF	0.92 21	0.92	0.92	<u>'</u>		0.92	0.92).92 11
Hourly Flow Rate, HFR	<u>.</u>	1047	0			0	599			
Percent Heavy Vehicles Median Type	0			Undi	ida	0		ļ		
RT Channelized	 	Γ	1 0	Unai	viae	J	1	ĺ		0
Lanes	1	1	0			0	1			0
Configuration	L	T	, o			<u> </u>	 '			TR
Upstream Signal	<u> </u>	0					0			IΠ
Minor Street	1	Westbound	<u>. </u>				Eastbou	ınd		
Movement	7	8	9			10	11	ina T		12
Movement	1	T	R			 	T T	\dashv		R
Volume	0	0	0			<i>53</i>	0	\dashv		29
Peak-Hour Factor, PHF		0.92	0.92	,		0.92	0.92	$\overline{}$.92
Hourly Flow Rate, HFR	0	0	0.02	-		<i>57</i>	0.02	$\neg \uparrow$		31
Percent Heavy Vehicles		0	0			0	0	\neg		0
Percent Grade (%)		0					0			_
Flared Approach		<u> </u>	Î				l N	Т		
Storage		0	 				0	\dashv		
RT Channelized	1	<u> </u>	0				-	-		0
	0	0	0			0	0	-		0
Lanes Configuration	0	"	0			0	LR	\dashv		U
	<u> </u>	<u> </u>					<u>L</u> n			
Delay, Queue Length,	i i	The state of the s		٠٨/ ا		1	1 ,	-		
Approach	NB	SB		Westb		ī		Eastbo		1.0
Movement	1	4	7	8		9	10	11		12
Lane Configuration	L							LR		
v (vph)	21			<u></u>				88		
C (m) (vph)	979							141	1	
v/c	0.02							0.6	2	
95% queue length	0.07		_					3.3	2	
Control Delay	8.8			ĺ			Î	65.0	6	
LOS	Α							F		
Approach Delay							 	65.6	 }	
Approach LOS							 	F	•	
Approact Loo		right © 2003 Univers		411 D: 1	. D		<u> </u>	,		Version 4.1a

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	-WAY STOP	CONTR	OL S	UM	MARY			
General Information	า		Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard En 4/23/2008 PM		Interse Jurisdi Analys	ction	ır		Lewisbur City of Fr 2033	g Pike & N anklin	loss
Project Description Sta	ate Route 106 (i	Lewisburg Pike,) TPR						
East/West Street: Moss		,		South	Stree	et: <i>Lewisl</i>	burg Pike		
Intersection Orientation:	North-South): 0.25			
Vehicle Volumes ar	d Adjustme	nts							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	Т	R			L	Т		R
Volume	11	519	0			0	1025		21
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	11	564	0			0	1114		22
Percent Heavy Vehicles	0					0			
Median Type				Undi	vided	d			
RT Channelized			0						0
Lanes	1	1	0			0	1		0
Configuration	L	T	1						TR
Upstream Signal		0					0		
Minor Street	ĺ	Westbound					Eastbou	nd	
Movement	7	8	9			10	11		12
	L	Т	R			L	Т		R
Volume	0	0	0			15	0		29
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0			16	0		31
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)	1	0	•				0	•	
Flared Approach	1	l N					N		
Storage	1	0	1				0		
RT Channelized	+	+	0				<u> </u>		0
		1 0				0	0		0
Lanes	0	0	0			0	0	_	U
Configuration	<u> </u>	<u> </u>					LR		
Delay, Queue Length, a							1 .		
Approach	NB	SB		Westb				Eastbound	1
Movement	1	4	7	8		9	10	11	12
Lane Configuration	L							LR	
v (vph)	11							47	
C (m) (vph)	622							165	ĺ
v/c	0.02						†	0.28	
95% queue length	0.05			\vdash			 	1.11	
									
Control Delay	10.9			 				35.3	├──
LOS	В							E	
Approach Delay								35.3	
Approach LOS								Ε	
Rights Reserved	L								

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UMI	MARY			
General Information			Site I	nform	natio	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard Eng 4/23/2008 AM		Interse Jurisdi Analys	ction	r		Lewisburg City of Fr 2033		Poplar
Project Description Sta	te Route 106 (L	ewisburg Pike)	TPR						
East/West Street: Poplar		,		South S	Stree	t: <i>Lewisi</i>	burg Pike		
Intersection Orientation:	North-South): 0.25			
Vehicle Volumes and	d Adiustmei	nts							
Major Street		Northbound		1			Southboo	ınd	
Movement	1	2	3			4	5	1	6
	Ĺ	T	R			L	T		R
Volume	21	1025	0			0	559		11
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.92
Hourly Flow Rate, HFR	22	1114	0			0	607	ĺ	11
Percent Heavy Vehicles	0					0		ĺ	
Median Type		•	•	Undiv	/idea	1			
RT Channelized			0						0
_anes	0	1	0			0	1		0
Configuration	LT								TR
Jpstream Signal		0					0		
Minor Street		Westbound					Eastbou	nd	
Movement	7	8	9			10	11	1	12
NIO V OI II OI II	L	T	R			L			R
Volume	0	0	0			8	0	\dashv	5
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0.02			8	0.02		5
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		0					0	!	
Flared Approach		l N					N N		
							 	-	
Storage		0					0		
RT Channelized		<u> </u>	0						0
Lanes	0	0	0			0	0		0
Configuration		<u> </u>					LR		
Delay, Queue Length, ar	nd Level of Se	rvice							
Approach	NB	SB	1	Westbo	ound		E	Eastbound	t
Movement	1	4	7	8		9	10	11	12
Lane Configuration	LT							LR	1
v (vph)	22	+			-			13	1
` ' '	972	-						133	+
C (m) (vph)									+
//C	0.02						<u> </u>	0.10	
95% queue length	0.07						ļ	0.32	<u> </u>
Control Delay	8.8							35.0	
LOS	Α							D	
Approach Delay								35.0	-
Approach LOS							1	D	
Rights Reserved									

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	SUN	IMARY				
General Information	on		Site	nfor	mat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 PM	ney gineering	Interse Jurisd Analys	ection iction			Lewisbur City of F 2033			Poplar
	State Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Pop			North/	South	Stre	et: <i>Lewis</i>	sburg Pike			
Intersection Orientation	: North-South		Study	Period	d (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	T	R			_ <u>L</u>	T			R
Volume	11	552	0	$\overline{}$		0	1038			21
Peak-Hour Factor, PHF	0.92 11	0.92	0.92	<u>'</u>		0.92	0.92			0.92
Hourly Flow Rate, HFR		599	0		_	0	1128			22
Percent Heavy Vehicles	0			Undi	uida	0				
Median Type RT Channelized	 	Γ	1 0	Unai	viae	J	1	i		0
Lanes	0	1	0			0 1 0 TR				
Configuration	LT	'	 			<u> </u>	 '			
Upstream Signal	L/	0			_		0			In
Minor Street	1	Westbound	<u>. </u>				Eastbou	ınd		
Movement	7	8	9			10	11	12		
Movement	1	T	R			 	T T	-		R
Volume	0	0	0			2	0	\dashv		5
Peak-Hour Factor, PHF		0.92	0.92	,		0.92	0.92	\dashv	0.92	
Hourly Flow Rate, HFR		0	0.02	-		2	0.02	一十		5
Percent Heavy Vehicles		0	0			0	0	\dashv		0
Percent Grade (%)		0					0			_
Flared Approach		T N	1				l N			
Storage		0					0			
RT Channelized		 	0				-	\dashv		0
	0	0	0			0	0	\dashv		0
Lanes Configuration	U	,	ا			U	LR	\dashv		U
			<u> </u>				LII			
Delay, Queue Length, Approach	NB	SB	,	Westb	OLID!	۷	1 .	=ooth	ound	
<u> </u>				î .		ir	-			40
Movement	1	4	7	8		9	10		1	12
Lane Configuration	LT						ļ	LI		
v (vph)	11			ļ					7	
C (m) (vph)	615							16	<i>57</i>	
v/c	0.02							0.0	04	
95% queue length	0.05							0.1	13	
Control Delay	11.0							27	'.5	
LOS	В							Ľ	, 	
Approach Delay							<u> </u>	27.		<u> </u>
Approach LOS							 			
HCS2000TM		right © 2003 Univers	'4 . CF1 1 .	A11 D' . 1	D	1				Version 4 1d

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-\	WAY STOP	CONTR	OL S	SUM	IMARY				
General Informatio	n		Site	Inforr	mat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard Eng 4/23/2008 AM	ney gineering	Interse Jurisd Analys		ar		Lewisbu City of F 2033			Soloman
	tate Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Solo	man Drive		North/	South	Stre	et: <i>Lewis</i>	sburg Pike	ļ		
Intersection Orientation:	North-South		Study	Perioc	d (hr	s): <i>0.25</i>				
Vehicle Volumes ar	nd Adjustm	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	T	R				T			R
Volume	21	1038	0	-		0	571			12
Peak-Hour Factor, PHF Hourly Flow Rate, HFR	0.92 22	0.92 1128	0.92 0	<u>-</u>		0.92 0	0.92 620).92 13
Percent Heavy Vehicles						0	620			
Median Type	0			Undi	vido				<u> </u>	
RT Channelized		1	0	Onan	video	<i>.</i>	1			0
Lanes	0	1	0		_	0	1			0
Configuration	LT	,	0			U	7			
Upstream Signal	LI	0					0			111
Minor Street		Westbound						ınd	<u> </u>	
Movement	7	8	9			10	Eastbound 12			
Wovernone	í	T	R			L	T			R
Volume	0	0	0			25	0			14
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92			.92
Hourly Flow Rate, HFR	0	0	0			27	0			15
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0	•				0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration			<u> </u>				LR			
Delay, Queue Length, a	and I evel of S	ervice								
Approach	NB	SB		Westb	ound	1	T .	Fasth	ound	
Movement	1	4	7	8		9	10		11	12
Lane Configuration	LT	7	,	H			10			1.2
<u> </u>	22						 		2	
v (vph)										
C (m) (vph)	960								23	
v/c	0.02								34	
95% queue length	0.07						ļ		37	
Control Delay	8.8						<u> </u>		3.7	
LOS	Α							E	=	
Approach Delay								48.	.7	
Approach LOS								Ε		

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

General Information Analyst Agency/Co.	Brian Gaffn		Site I	nfc ::							
Agency/Co.			DILE I	morn	nau	on					
Date Performed Analysis Time Period	Clinard Eng 4/23/2008 PM	ineering	Interse Jurisdi Analys	ction	ır		Lewisbur City of Fr 2033	g Pike & S anklin	oloman		
Project Description Stat		ewisburg Pike)	TPR								
East/West Street: Solom						et: <i>Lewisk</i>	ourg Pike				
Intersection Orientation:	North-South		Study I	Period	(hrs): <i>0.25</i>					
Vehicle Volumes and	d Adjustmer	nts									
Major Street	_	Northbound					Southboo	und			
Movement	1	2	3			4	5		6		
	L	Т	R			L	Т		R		
Volume	11	559	0			0	1060		22		
Peak-Hour Factor, PHF	0.92	0.92	0.92	·		0.92	0.92	(0.92		
Hourly Flow Rate, HFR	11	607	0			0	1152		23		
Percent Heavy Vehicles	0					0					
Median Type				Undi	vided	<u> </u>					
RT Channelized			0				1 0				
Lanes	0	1	0			0	1	0			
Configuration	LT		<u></u>				<u></u>		TR		
Upstream Signal		0					0				
Minor Street		Westbound					Eastbound				
Movement	7	8	9			10	11		12		
	L	Т	R			L	Т		R		
Volume	0	0	0			7	0		14		
Peak-Hour Factor, PHF	0.92	0.92	0.92	· _		0.92	0.92	(0.92		
Hourly Flow Rate, HFR	0	0	0			7	0		15		
Percent Heavy Vehicles	0	0	0			0	0		0		
Percent Grade (%)		0					0				
Flared Approach		N					N	1			
Storage		0					0				
RT Channelized		-	0						0		
Lanes	0	0	0			0	0	-	0		
Configuration	Ŭ		Ů				LR	_			
Delay, Queue Length, an	nd Lovel of Cor		<u> </u>								
	NB	SB		Maath	ou no	J		Cothound			
Approach				Westb				Eastbound	40		
Movement	1	4	7	8		9	10	11	12		
Lane Configuration	LT							LR			
v (vph)	11							22			
C (m) (vph)	602							155			
v/c	0.02							0.14			
95% queue length	0.06							0.48			
Control Delay	11.1			 				32.0	<u> </u>		
LOS	В							D D			
									<u> </u>		
Approach Delay								32.0			
Approach LOS Rights Reserved								D			

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	1440	-WAY STOP	CONTR	OL 3	UIVI	IVIAKT				
General Informatio	n		Site I	nforn	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 AM	gineering	Interse Jurisdi Analys	ction	ır		Lewisbu Peytons City of F 2033	ville	&	
Project Description Si	ate Route 106	Lewisburg Pike) TPR							
East/West Street: Old				South	Stree	et: Lewis	burg Pike			
Intersection Orientation:	North-South		Study							
Vehicle Volumes a	nd Adjustme	ents								
Major Street		Northbound					Southb	ound		
Movement	1	2	3			4	5			6
	Ĺ	Т	R			L	T			R
Volume	0	1047	32			53	432		C	
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.9	
Hourly Flow Rate, HFR	0	1138	34			57	469		C	
Percent Heavy Vehicles	0	155		,, ,	. ,	0				•
Median Type RT Channelized	-	1	1 ^	Undi	vided	1	т			
			0						(
Lanes	0	1	0			0	1		C	
Configuration	<u> </u>		TR			LT	-			
Jpstream Signal	<u> </u>	0					0			
Minor Street	ļ <u> </u>	Westbound	T 0			40	Eastbo			
Movement	7	8	9			10	11		12	
,,	L	Т	R			L	Т			₹
Volume	5	0	21			0	0		0	
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.92	
Hourly Flow Rate, HFR Percent Heavy Vehicles	5	0	22			0	0		0	
	 		0		-	U			L.	
Percent Grade (%)	4	0	·				0			
Flared Approach	1	N					N			
Storage		0					0			
RT Channelized			0						C	
anes	0	0	0			0	0		C)
Configuration		LR								
Delay, Queue Length, a	and Level of Se									
Approach	NB	SB		Westb	ound			Eastbo	und	
Movement	1	4	7	8		9	10	11		12
ane Configuration		LT		LR						
/ (vph)		57		27						
C (m) (vph)		603		183			1	1	\neg	
//c		0.09		0.13	_		1	1	\dashv	
95% queue length		0.31		0.5	_		†	1	\dashv	
Control Delay		11.6		28.0	_		 	+	+	
OS				_	_		 	+	\dashv	
		В		D	_		ļ			
Approach Delay	189:	: **		28.0)		 			
Approach LOS			D							

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

		-WAY STOP						
General Informatio	n		Site I	nforma	tion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff. Clinard En 4/23/2008 PM		Interse Jurisdi Analys			Lewisbur Peytonsv City of Fr 2033	ille	
Project Description St	ate Route 106 (Lewisbura Pike) TPR				- 1	
East/West Street: Old I				South Str	eet: Lewis	burg Pike		
Intersection Orientation:	North-South		Study	Period (h	rs): <i>0.25</i>			
Vehicle Volumes ar	nd Adjustme	nts						
Major Street	I T	Northbound				Southbo	und	
Movement	1	2	3		4	5		6
	L	T	R		Ls	Т		R
Volume	0	569	12		18	884		0
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	0	618	13		19	960		0
Percent Heavy Vehicles	0			I limited to	0			(Valle):
Median Type RT Channelized	†		1 ^	Undivid	ed	_		
Lanes	0	1	0		0	1		0
Configuration	-	1	TR		LT	+		U
Upstream Signal	+	0	1			0		
Minor Street	 	Westbound				Eastbou	nd	
Movement	7	8	9		10	11	nu T	12
viovement	t L	T		R L		+		R
Volume	11	0	37 L		0	-	0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	,	0.92	0.92		0.92
Hourly Flow Rate, HFR	11	0	40		0	0		0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)	1	0				0		
Flared Approach		T N	T T			T N		
Storage		0	 	-		0	_	
RT Channelized		† <u>`</u> -	0			 	-+-	0
Lanes	0	1 0	0		0	0		0
Configuration	<u> </u>	LR	+		<u> </u>	 		
Delay, Queue Length, a	nd Lovel of Se		<u> </u>			J		
Approach	NB NB	SB		Westbour	nd	1	Eastboun	d
						+		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR	_			
/ (vph)		19		51				1
C (m) (vph)		961		283				4
//c		0.02		0.18				
95% queue length		0.06		0.65				
Control Delay		8.8		20.5				
_OS		Α		С				
Approach Delay				20.5				•
Approach LOS		-		С				
Lights Reserved	I.							

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	D-WAY STOP	CONTR	OL S	MUS	MARY					
General Information	n		Site I	nfor	mati	on					
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008 AM	ngineering 3	Interse Jurisdi Analys	ction	ar	*	Lewisbur City of Fr 2033	g Pike & F anklin	lenpeck		
		(Lewisburg Pike									
East/West Street: Hen						et: <i>Lewis</i>	burg Pike				
Intersection Orientation			Study	Period	d (hrs	s): 0.25					
Vehicle Volumes a	nd Adjustm										
Major Street		Northbound					Southbo	und			
Movement	1 1	2	3			4	5		6		
Volume	135	T 700	R		├	L	T		R		
Peak-Hour Factor, PHF	0.92	766 0.92	0.92		├—	18 0.92	386 0.92		68 0.92		
Hourly Flow Rate, HFR	146	832	0.92		┝	0.92	419		73		
Percent Heavy Vehicles					 	0	419		7-3		
Median Type				Undi	ivide		100				
RT Channelized		1	Τ ο	Oriui	7,000	1	0				
Lanes	1	1	0		 	0	1	0			
Configuration	+	Ť	†	_	_				TR		
Upstream Signal	- -	0		-	-		0		77.		
Minor Street		Westbound			_		Eastbou				
Movement	7	8	9		_	10	11		12		
	Ĺ	T	R			L	т т		R		
Volume	1	0	6			126	0		167		
Peak-Hour Factor, PHF		0.92	0.92			0.92	0.92		0.92		
Hourly Flow Rate, HFR	0	0	0			136	0		181		
Percent Heavy Vehicles	0	0	0			0	0		0		
Percent Grade (%)		0					0				
Flared Approach		N					N				
Storage		0					0				
RT Channelized	1		0						0		
Lanes	0	0	0			1	0		1		
Configuration						L			R		
Delay, Queue Length,	and Level of S	ervice						'_			
Approach	NB	SB	,	Westb	ounc	1		Eastbound	·		
Movement	1	4	7	8		9	10	11	12		
Lane Configuration	Ľ		'	-°	,	-	L	- 1	R		
					-		+		-		
(vph)	146						136		181		
C (m) (vph)	1082						105		609		
//c	0.13						1.30		0.30		
95% queue length	0.47						9.34		1.24		
Control Delay	8.8						261.9		13.4		
LOS	Α						F		В		
Approach Delay	i ne i	0##C		120.0							
Approach LOS			F								

HCS2000TM Version 4.1d

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UM	MARY					
General Informatio	n		Site I	nforr	nati	on					
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 PM	ngineering	Interse Jurisdi Analys	ction	ar		Lewisbur City of Fr 2033		Henpeck		
Project Description St		(Lewisburg Pike	e) TPR								
East/West Street: Henr						et: <i>Lewisi</i>	burg Pike				
Intersection Orientation:	North-South		Study	Period	(hrs	s): 0.25					
Vehicle Volumes ar	nd Adjustme	ents									
Major Street		Northbound					Southbo	und			
Movement	11	2	3			4	5		6		
	<u> </u>	T	R			L	Т		R		
Volume	107	379	11			18	776		67		
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92		
Hourly Flow Rate, HFR	116	411	0			0	843	_	72		
Percent Heavy Vehicles	0		22	11 11		0			~-		
Median Type RT Channelized			T	Undivided 0							
	 	-	0	-	-						
Lanes	1	1	0			0	1	_	0		
Configuration	L	T 0			_		0	-	TR		
Upstream Signal	 				_						
Minor Street	 	Westbound				40		Eastbound 11			
Movement	7	8	9			10			12		
VI-1	L L	T	R	,		L Z	T	_	R		
Volume Peak-Hour Factor, PHF	0.92	0.92	0.92	`		74	0.92		165 0.92		
Hourly Flow Rate, HFR	0.92	0.92	0.92		_	0.92 80	0.92		179		
Percent Heavy Vehicles	0	0	0		-	0	0		0		
Percent Grade (%)	1 0		0		_	0	0		- 0		
	-	0	T								
Flared Approach	ļ	N			_		N				
Storage		0					0				
RT Channelized			0						0		
Lanes	0	0	0			1	0		1		
Configuration		1							R		
Delay, Queue Length, a	nd Level of S	ervice									
Approach	NB	SB		Westb	ound	dt		Eastboun	d		
Movement	1	4	7	8		9	10	11	12		
Lane Configuration	L						L		R		
v (vph)	116						80		179		
C (m) (vph)	754						112		350		
v/c	0.15						0.71		0.51		
95% queue length	0.73	7.5	 			-	3.83	 	2.78		
			-	_			93.1		_		
Control Delay	10.6								25.6		
LOS	В						F	<u> </u>	D		
Approach Delay	22	744									
Approach LOS		2887						Е			

Rights Reserved HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UMI	MARY				
General Information			Site I	nforn	natio	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard Eng 4/23/2008 AM		Interse Jurisdi Analys	ction	r		Lewisburg Glenn City of Fr 2033	g Pike & D anklin	ouglas	
Project Description State	te Route 106 (I	Lewisburg Pike) TPR							
East/West Street: Dougla				South S	Stree	et: <i>Lewisi</i>	burg Pike			
Intersection Orientation:			Study	Period	(hrs): <i>0.25</i>				
Vehicle Volumes and	d Adjustme	nts								
Major Street	•	Northbound					Southboo	und		
Movement	1	2	3			4	5		6	
	L	Т	R			L	Т		R	
Volume	17	828	0			0	446		9	
Peak-Hour Factor, PHF	0.92	0.92	0.92	·]		0.92	0.92		0.92	
Hourly Flow Rate, HFR	18	899	0			0	484		9	
Percent Heavy Vehicles	0					0				
Median Type		,		Undi	vided	1	I I			
RT Channelized			0				ļ		0	
_anes	0	1	0			0	1		0	
Configuration	LT						ļ		TR	
Jpstream Signal		0					0			
Minor Street		Westbound					Eastbou	nd		
Movement	7	8	9			10	11	ļ	12	
	L	Т	R			L	Т		R	
/olume	0	0	0			16	0		9	
Peak-Hour Factor, PHF	0.92	0.92	0.92	<u> </u>		0.92	0.92		0.92	
Hourly Flow Rate, HFR	0	0	0			17	0		9	
Percent Heavy Vehicles	0	0	0			0	0		0	
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0						0	
Lanes	0	0	0			0	0		0	
Configuration		İ	1	1			LR			
Delay, Queue Length, ar	d Level of Se	rvice	*				R.			
Approach	NB	SB	,	Westb	ound		l i	Eastbound		
Movement	1	4	7	8		9	10	11	12	
<u></u>	LT	4		H		9	10		12	
_ane Configuration				 			-	LR	-	
/ (vph)	18			<u> </u>				26	<u> </u>	
C (m) (vph)	1081							200	<u> </u>	
//c	0.02							0.13		
95% queue length	0.05							0.44		
Control Delay	8.4							25.7		
LOS	Α			ĺ				D		
Approach Delay								25.7		
Approach LOS								D		
Rights Reserved	-							<u> </u>		

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	SUM	MARY				
General Information	on		Site	Inforr	mati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard Er 4/23/2008 PM	gineering	Interso Jurisd Analys		ar		Lewisbui Glenn City of Fi 2033	rg Pike & ranklin	Douglas	
Project Description S	State Route 106	(Lewisburg Pil	ke) TPR							
East/West Street: Dou				South	Stree	et: <i>Lewi</i>	sburg Pike			
Intersection Orientation	: North-South)	Study	Perioc	d (hrs): <i>0.25</i>				
Vehicle Volumes a	nd Adiustm	ents								
Major Street	1	Northbound					Southbo	und		
Movement	1	2	3			4	5		6	
	L	Т	R			L	Т		R	
Volume	9	446	0			0	828		17	
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	(0.92	0.92		0.92	
Hourly Flow Rate, HFR	_	484	0			0	899		18	
Percent Heavy Vehicles	s 0					0				
Median Type				Undi	vided	1				
RT Channelized			0				1 0			
Lanes	0	1	0			0	1		0	
Configuration	LT								TR	
Upstream Signal		0					0			
Minor Street		Westbound					Eastbou	ınd		
Movement	7	8	9			10	11		12	
	L	Т	R			L	Т		R	
Volume	0	0	0			13	0		7	
Peak-Hour Factor, PHF		0.92	0.92	2	(0.92	0.92		0.92	
Hourly Flow Rate, HFR	_1	0	0			14	0		7	
Percent Heavy Vehicles	s 0	0	0			0	0		0	
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized		1	0						0	
Lanes	0	0	0			0	0		0	
Configuration	Î	1					LR			
Delay, Queue Length,	and Level of S	Service	•	*	,		•			
Approach	NB	SB		Westb	ound		Ι ,	astboun	d	
Movement	1	4	7	8		9	10	11	12	
Lane Configuration	LT	-	1	°	+	3	10	LR	12	
							-		 	
v (vph)	9						 	21	 	
C (m) (vph)	752							186	 	
v/c	0.01							0.11	<u> </u>	
95% queue length	0.04							0.38		
Control Delay	9.8							26.8		
LOS	Α				\neg			D		
Approach Delay				-				26.8	•	
Approach LOS							†	D		
HCS2000 TM		vright © 2003 Univer	ity of Florida	All Digi	ate Dage	prod	1		Version 4.1	

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

		D-WAY STOP	CONTR	OL SUI	MMARY			
General Information			Site I	nforma	tion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gar Çlinard E 4/23/2008 AM	ngineering	Interse Jurisdi Analys			Lewisbur City of Fi 2033	rg Pike & I ranklin	∃llington
		(Lewisburg Pike) TPR					
East/West Street: Ellings					eet: <i>Lewis</i>	sburg Pike		
Intersection Orientation:	North-South		Study	Period (h	rs): <i>0.25</i>			
Vehicle Volumes an	d Adjustm	ents						
Major Street		Northbound				Southbo	und	
Movement	1	2	3		4	5		6
	L	T	R		L,	I T		R
Volume	45	827	17		4	394		22
Peak-Hour Factor, PHF	0.92	0.92	0.92	<u>'</u>	0.92	0.92		0.92
Hourly Flow Rate, HFR	0	898	18		4	428		0
Percent Heavy Vehicles	0	20		اء نام ما ا	0			
Median Type RT Channelized		1	1 0	Undivid	eu	Т		0
Lanes	0	1	0		0	1		0
Configuration	- 0	'	TR		LT			
Upstream Signal		0	III		LI	0		
Minor Street		Westbound				Eastbou	un d	
Movement	7	vvestbound 8	T 9		10	1 11	una T	12
Movement	,	T	R		L	 	_	R
Volume	28	0	23		12	1 0		16
Peak-Hour Factor, PHF	0.92	0.92	0.92	, +	0.92	0.92		0.92
Hourly Flow Rate, HFR	30	0.92	24		0.92	0.32		0
Percent Heavy Vehicles	0	0	0		0		0	
Percent Grade (%)		0		<u></u>		0		0
Flared Approach		T N				TN		
Storage		0	+			0		
RT Channelized		 	1			-		
		1	0			1 ^		0
Lanes	0	0	0		0	0		0
Configuration		LR	1					
Delay, Queue Length, ar				14.1				
Approach	NB	SB		Westbour			Eastboun	
Movement	1	4	7	8	9	10	11	12
Lane Configuration		LT		LR				
v (vph)		4		54				
C (m) (vph)		<i>75</i> 3		216				
//c		0.01		0.25				1
95% queue length		0.02		0.95				1
Control Delay		9.8		27.1			†	1
LOS		A		D	1 -	-		+
Approach Delay	220			27.1	1			
						-		
Approach LOS Rights Reserved				D		.		

Rights Reserved HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

		-WAY STOP	CONTR	OL S	JM	MARY								
General Information	1		Site I	nform	nati	on								
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 PM	gineering	Interse Jurisdi Analys		-		Lewisbur City of Fr 2033		& Elli	ngton				
Project Description Sta	ate Route 106 (Lewisburg Pike) TPR											
East/West Street: Elling	ton Drive			South S	Stree	et: <i>Lewis</i> .	burg Pike							
Intersection Orientation:	North-South		Study	Period	(hrs): <i>0.25</i>								
Vehicle Volumes an	d Adjustme	nts												
Major Street		Northbound					Southbo	und						
Movement	1	2	3			4	5			6				
	L	T	R			L	Т		_	R				
Volume	45	436	18			28	900			22				
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92			92				
Hourly Flow Rate, HFR	0	473	19			30	978			0				
Percent Heavy Vehicles	0			I I nadio	<i>i -l -</i> -	0								
Median Type RT Channelized		1	Undivided 0							0				
Lanes	0	1	0				0				1			0
Configuration	-	 '	TR		_	LT	1							
Upstream Signal		0	11/1/		_	LI	0	0						
Minor Street	Y	Westbound	4		_		Eastbou	ınd						
Movement	7	8 8	T 9	-	_	10	11		12					
VIOVEITICITE	 	T	R		_	 L	T	— 		R				
Volume	27	0	25		_	12	0			6				
Peak-Hour Factor, PHF	0.92	0.92	0.92		_	0.92	0.92	— <u>†</u>		92				
Hourly Flow Rate, HFR	29	0	27			0	0			0				
Percent Heavy Vehicles	0	0	0	- i		0	0			0				
Percent Grade (%)		0					0							
Flared Approach		N	1				N N							
Storage		0			_		0							
RT Channelized			0				— <u> </u>			0				
anes	0	0	1 0		_	0	0			0				
Configuration	l	LR	l 		_		 							
Delay, Queue Length, a	nd Lavel of Sc													
Approach	NB NB	SB		Westbo	unc	1	T	Eastbo	ınd					
Movement	1	4	7	8	June	9	10	11		12				
Lane Configuration	- 17	LT			-	9	10	├	\dashv	12				
				LR			<u> </u>	-	\dashv					
/ (vph)		30		56	_			-	\dashv					
C (m) (vph)		1082		206	_				\dashv					
//c		0.03		0.27	_		ļ							
95% queue length		0.09		1.06	ec .									
Control Delay		8.4		28.9										
_OS		Α		D										
Approach Delay	122	9 24		28.9		-								
Approach LOS		::	D											
ights Reserved														

Rights Reserved HCS2000TM

Version 4.1d

Copyright © 2003 University of Florida, All Rights Reserved

		-WAY STOP							
General Informatio	n		Site I	nforr	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 AM	gineering	Interse Jurisdi Analys	iction	ır		Lewisbu Georges City of F 2033	irg Pike & S Franklin	₹ St
Project Description Si	tate Route 106	Lewisbura Pike) TPR		_				
East/West Street: St. C				South	Stree	et: Lewis	burg Pike		
Intersection Orientation:	North-South): 0.25			
Vehicle Volumes a	nd Adjustme	nts							
Major Street		Northbound					Southb	ound	
Movement	1	2	3			4	5		6
	L	T	R			L	Т		R
Volume	45	919	9			8	410		22
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	998	9			8	445		0
Percent Heavy Vehicles	0					0			
Median Type				Undi	vided	1	r	T	
RT Channelized	-	ļ	0				ļ		0
Lanes	0	1	0			0	1		0
Configuration			TR			LT			
Jpstream Signal		0					0		
Minor Street	<u> </u>	Westbound	r				Eastbo	und	
Movement	7	8	9			10	11		12
	L L	T	R			L	Т		R
Volume	15	0	37			12	0		16
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.92
Hourly Flow Rate, HFR	16	0	40			0			0
Percent Heavy Vehicles	0	0	0		_	0	0		0
Percent Grade (%)		0	т—				0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized			0						0
Lanes	0	0	0			0	0		0
Configuration		LR							
Delay, Queue Length, a	and Level of Se	rvice							
Approach	NB	SB		Westb	ounc			Eastbou	ınd
Movement	1	4	7	8		9	10	11	12
ane Configuration		LT		LR					
/ (vph)		8		56					
C (m) (vph)		696		226					
//c		0.01		0.28	_			1	_
95% queue length		0.03		0.93	_		 	+	_
Control Delay		10.2		26.	_		-	1	
					'		}	+	-
LOS		В		D				L	
Approach Delay				26.1	1		_		
Approach LOS				D					

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

		-WAY STOP	CONTR	OL 5	UN	MARY			
General Information	n		Site I	nforr	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 PM	ngineering	Interse Jurisdi Analys	ction	ır		Lewisbur Georges City of Fr 2033		St
Project Description S	tate Route 106	Lewisburg Pike) TPR						
East/West Street: St. (George's Way			South	Stre	et: <i>Lewis</i>	burg Pike		
Intersection Orientation:	North-South		Study	Period	(hrs	s): 0.25			
Vehicle Volumes a	nd Adjustme	ents							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L L	T	R			L	T		R
Volume	45	390	8			29	947		22
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	423	8			31	1029		0
Percent Heavy Vehicles	0	22	0						221
Median Type		· ·		Undi	vide	d			
RT Channelized			0					0	
Lanes	0	1	0 0		1		0		
Configuration			TR LT						
Jpstream Signal		0			0				
Minor Street		Westbound					Eastbou	ınd	
Movement	7	8	9		10		11		12
	L	Т	R		L		T		R
Volume	4	0	19			12	0		16
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR	4	0	20			0	0	0	
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized			0						0
anes	0	0	0			0	0		0
Configuration		LR							
Delay, Queue Length,	and Level of Se			_					
Approach	NB I	SB		Westb	ounc	1		Eastbour	nd
Movement	1	4	7	8	_	9	10	11	12
ane Configuration	- 1	LT		LR	_	-	10	 ''	12
		31		24	_		-	 	-
/ (vph)				_	_				+
C (m) (vph)		1139		382	_		-		
//c		0.03		0.00	_				
95% queue length		0.08		0.20)	*			
Control Delay		8.2		15.1	1				
_OS		Α		Ç					
Approach Delay	-	-		15.	1				
Approach LOS		(200 1)	C				1		
Lights Reserved							-		

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UMI	MARY				
General Information	n		Site I	nforn	natio	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 AM		Interse Jurisdi	ection			Lewisbur City of Fi 2033	rg Pike & E ranklin	Bowman	
	ate Route 106 (Lewisburg Pike) TPR							
East/West Street: Bown	nan Road		North/	South -	Stree	t: Lewis	burg Pike			
Intersection Orientation:	North-South): 0.25				
Vehicle Volumes ar	nd Adiustme	nts								
Major Street	T	Northbound					Southbo	und		
Movement	1	2	3			4	5		6	
	L	T	R			L	T		R	
Volume	10	966	4			0	410		17	
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92	
Hourly Flow Rate, HFR	10	1049	0			0	445		18	
Percent Heavy Vehicles	0					0			**	
Median Type				Undi	videa					
RT Channelized			0						0	
Lanes	0	1	0			0	1		0	
Configuration	LT					*			TR	
Upstream Signal		0					0			
Minor Street		Westbound					Eastbou			
Movement	7	8	9			10	11		12	
	L	Т	R			L.	T		R	
Volume	6	0	14			102	0		26	
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92	
Hourly Flow Rate, HFR	0	0	0			110	0		28	
Percent Heavy Vehicles	0	0	0			0	0		0	
Percent Grade (%)		0					0			
Flared Approach		N	ľ				T N			
Storage		0					0			
RT Channelized	1	-	0	\neg			 		0	
anes	0	0	0			0	0		0	
Configuration	 	 	† 				LR			
Delay, Queue Length, a	nd lovel of Co	nuioo					LIN			
Approach	NB NB	SB		\			т—	C4b		
				Westb				Eastbound		
Movement	1	4	7	8	_	9	10	11	12	
ane Configuration	LT							LR		
/ (vph)	10							138		
C (m) (vph)	1109							155		
ı/c	0.01				T			0.89		
95% queue length	0.03							6.21		
Control Delay	8.3				\neg		1	103.1		
OS	A				_		†	F		
Approach Delay				L			 			
		-	103.1							
Approach LOS Lights Reserved							I	F		

 $HCS2000^{\text{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UM	MARY			
General Information	on		Site I	nforr	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard Er 4/23/2008 PM	ngineering	Interse Jurisdi Analys	ction	ar		Lewisbur City of Fr 2033	g Pike & E anklin	3owman
Project Description S	State Route 106 (Lewisburg Pike) TPR						
East/West Street: Bov						et: <i>Lewis</i>	burg Pike		
Intersection Orientation	n: North-South		Study	Period	l (hrs	s): 0.25			
Vehicle Volumes a	and Adjustme	nts							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L _k	T	R			Ľ	T		R
Volume	13	406	4			0	937		60
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR		441	0			0	1018		65
Percent Heavy Vehicles	s 0	(***				0			800)
Median Type			_	Undi	vide	d		-	
RT Channelized			0						0
Lanes	0	1	0			0	1		0
Configuration	LT								TR
Upstream Signal		0					0		
Minor Street		Westbound					Eastbou		
Movement	7	8	9			10	11	11 1	
	L	T	R			L	Ţ		R
Volume	6	0	14			46	0		9
Peak-Hour Factor, PHF		0.92	0.92			0.92	0.92		0.92
Hourly Flow Rate, HFR		0	0			49	0		9
Percent Heavy Vehicles	s Q	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized			0						0
Lanes	0	0	0			0	0	_	0
Configuration			1				LR		
Delay, Queue Length,	and Level of Se	rvice	***				-		
Approach	NB NB	SB		Westb	OUDO	1		Eastbound	1
Movement	1	4	7	8	_	9	10	11	12
Lane Configuration	LT	4		H		9	10	LR	+ 12
v (vph)	14				-		 	58	
C (m) (vph)	652							141	_
//c	0.02								+
			-					0.41	+
95% queue length	0.07							1.79	
Control Delay	10.6							47.3	
LOS	В							Ε	
Approach Delay	(**)						47.3		
Approach LOS		2 11 8		E					
Rights Reserved									

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

		D-WAY STOP								
General Informatio			Site I	nform	atic	n				
Analyst Agency/Co.	Brian Gaf Clinard E	ngineering	Interse Jurisdi	ction	_		Lewisbu City of F		& Ho	lly Hill
Date Performed Analysis Time Period	4/23/2008 AM		Analys	sis Year			2033			
Project Description S		(Lewisburg Pike) TPR							
East/West Street: Holly							burg Pike			
Intersection Orientation:	North-South		Study	Period (hrs)	: 0.25				
Vehicle Volumes a	nd Adjustme	ents								
Major Street		Northbound					Southb	ound		
Movement	1	2	3			4	5			6
	L:	Т	R			L	Т			R
Volume	4	987	10			20	376			7
Peak-Hour Factor, PHF	0.92	0.92	0.92	?	(0.92	0.92			92
Hourly Flow Rate, HFR	0	1072	10			21	408			0
Percent Heavy Vehicles	0					0				
Median Type				Undivi	ded					
RT Channelized			0							0
Lanes	0	1	0			0	1			0
Configuration			TR			LT				
Upstream Signal		0					0			
Minor Street		Westbound					Eastbo	Eastbound		
Movement	7	8	9			10	11			12
	L	T	R			L	T		R	
Volume	9	0	69			32	0		8	
Peak-Hour Factor, PHF	0.92	0.92	0.92		C	0.92	0.92		0.92	
Hourly Flow Rate, HFR	9	0	74			0	0			0
Percent Heavy Vehicles	0	Q	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration		LR								
Delay, Queue Length, a	and Level of S									
Approach	NB I	SB		Westbo	und			Eastbo	und	
Movement	1	4	7	8	T	9	10	11	_	12
Lane Configuration		LT		LR	_		1-10	+ ''	\neg	
v (vph)		21		83	\dashv		1		\dashv	
C (m) (vph)		652		240	\dashv		1		\dashv	
//c		0.03		0.35	\dashv				\dashv	
95% queue length		0.10		1.48	\neg					
Control Delay		10.7		27.7	_				\neg	
_OS		В		D	\dashv				\dashv	
Approach Delay	(MAN)			27.7						
Approach LOS	:(** :	(==:	D							
Lights Reserved										

 $HCS2000^{\text{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	D-WAY STOP	CONTR	OL SI		JARY				
General Information	n		Site I	nform	atio	on				
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008 PM	ngineering 3					Lewisbu City of F 2033		Holly Hill	
Project Description S		(Lewisburg Pike								
East/West Street: Holly							burg Pike			
Intersection Orientation:	North-South		Study	Period	(hrs)	: 0.25				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound					Southbo	ound		
Movement	1	2	3			4	5		6	
	L	Т	R			L	Т		R	
Volume	4	419	9			46	878		7	
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92	
Hourly Flow Rate, HFR	0	455	9			49	954		0	
Percent Heavy Vehicles	0		55	0					529	
Median Type RT Channelized		1	Undivided							
Lanes	0	1		0			-		0	
Configuration	0		0 TR		O LT		1		U	
Upstream Signal		0	IR		-	LI	0			
Minor Street	+							Eastbound		
Movement	7	Westbound 8	9			10	Eastbo	una	12	
Wovement	<u> </u>	T	R		_	L	T		R	
Volume	6	0	36			32	0		8	
Peak-Hour Factor, PHF	0.92	0.92	0.92	 -		0.92	0.92		0.92	
Hourly Flow Rate, HFR	6	0.92	39	· -		0	0.92		0.92	
Percent Heavy Vehicles		0	0			0	0		0	
Percent Grade (%)		0					0			
Flared Approach		T N	T				T N			
Storage	-	0	1				0	— 		
RT Channelized		·	0			_	 		0	
Lanes	0	0	0			0	0		0	
Configuration	1	LR	 			-	 		- 0	
	and level of C									
Delay, Queue Length, a Approach	NB		·	Westbo			T	Eastbou	- d	
		SB			una		40			
Movement	1	4	7	8	-	9	10	11	12	
ane Configuration		LT		LR	_			-		
/ (vph)		49		45	_		ļ			
C (m) (vph)		1108		404	-					
//c		0.04		0.11						
95% queue length		0.14		0.37						
Control Delay		8.4		15.0						
_OS		Α		С						
Approach Delay	0. 77.7 2	(MP)		15.0	-					
Approach LOS		\ <u>-</u>	С			1				
Lights Reserved										

Version 4.1d

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UM	MARY			
General Informatio	n		Site	nforr	nati	ion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaft Clinard Er 4/23/2008 AM	ngineering	Interse Jurisd Analys	iction	ar		Lewisbur City of Fr 2033	g Pike & D anklin	onelson
Project Description St	ate Route 106	Lewisburg Pike							
East/West Street: Done		kway				et: <i>Lewis</i>	burg Pike		
Intersection Orientation:			Study	Period	l (hrs	s): <i>0.25</i>			
Vehicle Volumes a	nd Adjustme	ents							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	Ť	R		_	L	Т		R
Volume	185	740	4			9	365		45
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	_	0.92	0.92		0.92
Hourly Flow Rate, HFR	201	804	0			0	396		48
Percent Heavy Vehicles	0					0			
Median Type		·		Ųndi	vide	d			
RT Channelized	<u> </u>		0						0
Lanes	1	1	0		_	0	1		1
Configuration	L	T			_		T		R
Upstream Signal	ļ	0					0		
Minor Street		Westbound					Eastbou	ınd	
Movement	7	8	9			10	11		12
	L	Т	R			L	T		R
Volume	3	0	24			89	0		92
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	_	0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0			96	0		99
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		7
Storage		0					0		
RT Channelized			0						0
Lanes	0	0	0			1	0		1
Configuration	1	·	1		\vdash	L	†		R
Delay, Queue Length, a	and Level of Se	rvice							
Approach	NB I	SB		Westb	ound	d	T	Eastbound	
Movement	1	4	7	8		9	10	11	12
		4	- ' -	H		- s			
Lane Configuration	L						L		R
v (vph)	201						96		99
C (m) (vph)	1127						97		658
v/c	0.18						0.99		0.15
95% queue length	0.65						5.94		0.53
Control Delay	8.9						168.4		11.4
LOS	Α						F		В
Approach Delay					_		 	88.7	
Approach LOS	-	(5 77 .)			_		 	F	
Rights Reserved		sary's					1		

Version 4.1d

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	D-WAY STOP	CONTR	OL S	UMMAR	Y		50		
General Information	on		Site I	nforr	nation					
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gai Clinard E 4/23/2008 PM	ngineering	Interse Jurisdi Analys	ction	ır	Lewisbui City of Fi 2033	g Pike & I ranklin	Donelson		
Project Description S	State Route 106	(Lewisburg Pike) TPR							
East/West Street: Doi	nelson Creek Pa	rkway		South	Street: Le	wisburg Pike				
Intersection Orientation	n: North-South		Study	Period	(hrs): 0.2	25				
Vehicle Volumes a	and Adjustm	ents								
Major Street		Northbound	•			Southbo	und			
Movement	1	2	3		4	5		6		
	L	Т	R		L	Т		R		
Volume	87	309	4		9	861		96		
Peak-Hour Factor, PHF		0.92	0.92	?	0.92	0.92		0.92		
Hourly Flow Rate, HFR		335	0		0	935		104		
Percent Heavy Vehicle	s 0				0			75		
Median Type			-	Undi	vided					
RT Channelized			0	- N						
Lanes	1	1	0		0	1		1		
Configuration	L	T				T		R		
Upstream Signal		0				0				
Minor Street		Westbound				Eastbou	Eastbound			
Movement	7	8	9		10	11		12		
	L.	TT	R		L	Т		R		
Volume	3	0	24		77	0		259		
Peak-Hour Factor, PHF		0.92	0.92		0.92	0.92		0.92		
Hourly Flow Rate, HFR		0	0		83	0		281		
Percent Heavy Vehicle	s 0	0	0		0	0		0		
Percent Grade (%)		0				0				
Flared Approach		N				N				
Storage		0				0				
RT Channelized			0					0		
Lanes	0	0	0		1	0		1		
Configuration			1		L			R		
Delay, Queue Length,	and Level of S	ervice				-				
Approach	NB	SB	- 0	Westb	ound		Eastboun			
Movement	1	4	7	8			11	12		
		4		H	—— ⁹					
Lane Configuration	L					L		R		
v (vph)	94					83		281		
C (m) (vph)	677					124		325		
v/c	0.14					0.67		0.86		
95% queue length	0.48					3.58		7.88		
Control Delay	11.2					79.1		58.0		
LOS	В					F		F		
Approach Delay	. 						62.8			
Approach LOS	- 22	9 <u>24</u> 2				F				
ights Reserved										

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved Version 4.1d

	TWO	D-WAY STOP	CONTR	OL SUN	MARY			
General Information	n		Site I	nformat	ion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gat Clinard E 4/23/2008 AM	ngineering	Interse Jurisdi Analys			Lewisbur City of Fr 2033	g Pike & E ranklin	allas
		(Lewisburg Pike) TPR					
East/West Street: Dall			North/	South Stre	et: <i>Lewis</i>	burg Pike		
Intersection Orientation	: North-South		Study	Period (hr	s): 0.25			
Vehicle Volumes a	nd Adjustm	ents						
Major Street		Northbound				Southbo	und	
Movement	1	2	3		4	5		6
	L	Т	R		ý.	Т		R
Volume	10	938	10		140	319		24
Peak-Hour Factor, PHF Hourly Flow Rate, HFR	0.92	0.92	0.92	<u> </u>	0.92	0.92		0.92
Percent Heavy Vehicles	10	1019	10		152 0	346		26
Median Type	-			Undivida				
RT Channelized	-		1 0	Undivided				
Lanes	1	1	0		1	1		0
Configuration	i	-	TR		Ĺ	T		R
Upstream Signal	-	0	 '''			0		- / \
Minor Street	+	Westbound				Eastbou	ınd	
Movement	7	8	9		10	T 11	ind	12
	i	Ť	R		L	T		R
Volume	4	0	68		165	0		67
Peak-Hour Factor, PHF		0.92	0.92		0.92	0.92		0.92
Hourly Flow Rate, HFR	4	0	73		179	0		72
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				I N		
Storage		0	†			0		
RT Channelized			0					0
anes	0	1	0		0	1		1
Configuration	=	LTR	1		LT			R
Delay, Queue Length,	and Level of S	ervice						
Approach	NB I	SB		Westboun	d	1	Eastbound	
Movement	1	4	7	8	9	10	11	12
ane Configuration	<u>i</u>	L		LTR	† Ť	LT	<u> </u>	R
/ (vph)	10	152		77		179		72
C (m) (vph)	1198	683				+		702
				232	1	43		_
//c	0.01	0.22		0.33	 	4.16		0.10
95% queue length	0.03	0.85		1.39		20.31		0.34
Control Delay	8.0	11.8		28.0		1615		10.7
_OS	A	В		D		F		В
Approach Delay	***		28.0 1155			1155		
Approach LOS		250	D F					

 $HCS2000^{\text{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL SUI	MMARY			
General Information	n		Site I	nforma	tion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 PM	ngineering	Interse Jurisdi Analys			Lewisbur City of Fr 2033	g Pike & L anklin	Dallas
Project Description Sta	ate Route 106	(Lewisburg Pike) TPR					
East/West Street: Dalla				South Str	eet: Lewis	burg Pike		
Intersection Orientation:	North-South				rs): 0.25	× .		
Vehicle Volumes ar	nd Adiustme	ents		-				
Major Street		Northbound				Southbo	und	
Movement	1	2	3		4	5		6
	L	T	R		L	Т		R
Volume	33	373	4		56	960		113
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	35	405	4		60	1043		122
Percent Heavy Vehicles	0		344		0			
Median Type				Undivid	ed			
RT Channelized			0	0				
Lanes	1	1	0		1	1		1
Configuration	L		TR		L	T		R
Jpstream Signal		0				0		
Minor Street		Westbound				Eastbou	ınd	
Vovement	7	8	9		10	11		12
	L	Т	R		L,	T		R
Volume	8	0	79		77	0		23
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	8	0	85		83	0		24
Percent Heavy Vehicles	0	0	Q		0	0		0
Percent Grade (%)		0	***************************************			0		
Flared Approach	i i	I N	T			N	i i	
Storage		0				0		
RT Channelized	 	 	0			+- <u> </u>		0
anes	0	1	0		0	1		1
Configuration	 	LTR	 		LT	+ '-		R
	1, 1, 60				LI	1		Λ.
Delay, Queue Length, a				VA / 11				
Approach	NB	\$B		Westbou			Eastbound	
Movement	1	4	7	8	9	10	11	12
ane Configuration	L	L		LTR		LT		R
/ (vph)	35	60		93		83		24
C (m) (vph)	607	1161		352		61		281
ı/c	0.06	0.05		0.26		1.36		0.09
95% queue length	0.18	0.16		1.04	7	7.12		0.28
Control Delay	11.3	8.3		18.9	1	351.9		19.0
OS	B B			C C	+	551.9 F		C 79.0
		A			1	 	077.0	
Approach Delay	((44)	(9 44)	18.9 277.2					
Approach LOS	(##)			С			F	

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	MARY				
General Information	n		Site I	nforn	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 AM	ngineering	Interse Jurisdi Analys		r		Lewisbur Landin City of F 2033	_		Moores
Project Description S	tate Route 106	(Lewisburg Pi	ke) TPR							
East/West Street: Mod				South 9	Stree	et: <i>Lewis</i>	burg Pike			
Intersection Orientation	: North-South	ו	Study	Period	(hrs): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street	1	Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
Volume	0	1118	11			15	476			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		(0.92
Hourly Flow Rate, HFR	0	1215	11			16	517			0
Percent Heavy Vehicles	0					0				
Median Type				Undiv	ridea					
RT Channelized			0							0
Lanes	0	1	0			1	1		0	
Configuration			TR			L	T			
Upstream Signal		0					0			
Minor Street		Westbound					Eastbou	ınd		
Movement	7	8	9			10	11			12
	L	Т	R			L	Т			R
Volume	10	0	23			0	0			0
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92		(0.92
Hourly Flow Rate, HFR	10	0	24			0	0			0
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0	ĺ				0			
RT Channelized			0	ĺ						0
Lanes	0	0	0			0	0			0
Configuration	ĺ	LR								
Delay, Queue Length,	and Level of S	Service		-						
Approach	NB	SB	,	Westbo	ound		ı	Eastb	ound	
Movement	1	4	7	8	1	9	10		1	12
Lane Configuration	'	L	,	LR	 		- 10	 '	•	12
					-			_		
v (vph)		16		34	_					
C (m) (vph)		576		155	_					
v/c		0.03		0.22	_					
95% queue length		0.09		0.80)					
Control Delay		11.4		34.6	3					
LOS		В		D						
Approach Delay				34.6						
Approach LOS				D						
HCS2000 TM		vright © 2003 Univer	sity of Florida		to Dan	mund				Version 4.1

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UMI	MARY				
General Information			Site I	nforn	natio	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 PM	ngineering	Interse Jurisdi Analys	ction	r		Lewisbur Landin City of Fr 2033	_	g Pike & Moores anklin	
Project Description Stat	te Route 106	(Lewisbura Pike) TPR							
East/West Street: Moore				South S	Stree	t: <i>Lewis</i>	burg Pike			
ntersection Orientation:			Study I	Period	(hrs)): <i>0.25</i>				
/ehicle Volumes and	d Adiustme	ents	·							
Major Street		Northbound		1			Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
/olume	0	479	5			34	1110			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	· I		0.92	0.92		0	.92
lourly Flow Rate, HFR	0	520	5			36	1206			0
Percent Heavy Vehicles	0					0				
Median Type				Undi	⁄idea	1				
RT Channelized			0							0
anes	0	1	0			1	1			0
Configuration			TR			L	T			
Jpstream Signal		0					0			
Minor Street		Westbound					Eastbou	ınd		
Movement	7	8	9			10	11			12
	L	Т	R			L	Т			R
/olume	28	0	12			0	0			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92		0.92	
Hourly Flow Rate, HFR	30	0	13			0	0			0
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
_anes	0	0	0			0	0			0
Configuration		LR	ĺ							
Delay, Queue Length, an	d Level of S	ervice	-							
Approach	NB	SB	,	Westb	ound			Eastbo	und	
Movement	1	4	7	8		9	10	11		12
ane Configuration	'	L	,	LR		<u> </u>	10	<u>' '</u>		12
<u> </u>				<u> </u>						
/ (vph)		36		43	-		-			
C (m) (vph)		1052		116			-			
//c		0.03		0.37					ļ	
95% queue length		0.11		1.52						
Control Delay		8.5		53.3	3					
_OS		Α		F					П	
Approach Delay			53.3							
Approach LOS			F							
Rights Reserved			<u> </u>	-						

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	MARY			
General Information	 า		Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard En 4/23/2008 AM		Interse Jurisdi Analys	ction	r		Lewisbur City of Fr 2033	g Pike & E anklin	ssex
Project Description Sta		Lewisbura Pike) TPR						
East/West Street: Esse.				South	Stree	et: <i>Lewisi</i>	bura Pike		
Intersection Orientation:): 0.25	<u> </u>		
Vehicle Volumes an	d Adjustma	nte			,	,			
Major Street		Northbound					Southboo	ınd	
Movement	1	2	3			4	5		6
	i i		R			L	Ť		R
Volume	11	1133	0			0	460		14
Peak-Hour Factor, PHF	0.92	0.92	0.92	•		0.92	0.92		0.92
Hourly Flow Rate, HFR	11	1231	0			0	499		15
Percent Heavy Vehicles	0					0		Ì	
Median Type		•		Undi	vided	d			
RT Channelized	ĺ		0						0
Lanes	0	1	0			0	1		0
Configuration	LT								TR
Upstream Signal		0					0		
Minor Street	1	Westbound	<u> </u>				Eastbou	nd	
Movement	7	8	9			10	11	1	12
	i	T	R			L	T	\neg	R
Volume	0	0	0			68	0	\dashv	29
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0			73	0	\neg	31
Percent Heavy Vehicles	0	0	0			0	0	\neg	0
Percent Grade (%)		0				-	0		
Flared Approach	†	T N	1				l N		
Storage	+	0	 				0	_	
RT Channelized	-	 	1 0				- ·	-	
			0						0
Lanes	0	0	0			0	0	-	0
Configuration			l				LR		
Delay, Queue Length, a							1		
Approach	NB	SB		Westb	ound	<u>k</u>		Eastbound	<u>k</u>
Movement	1	4	7	8		9	10	11	12
Lane Configuration	LT							LR	
v (vph)	11							104	
C (m) (vph)	1062							124	
v/c	0.01			 				0.84	+
	0.07			 			 	5.12	1
95% queue length				 			-		-
Control Delay	8.4							108.5	
LOS	Α							F	
Approach Delay							108.5		
Approach LOS			F						
Rights Reserved							R.		

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	IMARY				
General Information	on		Site	nforr	nat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 PM	ney gineering	Interse Jurisd Analys		ar		Lewisbur City of F 2033			ssex
	tate Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Ess							sburg Pike			
Intersection Orientation	: North-South		Study	Perioc	l (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm									
Major Street		Northbound	•				Southbo	und		
Movement	1	2	3			4	5			6
Malassa	L	T	R			L	T			R
Volume Peak-Hour Factor, PHF	5 0.92	486 0.92	0 0.92	,		0 0.92	1074 0.92	\rightarrow		33).92
Hourly Flow Rate, HFR	5	528	0.92	-		0.92	1167	-		35
Percent Heavy Vehicles						0		\dashv	'	
Median Type	,			Undi	/idea		<u> </u>			
RT Channelized	†		0	07707	7100		1	1		0
Lanes	0	1	0			0	1	$\neg \dagger$		0
Configuration	LT									TR
Upstream Signal	1	0					0	$\neg \uparrow$		
Minor Street	İ	Westbound	•				Eastbou	ınd		
Movement	7	9			10	11			12	
	L	Т	R			L	Т			R
Volume	0	0	0			16	0			37
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0	.92
Hourly Flow Rate, HFR		0	0			17	0			40
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration							LR			
Delay, Queue Length,	and Level of S	ervice								
Approach	NB	SB		Westb	ound	d		Eastbo	ound	
Movement	1	4	7	8		9	10	11	1	12
Lane Configuration	LT							LF	?	
v (vph)	5						1	57		
C (m) (vph)	588						 	163		
v/c	0.01						 	0.3		
95% queue length	0.03						 	1.4		
Control Delay	11.2						 	37.		
LOS	B							57.		
Approach Delay		 				 	37.9	1		
Approach LOS		vright © 2003 Universi	· 651 11	A 11 D' 1		<u> </u>	Ε		Version 4 1d	

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	MARY				
General Information	1		Site I	nforr	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 AM		Interse Jurisdi Analys	ction	ar		Lewisbu City of F 2033			Gardner
	ate Route 106	(Lewisburg Pil	ke) TPR							
East/West Street: Gardi		,		South	Stree	et: <i>Lewi</i>	sburg Pike)		
Intersection Orientation:	North-South	1	Study	Perioc	l (hrs	s): 0.25				
Vehicle Volumes an	d Adjustm	ents				•				
Major Street	a z tajuotiii	Northbound					Southbo	ound		
Movement	1	2	3			4	5			6
	Ĺ	T	R			L	Ť			R
Volume	0	1096	11			15	468			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		(0.92
Hourly Flow Rate, HFR	0	1191	11			16	508			0
Percent Heavy Vehicles	0					0				
Median Type	-		•	Undi	videa	1	•		1	
RT Channelized		1	0				Τ			0
Lanes	0	1	0			1	1			0
Configuration	-		TR			L	T			
Upstream Signal		0	1				0			
Minor Street		Westbound	<u> </u>				Eastbo	ınd	Į	
Movement	7	9			10	11	unu	1	12	
Movement	<i>,</i>	8 T	'	R		L	 		_	R
Volume	3	0	7			0	0			0
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92			0.92
Hourly Flow Rate, HFR	3	0.92	7		'	0.92	0.92		 	0
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0					0			
` /		T N	1						1	
Flared Approach			<u> </u>				N			
Storage		0	<u> </u>				0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration		LR								
Delay, Queue Length, a	nd Level of S	Service								
Approach	NB	SB	1	Westb	ound			Eastk	ound	
Movement	1	4	7	8		9	10	T -	11	12
Lane Configuration		L		LR	_		†	1		
v (vph)		16		10			†	+		
					-		 	╁		
C (m) (vph)		588		160			 	₩		
v/c		0.03		0.0	_		ļ	<u> </u>		
95% queue length		0.08		0.20	0					
Control Delay		11.3		29.	0					
LOS		В		D						
Approach Delay				29.0	0					
Approach LOS				D 29.0			 			
HCS2000 TM		vright © 2003 Univers								Version 4.

 $HCS2000^{\mathrm{TM}}$

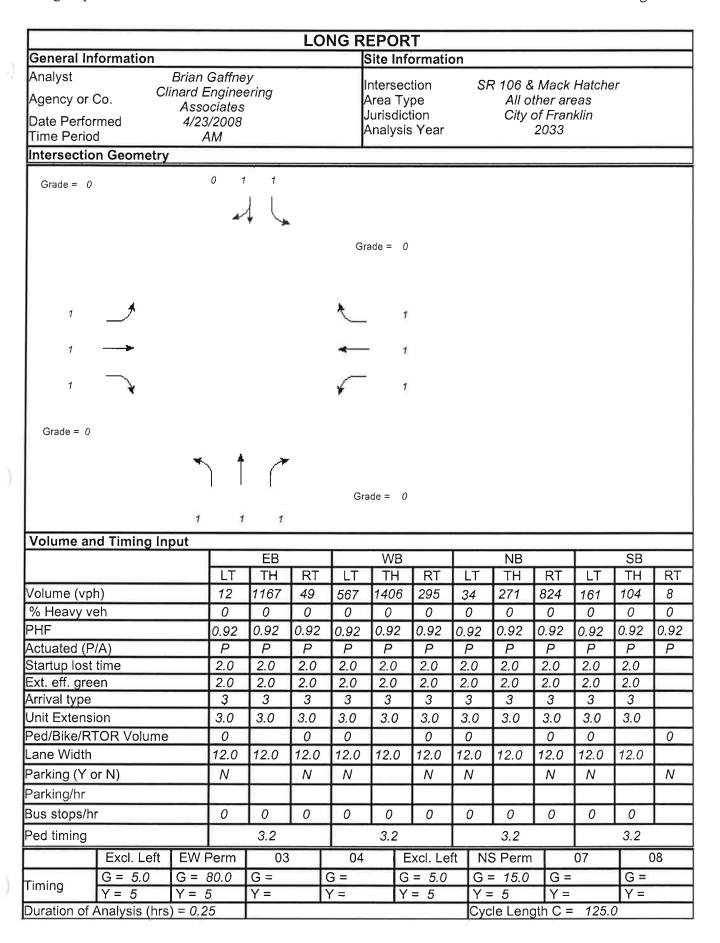
Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL SI	UMI	MARY				
General Information	1		Site I	nform	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 PM		Interse Jurisdi Analys		,		Lewisbu City of I 2033			ardner
Project Description Sta		Lewisbura Pike) TPR							
East/West Street: Gardi		zowieszarg r me		South S	Stree	et: <i>Lewisi</i>	bura Pike			
Intersection Orientation:): 0.25				
Vehicle Volumes an	d Adjustma	nte				,				
Major Street	l Aujustine	Northbound		Т			Southb	ound		
Movement	1	2	3			4	T 5	ound	1	6
WIO TO MICHE	Ĺ	† <u>†</u>	R			<u> </u>	l Ť			R
Volume	0	470	5			34	109	5		0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92	2		0.92
Hourly Flow Rate, HFR	0	510	5			36	119)		0
Percent Heavy Vehicles	0			$\neg \uparrow$		0			ĺ	
Median Type		•	ļ	Undiv	ridec	1				
RT Channelized	ĺ		0				1			0
Lanes	0	1	0			1	1			0
Configuration	i	İ	TR	T i		L	T			
Jpstream Signal	î	0					0			
Minor Street	ì	Westbound	•	Ì			Eastbo	und		
Movement	7	8	9			10	11			12
	Ĺ	T	R			L	Ī			R
Volume	7	0	3			0	0			0
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92	2		0.92
Hourly Flow Rate, HFR	7	0	3			0	0			0
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)	1	0					0			
Flared Approach	1	N N					l N			
Storage		0	1				0		┢	
RT Channelized		 	0	-			 		├	0
							 		 	
Lanes	0	0	0	\longrightarrow		0	0		 	0
Configuration	<u> </u>	LR .								
Delay, Queue Length, a	1					_				
Approach	NB	SB		Westbo	ounc				oound	1
Movement	1	4	7	8		9	10		11	12
Lane Configuration		L		LR						
v (vph)		36		10						
C (m) (vph)	1	1061		119	,		Î	1		
v/c	+	0.03		0.08	_		<u>† </u>	†		
95% queue length		0.11		0.27			 	+		
		8.5			_		 	+		
Control Delay				38.0	,		+	+-		
LOS		Α		Ε			 			
Approach Delay				38.0)		<u> </u>			
Approach LOS				E						

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved



VOLUME ADJUSTMENT AND SATURATION FLOW RATE WORKSHEET													
General Inform	ation												
Project Description	State R	oute 10	6 (Lewis	sburg P	lke) TPI	₹							
Volume Adjustr	ment												
		EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT	
Volume	12	1167	49	567	1406	295	34	271	824	161	104	8	
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow Rate	13	1268	53	616	1528	321	37	295	896	175	113	9	
Lane Group	L	T	R	L	T	R	L,	T	R	L	TR		
Adj. flow rate	13	1268	53	616	1528	321	37	295	896	175	122		
Prop. LT or RT	0.000		0.000	0.000	555	0.000	0.000	1880	0.000	0.000		0.074	
Saturation Flow	Rate								Li				
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Num. of lanes	1	1	1	1	1	1	1	1	1	1	1	0	
fvv	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fHV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fa	1.00	1.00	1,00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
fLU	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
fLT	0.950	1.000		0.950	1.000		0.950	1.000	:==:	0.950	1.000		
Secondary fLT	0.047		22	0.047			0.407			0.200			
fRT		1.000	0.850		1.000	0.850		1.000	0.850	11	0.989		
fLpb	1.000	1.000		1.000	1.000		1.000	1.000	: 2	1.000	1.000	.==.	
fRpb		1.000	1.000	7243	1.000	1.000		1.000	1.000	1221	1.000		
Adj. satflow	1805	1900	1615	1805	1900	1615	1805	1900	1615	1805	1879		
Sec. adj. satflow	89		-	89			774		-	380		-	

		CA	PACIT	TY ANI	D LOS	WORK	KSHEE	T				
General Informati	on											
Project Description S	State Ro	ute 106	(Lewisi	burg Plk	(e) TPR							
Capacity Analysis	3											
		EB			WB			NB			SB	
Lane group	L _i	T	R	L	T	R	L	T	R	L	TR	
Adj. flow rate	13	1268	53	616	1528	321	37	295	896	175	122	
Satflow rate	1805	1900	1615	1805	1900	1615	1805	1900	1615	1805	1879	
Lost time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Green ratio	0.72	0.64	0.88	0.72	0.64	0.88	0.20	0.12	0.88	0.20	0.12	
Lane group cap.	133	1216	1421	133	1216	1421	196	228	1421	133	225	
v/c ratio	0.10	1.04	0.04	4.63	1.26	0.23	0.19	1.29	0.63	1.32	0.54	
Flow ratio		0.64	0.03		0.64	0.20		0.12	0.55		0.06	
Crit. lane group	N	N	N	N	N	N	N	N	N	N	N	
Sum flow ratios					ěl.	6.4	6					
Lost time/cycle						10.0	0					
Critical v/c ratio						7.0	3					
Lane Group Capa	city, C	ontro	Delay	, and	LOS D	eterm	inatio	1				
		EB			WB			NB			SB	
Lane group	$L_{\mathbb{S}}$	T	R	L	T	R	L	T	R	L	TR	
Adj. flow rate	13	1268	53	616	1528	321	37	295	896	175	122	
Lane group cap.	133	1216	1421	133	1216	1421	196	228	1421	133	225	
v/c ratio	0.10	1.04	0.04	4.63	1.26	0.23	0.19	1.29	0.63	1.32	0.54	
Green ratio	0.72	0.64	0.88	0.72	0.64	0.88	0.20	0.12	0.88	0.20	0.12	
Unif. delay d1	31.4	22.5	0.9	42.0	22.5	1.1	41.1	55.0	2.0	49.0	51.8	
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	
Increm. delay d2	1.5	37.7	0.0	1651	122.3	0.4	2.1	160.8	2.1	185.3	9.1	
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Control delay	32.8	60.2	1.0	1693	144.8	1.5	43.2	215.8	4,2	234.4	60.8	
Lane group LOS	С	Ε	Α	F	F	Α	D	F	Α	F	Ε	
Apprch. delay	57	7.6		51	13.1		5	6.2			163.1	
Approach LOS					F			Ε			F	
Intersec. delay	27	4.0				Intersec	tion LO	S			F	

SUPPLEMENTAL								T TURNS FRO ED PHASES	OM EXCLUSIVE
General Informati	on								
Project Description S	State F	Route 106 (Lev	visburg Plke) TF	PR			
v/c Ratio Comput	ation								
				EB		WI	В	NB	SB
Cycle length, C (s)							12:	5.0	
Prot. phase eff. green	intvl, g	j (s)		5.0		5.0)	5.0	5.0
Opposed queue eff. gr	een in	tvl, gq (s)		81.00		81.0	00	8.00	16.00
Unopposed green intvl	, gu (s)		4.00		4.00	0	12.00	4.00
Red time, r(s)				35.0		35.0	0	100.0	100.0
Arrival rate, qa (veh/s)				0.00		0.04	4	0.01	0.04
Prot. phase departure	rate, s	p (veh/s)		0.501		0.50)1	0.501	0.501
Perm. phase departure	rate,	ss (veh/s)		0.53		0.5	3	0.36	0.53
Xperm			0.15		1.49	9	0.05	0.35	
/prot (N/A for lagging left-turns)				0.06		0.5	9	0.43	1.55
Uniform Queue Size a	and De	elay Comp	uta	tions					
Queue at start of greer	arrov	v, Qa		0.13		2.33	3	1.03	3.69
Queue at start of unsat Qu	turated	d green,		0.29		2.99	9	0.08	1.83
Residual queue, Qr				0.00		1.04	4	0.00	1.37
Uniform delay, d1				31.4		42.0)	41.1	49.0
Uniform Queue Size a	_	T	ion	S	_				
	Case	Qa		Qu	_	Qr		d1	
f Xperm <= 1.0 & Xprot <= 1.0	1	qar		Qagq		0	[0.5/(qa0 q _{a)}	C)][r Qa + Qa ^{2/(S_{p -} C}	ls) +gqQu + Qu ^{2/(S} s -
Xperm <= 1.0 & Xprot 2 qar				Qr + qagq	Qa	a - g(Sp - Qa)	[0.5/(qa(Qu ^{2/(S_{s-}C}	C)][rQa + g(Qa + (la)	Qr) + gq (Qr + Qu) +
f Xperm > 1.0 & Xprot <= 1.0	3	Qr + qar		Qagq	Qu	- gu(Ss - qa)	[0.5/(qa(Qa ^{2/(Sp - C}	C)][gqQu + gu(Qa + Ia)	Q_r) + $r(Q_r + Q_a)$ +
f X _{perm} <= 1.0 lagging lefts)	4	0		qa(r + gq)		0	[0.5/(qaC	C)][r + gq)Qu + Qu²	/(S _{s -} Q _{a)}
f X _{perm} > 1.0 (lagging efts)	5 Qu - gu(Ss Qa)		-	qa(r + gq)		0	[0.5/(q a0 q _{a)}	C)][r + gq)Qu + gu(1	Qu + Qa) + Qa ^{2/(S} p -

		BAC	K-OF	-QUE	JE WC	ORKSI	HEET					
General Informatio	n											
Project Description Sta	ate Route	106 (Le	wisburg	g Plke)	TPR							
Average Back of Q	ueue											
	LT	EB	DT	LT	WB	DT	1.	NB	Loz	1.7	SB	ГОТ
Lane group	L	T	RT R	L	TH T	RT R	LT L	TH T	RT R	LT L	TH TR	RT
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Flow rate/lane	13	1268	53	616	1528	321	37	295	896	175	122	
Satflow per lane	184	1900	1615	184	1900	1615	980	1900	1615	665	1879	
Capacity/lane	133	1216	1421	133	1216	1421	196	228	1421	133	225	
Flow ratio	0.07	0.67	0.03	3.35	0.80	0.20	0.04	0.16	0.55	0.26	0.06	
v/c ratio	0.10	1.04	0.04	4.63	1.26	0.23	0.19	1.29	0.63	1.32	0.54	
I factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3	3	3	3	3	3	3	3	3	3	
Platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Q1	0.1	44.0	0.2	6.2	53.1	1.7	1.0	10.2	8.4	5.1	4.0	
kв	0.3	1.6	1.8	0.3	1.6	1.8	0.5	0.5	1.8	0.4	0.5	
Q2	0.0	19.7	0.1	60.8	45.9	0.5	0.1	10.2	3.0	6.4	0.6	
Q avg.	0.2	63.8	0.3	67.1	98.9	2.2	1.1	20.5	11.4	11.5	4.6	
Percentile Back of	Queue (95th p	ercer	ntile)								
fв%	2.6	1.6	2.5	1.6	1.6	2.2	2.4	1.6	1.7	1.7	2.0	
BOQ, Q%	0.4	102	0.8	107	158	4.9	2.7	33.1	19.4	19.6	9.1	
Queue Storage Rat	io					,						
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	_
Q storage	0	0	0	0	0	0	0	0	0	0	0	
Avg. Ra												
95% Rq%												

Copyright © 2000 University of Florida, All Rights Reserved

					LO	NG RI	EPC)R1	Γ						
General In	formation								rmatio	on .					
Analyst		Brian	Gaffne	V											
Agency or	Co Ci	linard E	ngine					secti Typ		SF	R 106 8	Mack ther ar		er	
			ciates					dicti				of Fran			
Date Perfo Time Perio			2/2008 PM						Year			2033			
	n Geometry		141												
			^ 1												
Grade = 0			0 1												
			ارد												
				* *											
						Gra	ade =	0							
1	≯					*		1							
						_		*							
1						4	0	1							
						V									
1	4					4		1							
Grade = 0															
		*	1	1											
			1			0	ide =	^							
						Gra	ide –	U							
		1	1	1											
Volume ar	nd Timing In	put													
			LT	EB TH	RT	LT	V T T		RT	LT	NB TH	RT	LT	SB	RT
Volume (vp	h)		46	2031	205	537	61	$\overline{}$	73	44	82	358	172	434	32
% Heavy v			0	0	0	0	0	┧	0	0	0	0	0	0	0
PHF	011		0.92	0.92	0.92	0.92	0.9		0.92	0.92	0.92	0.92	0.92	0.92	0.92
Actuated (P	P/A)		P	P	P	P	P	_	P	P	P	P	P	P	P
Startup lost			2.0	2.0	2.0	2.0	2.0	_	2.0	2.0	2.0	2.0	2.0	2.0	<u> </u>
Ext. eff. gre			2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	
Arrival type			3	3	3	3	3		3	3	3	3	3	3	
Jnit Extens			3.0	3.0	3.0	3.0	3.	0	3.0	3.0	3.0	3.0	3.0	3.0	
	TOR Volume		0		0	0	lacksquare	\Box	0	0		0	0		0
ane Width			12.0	12.0	12.0	12.0	12.	0	12.0	12.0	12.0	12.0	12.0	12.0	
Parking (Y	or N)		Ν		Ν	N	<u> </u>	_	Ν	Ν		Ν	N		N
Parking/hr						<u> </u>	_	_							
Bus stops/h	r		0	0	0	0	0	_	0	0	0	0	0	0	
Ped timing				3.2			3.2	2			3.2			3.2	
	Excl. Left	EW F	erm	03		04	, i	Ex	ccl. Let	t NS	S Perm		07	1	08
Fiming	G = 15.0	G = :				-		= 5.0	G =	= 15.0	G =		G =		
	Y = 5	Y = 8		Y = Y =				Υ =	= 5	Y =		Y =		Y =	
Juration of	Analysis (hrs) = 0.2	5				Cycle Length C = 105.0				2				

VOLU	ME ADJ	USTM	ENT A	ND SA	ATUR/	ATION	FLOV	V RAT	E WOI	RKSHI	EET	
General Inform	ation											
Project Description	State R	oute 10	6 (Lewis	sburg P	lke) TPI	7						
Volume Adjust	ment											
		EB			WB			NB	1		SB	
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Volume	46	2031	205	537	611	73	44	82	358	172	434	32
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow Rate	50	2208	223	584	664	79	48	89	389	187	472	35
Lane Group	Ĺ	T	R	L	T	R	L	T	R	L	TR	
Adj. flow rate	50	2208	223	584	664	79	48	89	389	187	507	
Prop. LT or RT	0.000		0.000	0.000	1400	0.000	0.000	5 00 5	0.000	0.000		0.069
Saturation Flov	v Rate											
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Num. of lanes	1	1	1	1	1	1	1	1	1	1	1	0
fVV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fHV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
fLU	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
fLT	0.950	1.000		0.950	1.000	::	0.950	1.000		0.950	1.000	
Secondary fLT	0.171		-				0.200		S HE R	0.524		1.55
fRT	-	1.000	0.850		1.000	0.850		1.000	0.850		0.990	
fLpb	1.000	1.000		1.000	1.000		1.000	1.000	(3 -):	1.000	1.000	
fRpb	-	1.000	1.000		1.000	1.000	5.77	1.000	1.000		1.000	
Adj. satflow	1805	1900	1615	1805	1900	1615	1805	1900	1615	1805	1880	
Sec. adj. satflow	326						380		(*** :	996		

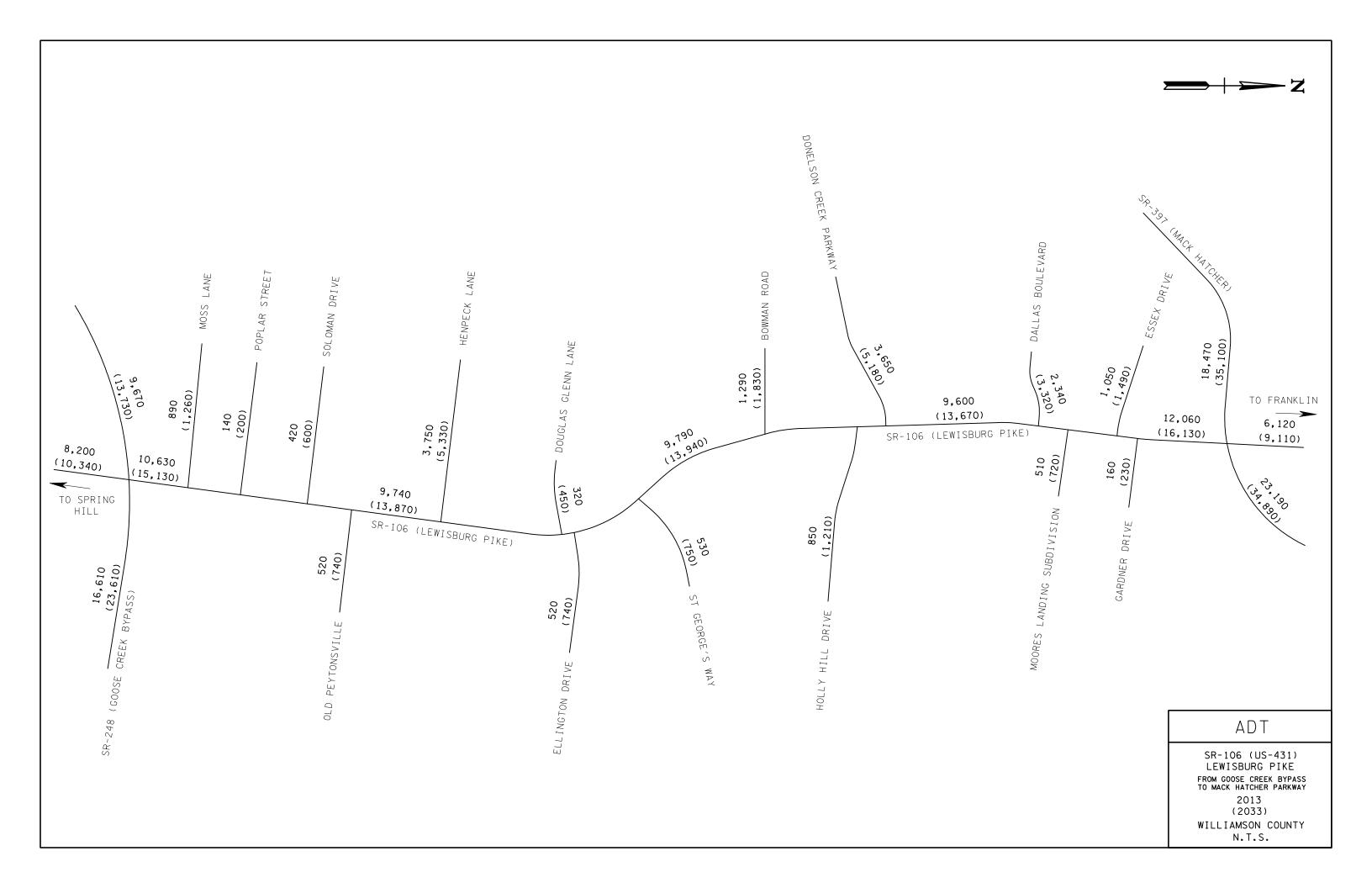
		CA	PACIT	Y AN	D LOS	WORI	KSHEE	Т				
General Informat	ion											
Project Description	State Ro	ute 106	(Lewist	burg Pli	ke) TPR							
Capacity Analysi	s											\neg
		EB			WB			NB			SB	
Lane group	L	T	R	L	T	R	L	T	R	L	TR	
Adj. flow rate	50	2208	223	584	664	79	48	89	389	187	507	
Satflow rate	1805	1900	1615	1805	1900	1615	1805	1900	1615	1805	1880	
Lost time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Green ratio	0.67	0.48	0.76	0.67	0.48	0.76	0.24	0.14	0.86	0.24	0.14	
Lane group cap.	429	905	1230		905	1230	158	271	1384	276	269	
v/c ratio	0.12	2.44	0.18		0.73	0.06	0.30	0.33	0.28	0.68	1.88	
Flow ratio		0.48	0.14		0.35	0.05		0.05	0.24		0.14	
Crit. lane group	N	N	N	N	N	N	N	N	N	N	N	
Sum flow ratios						0.0	0					
Lost time/cycle						0.0	0					
Critical v/c ratio						0.0	0					
Lane Group Capa	icity, C	ontro	Delay	, and	LOS [Determ	inatio	า				
		EB			WB			NB			SB	
Lane group	L	T	R	L	T	R	L	T	R	L	TR	
Adj. flow rate	50	2208	223	584	664	79	48	89	389	187	507	
Lane group cap.	429	905	1230		905	1230	158	271	1384	276	269	
v/c ratio	0.12	2.44	0.18		0.73	0.06	0.30	0.33	0.28	0.68	1.88	
Green ratio	0.67	0.48	0.76	0.67	0.48	0.76	0.24	0.14	0.86	0.24	0.14	
Unif. delay d1	11.3	27.5	3.5		22.1	3.1	32.6	40.5	1.4	37.7	45.0	
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	
Increm. delay d2	0.6	651.3	0.3		5.2	0.1	4.9	3.2	0.5	12.6	411.9	
PF factor	1.000	1.000	1.000		1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Control delay	11.8	678.8	3.8		27.4	3.2	37.5	43.7	1.9	50.4	456.9	
Lane group LOS	В	F	Α		С	Α	D	D	Α	D	F	
Apprch. delay	60	4.6					1	2.2			347.4	
Approach LOS		F						В			F	
Intersec. delay		Intersection LOS										

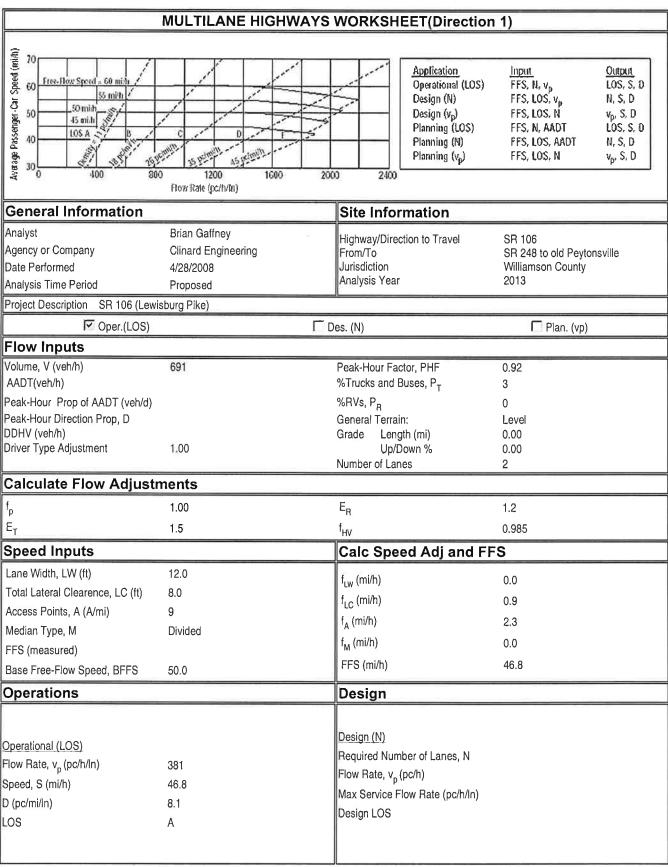
Project Description v/c Ratio Comput Cycle length, C (s) Prot. phase eff. green Opposed queue eff. gr Unopposed green intv Red time, r(s) Arrival rate, qa (veh/s) Prot. phase departure Perm. phase departure	intvl, green int	(s) tvl, g _q (s)	Lew	EB 15.0) TPR W	B 108	NB	SB
Cycle length, C (s) Prot. phase eff. green Opposed queue eff. gr Unopposed green intvi Red time, r(s) Arrival rate, qa (veh/s) Prot. phase departure	intvl, g reen int	(s) tvl, gq (s)		15.0				SB
Prot. phase eff. green Opposed queue eff. gr Unopposed green intvi Red time, r(s) Arrival rate, qa (veh/s) Prot. phase departure	reen int	tvl, gq (s)		15.0				SB
Prot. phase eff. green Opposed queue eff. gr Unopposed green intvi Red time, r(s) Arrival rate, qa (veh/s) Prot. phase departure	reen int	tvl, gq (s)			15	108	5.0	
Opposed queue eff. gr Unopposed green intv Red time, r(s) Arrival rate, qa (veh/s) Prot. phase departure	reen int	tvl, gq (s)			15			
Unopposed green intv Red time, r(s) Arrival rate, q _a (veh/s) Prot. phase departure	l, gu (s)				, 0.	0	5.0	5.0
Red time, r(s) Arrival rate, q _a (veh/s) Prot. phase departure)		32.15			16.00	5.00
Arrival rate, q _a (veh/s) Prot. phase departure	rate s			22.85			4.00	15.00
Prot. phase departure	rate s			35.0			80.0	80.0
	rate s			0.01			0.01	0.05
Porm phose deporture	p (veh/s)		0.501	Q.50	01	0.501	0.501	
reim. priase departure	e rate,	ss (veh/s)		0.22			0.53	0.37
Xperm			0.15			0.13	0.19	
Xprot (N/A for lagging I	Kprot (N/A for lagging left-turns)						0.45	1.76
Uniform Queue Size a	and De	elay Comp	uta	tions				
Queue at start of greer	n arrow	/, Qa		0.49			1.07	4.16
Queue at start of unsa Qu	turated	l green,	0.45				0.21	2.83
Residual queue, Qr		- 16		0.00			0.00	1.91
Jniform delay, d1				11.3			32.6	37.7
Uniform Queue Size a	т —		ions	S		T		
	Case	Qa	_	Qu	Qr		d1	
f Xperm <= 1.0 & Xprot <= 1.0	1	qar		Qa g q	0	[0.5/(qa0 q _{a)}	C)][rQa + Qa ^{2/(S_{p -} (}	^{]s)} +gqQu + Qu ^{2/(S} s
f Xperm <= 1.0 & Xprot > 1.0	2	qar		Qr + qagq	Qa - g(Sp - Qa)	[0.5/(qa0 Qu ^{2/(S_{s-}0}	C)][rQa + g(Qa + (la)	Qr) +gq (Qr + Qu) +
f Xperm > 1.0 & Xprot = 1.0	3	Qr + qar		Qagq	Qu - gu(Ss - Qa)	[0.5/(qa(Qa ^{2/(Sp. 0}	C)][gqQu + gu(Qa + la)	+ Qr) + r(Qr + Qa) +
f X _{perm} <= 1.0 lagging lefts)	4	0		$q_a(r + g_q)$	0	[0.5/(qa0	C)][r + gq)Qu + Qu²	2/(S _s - Q _{a)}
f X _{perm} > 1.0 (lagging efts)	5	Qu - gu(Ss Qa)	-	qa(r + gq)	0	[0.5/(qa0 q _{a)}	C)][r + gq)Qu + gu(Qu + Qa) + Qa ^{2/(Sp}

		BAC	K-OF	-QUEI	JE W	ORKSI	HEET					
General Informat	ion											
Project Description	State Route	106 (Le	wisbur	g Plke)	TPR							
Average Back of	Queue											
	17	EB	T DT	I	WB	LDE	1.7	NB	LBT	ļ . . .	SB	
Lane group	LT L	TH T	RT R	LT L	TH T	RT R	LT L	TH T	RT R	LT L	TH TR	RT
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Flow rate/lane	50	2208	223	584	664	79	48	89	389	187	507	
Satflow per lane	643	1900	1615		1900	1615	665	1900	1615	1158	1880	
Capacity/lane	429	905	1230		905	1230	158	271	1384	276	269	
Flow ratio	0.08	1.16	0.14		0.35	0.05	0.07	0.05	0.24	0.16	0.27	
v/c ratio	0.12	2.44	0.18		0.73	0.06	0.30	0.33	0.28	0.68	1.88	
l factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3	3	3	3	3	3	3	3	3	3	
Platoon ratio	1.00	1.00	1.00		1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00	1.00	ĺ	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Q1	0.5	64.4	1.8		15.6	0.6	1.1	2.3	2.1	4.3	14.8	
kв	0.7	1.2	1.5		1.2	1.5	0.4	0.5	1.6	0.5	0.5	
Q2	0.1	164.9	0.3		3.0	0.1	0.2	0.2	0.6	1.0	30.8	
Q avg.	0.6	229.3	2.1		18.6	0.7	1.2	2.6	2.8	5.3	45.6	
Percentile Back o	f Queue (95th p	ercer	ntile)								
fB%	2.5	1.6	2.3		1.6	2.5	2.4	2.2	2.2	1.9	1.6	
BOQ, Q%	1.5	367	4.8		30.2	1.7	2.9	5.7	6.0	10.3	72.9	
Queue Storage R	atio											
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Q storage	0	0	0	0	0	0	0	0	0	0	0	
Avg. Ra												
95% RQ%												

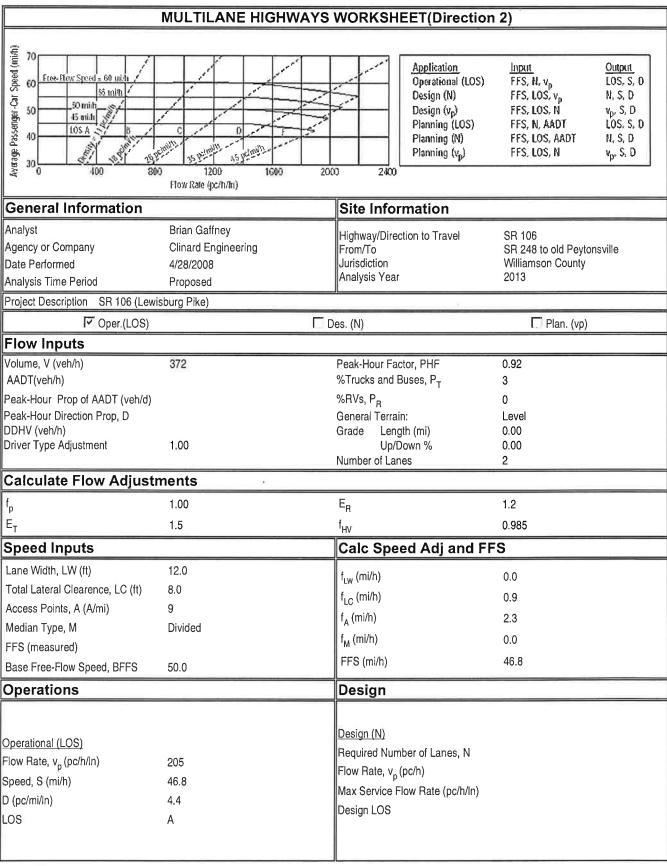
Copyright © 2000 University of Florida, All Rights Reserved

TRAFFIC ANALYSIS PROPOSED CONDITIONS 2013 AND 2033

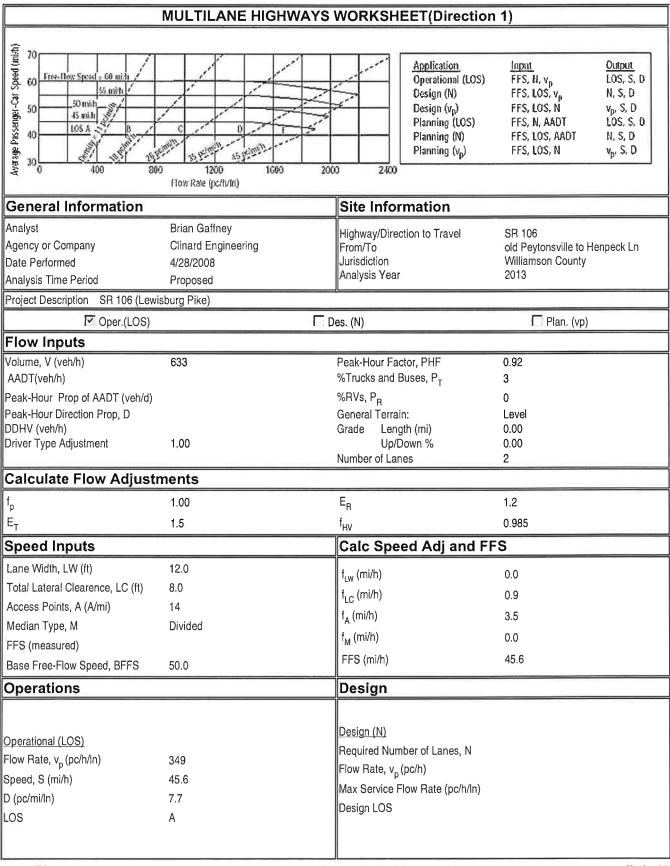




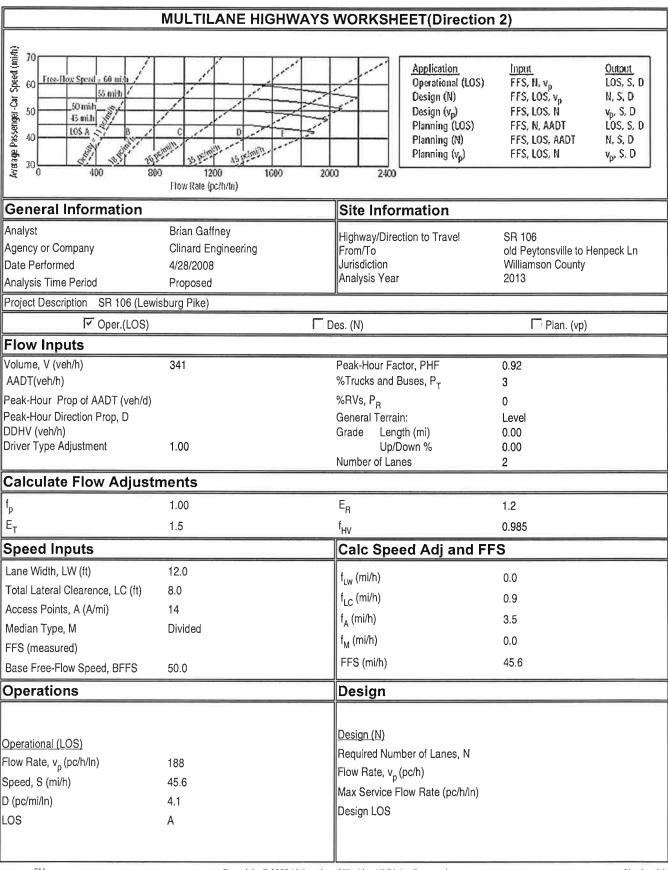
Copyright © 2003 University of Florida, All Rights Reserved



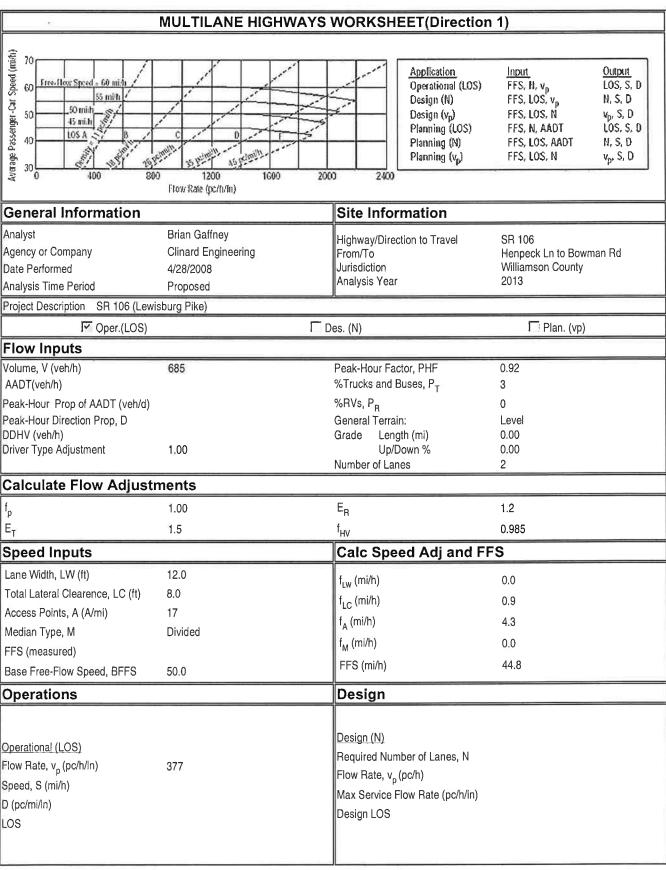
Copyright © 2003 University of Florida, All Rights Reserved



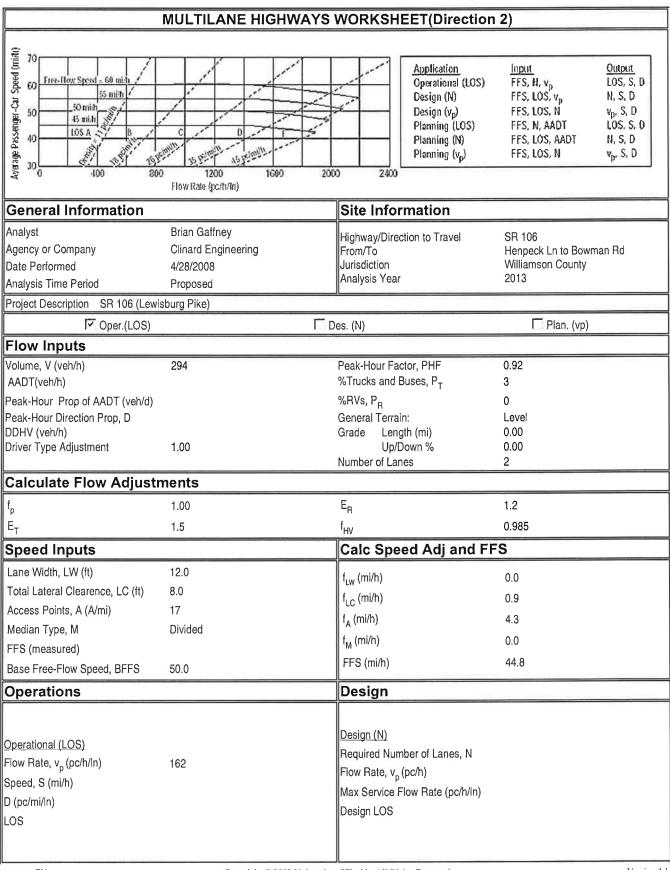
Copyright © 2003 University of Florida, All Rights Reserved



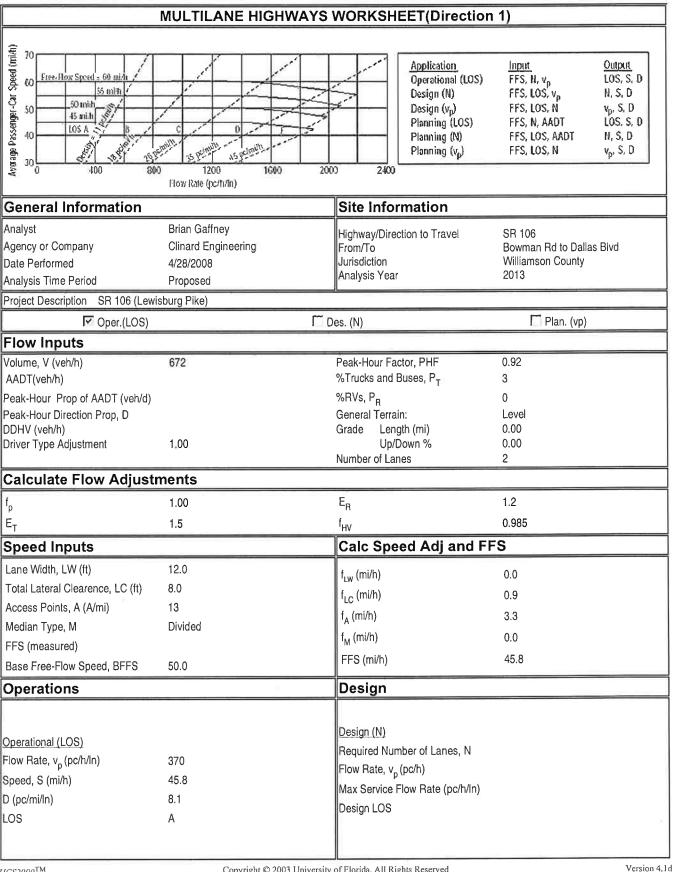
Copyright © 2003 University of Florida, All Rights Reserved

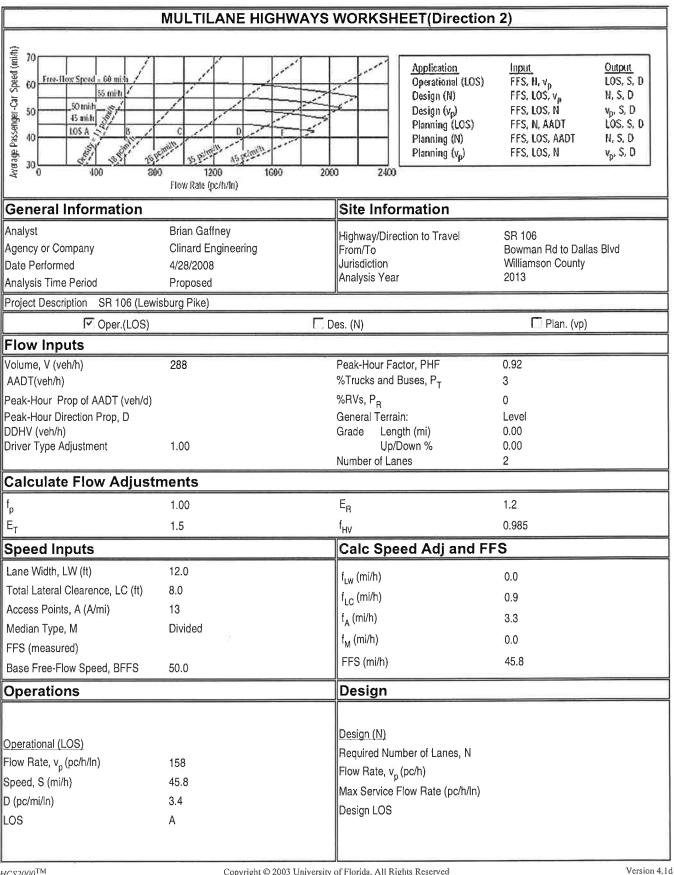


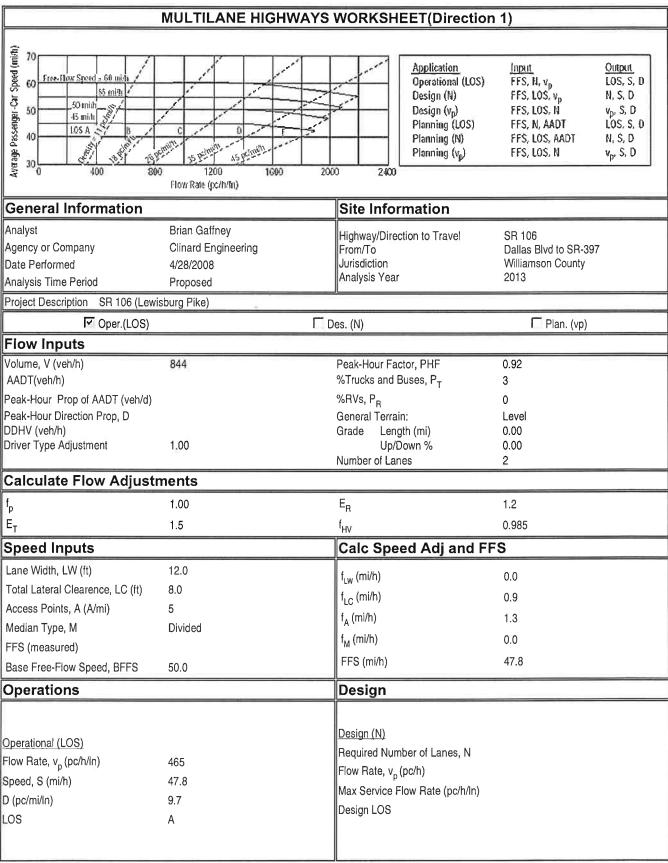
Copyright © 2003 University of Florida, All Rights Reserved



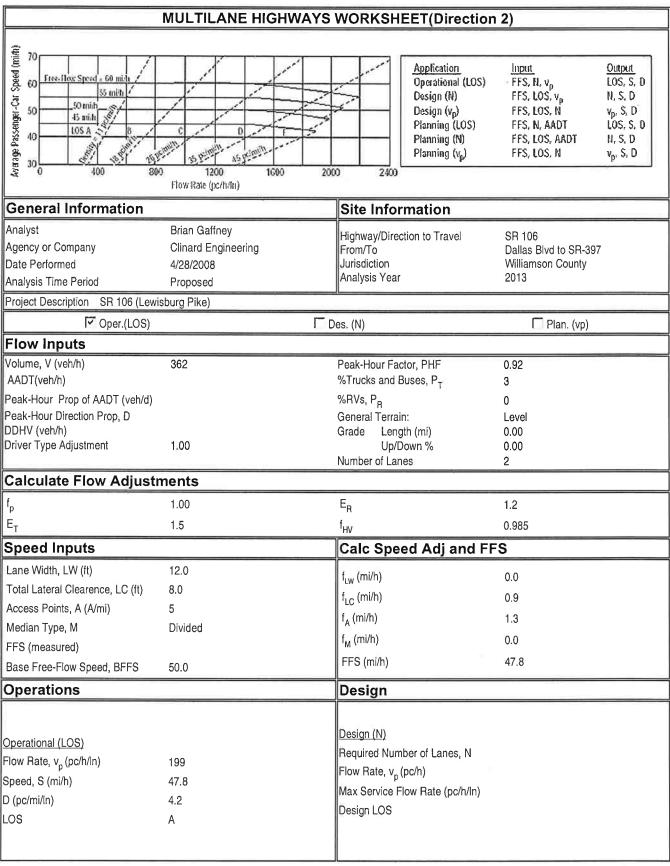
Copyright © 2003 University of Florida, All Rights Reserved







Copyright © 2003 University of Florida, All Rights Reserved



HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

					LO	NG RE	=PC	RT						
General Inf	formation							nformation	on					
Analyst		Brian	Gaffne	/										
Agency or (co CI	inard E	nginee					ection Type			6 & SF ther ar			
			ciates					liction			of Fran			
Date Perfor Time Period		4/23, AM Pr	/2008	4				sis Year		,	2013			
	n Geometry		oposec	,										
intersectio	ii Geoilleti y													
Grade = 0			1 2	2										
		4	'	×										
						Gra	ade =	0						
	4					K								
1						_		1						
2						122								
2						-		2						
1						_		2						
'	*					*		2						
Grade = 0														
		ی		_										
		-	i I											
			1 1	ı		Gra	de =	0						
		_	0	,		0.0		v						
***		1	2	1										
Volume an	d Timing In	put	_					_						
			LT	EB TH	DT	LT	W		I	NB	I DT	I T	SB TH	Грт
Volumo (vol	2)		163	459	RT 6	+	TH 198		LT	TH 352	RT 474	LT		RT 67
Volume (vpl			0	0	0	35 0	0	0	11	0	171	182	123	0
% Heavy ve	511 -		0.90	0.90	0.90	0.90	0.9	_ <u> </u>	0.90	0.90	0.90	0.90	0.90	0.90
Actuated (P	/A)	_	0.90 P	P	0.90 P	P	0.90 P	P 0.90	0.90 P	0.90 P	0.90 P	0.90 P	0.90 P	0.90 P
Startup lost			2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Ext. eff. gree			2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0
Arrival type			3	3	3	3	3	3	3	3	3	3	3	3
Unit Extensi	on		3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0	3.0
Ped/Bike/R1	TOR Volume		0		0	0		0	0		0	0		0
Lane Width			12.0	12.0	12.0	12.0	12.0	0 12.0	12.0	12.0	12.0	12.0	12.0	12.0
Parking (Y c	or N)		N		N	N		N	N		N	Ν		N
Parking/hr														
Bus stops/hi	r		0	0	0	0	0	0	0	0	0	0	0	0
							3.2			3.2			3.2	
						04	0.2	Excl. Le	f4 N14	S Perm	1	07		70
. ca timing								EXCLLA	IL I INS	o rerm		U/	. (80
. ca aming	L								_					
Timing	G = 5.0 $Y = 5$	G = 3	35.0	G = Y =		G = Y =		G = 5.0 $Y = 5$	G =	= 15.0 = 5	G = Y =		G =	

Long Report Page 2 of 5

VOLUME ADJUSTMENT AND SATURATION FLOW RATE WORKSHEET														
General Informa	ation													
Project Description	State R	oute 10	6 (Lewis	sburg Pi	lke) TPI	₹								
Volume Adjustr	nent						_							
		EB	1		WB			NB			SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
Volume	163	459	6	35	198	349	11	352	171	182	123	67		
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
Adj. Flow Rate	181	510	7	39	220	388	12	391	190	202	137	74		
Lane Group	L	T	R	L	T	R	L	Т	R	L	T	R		
Adj. flow rate	181	510	7	39	220	388	12	391	190	202	137	74		
Prop. LT or RT	0.000	-	0.000	0.000		0.000	0.000	1	0.000	0.000	-12	0.000		
Saturation Flow	Rate			•								1		
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Num. of lanes	9	2	1	2	2	1	1	2	1	2	2	1		
fVV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fH∨	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
fLU	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00		
fLT	0.950	1.000	==	0.950	1.000	35 0	0.950	1.000		0.950	1.000	8 44 8		
Secondary fLT	0.537			0.204			0.499			0.394		c ee		
fRT	2.00	1.000	0.850		1.000	0.850		1.000	0.850		1.000	0.850		
fLpb	1.000	1.000		1.000	1.000	227	1.000	1.000		1.000	1.000	8 2 1 2 2		
fRpb		1.000	1.000		1.000	1.000		1.000	1.000	: 0	1.000	1.000		
Adj. satflow	1805	3610	1615	3502	3610	1615	1805	3610	1615	3502	3610	1615		
Sec. adj. satflow	1021		22	754		22	948		1000	1454				

CAPACITY AND LOS WORKSHEET															
General Informa	General Information														
Project Description	State F	Route 10	06 (Lew	isburg F	Plke) TP	rR									
Capacity Analys	is														
		EB			WB			NB			SB				
Lane group	L	T	R	L	T	R	L _e	T	R	L	T	R			
Adj. flow rate	181	510	7	39	220	388	12	391	190	202	137	74			
Satflow rate	1805	3610	1615	3502	3610	1615	1805	3610	1615	3502	3610	1615			
Lost time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0			
Green ratio	0.56	0.44	0.44	0.56	0.44	0.44	0.31	0.19	0.31	0.31	0.19	0.19			
Lane group cap.	624	1579	707	596	1579	707	350	677	505	583	677	303			
v/c ratio	0.29	0.32	0.01	0.07	0.14	0.55	0.03	0.58	0.38	0.35	0.20	0.24			
Flow ratio		0.14	0.00		0.06	0.24		0.11	0.12		0.04	0.05			
Crit. lane group	Ν	N	N	N	N	Υ	N	Υ	N	N	N	N			
Sum flow ratios	n flow ratios 0.47														
ost time/cycle 20.00															
Critical v/c ratio 0.63															
Lane Group Cap	ane Group Capacity, Control Delay, and LOS Determination														
		EB			WB			NB			SB				
Lane group	L	T	R	L	T	R	L	T	R	Ĺ	T	R			
Adj. flow rate	181	510	7	39	220	388	12	391	190	202	137	74			
Lane group cap.	624	1579	707	596	1579	707	350	677	505	583	677	303			
v/c ratio	0.29	0.32	0.01	0.07	0.14	0.55	0.03	0.58	0.38	0.35	0.20	0.24			
Green ratio	0.56	0.44	0.44	0.56	0.44	0.44	0.31	0.19	0.31	0.31	0.19	0.19			
Unif. delay d1	8.7	14.7	12.7	8.1	13.5	16.7	19.2	29.6	21.4	20.5	27.4	27.7			
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50			
Increm. delay d2	1.2	0.5	0.0	0.2	0.2	3.1	0.2	3.6	2.1	1.6	0.7	1.9			
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Control delay	9.9	15.3	12.7	8.4	13.7	19.7	19.4	33.2	23.6	22.2	28.1	29.6			
Lane group LOS	A B B A B B C C C C										С				
Apprch. delay	13	3.9		1	7.0		2	9.8			25.5				
Approach LOS		В			В			С			С				
Intersec. delay	20	0.8				Intersec	tion LO	S			С				

SUPPLEMENTAL								T TURNS FRO ED PHASES	OM EXCLUSIVE
General Informati	on								
Project Description S	State R	Route 106 (Leu	visburg Plke	e) TPF	?			
v/c Ratio Comput	ation								
				EB		WE	3	NB	SB
Cycle length, C (s)							80	.0	
Prot. phase eff. green	intvl, g	(s)		5.0		5.0		5.0	5.0
Opposed queue eff. gr	een in	tvl, gq (s)		5.00		7.89	9	5.00	8.39
Unopposed green intvl	, gu (s)		35.00		32.1	1	15.00	11.61
Red time, r(s)				35.0		35.0)	55.0	55.0
Arrival rate, qa (veh/s)				0.05		0.01	1	0.00	0.06
Prot. phase departure	rate, s	p (veh/s)		0.501		0.97	3	0.501	0.973
Perm. phase departure	rate,	ss (veh/s)		0.32		0.26	3	0.35	0.70
Xperm				0.18		0.08	5	0.01	0.14
X _{prot} (N/A for lagging l	eft-turi	ns)		0.80		0.09	9	0.08	0.69
Uniform Queue Size a	and De	elay Comp	uta	tions					
Queue at start of greer	arrov	/, Q a		1.76		0.38	3	0.18	3.09
Queue at start of unsat Qu	urated	l green,		0.25		0.09	9	0.02	0.47
Residual queue, Qr				0.00		0.00)	0.00	0.00
Uniform delay, d1				8.7		8.1		19.2	20.5
Uniform Queue Size a			ion	S	T				
	Case	Qa		Qu		Qr .		d1	
If Xperm <= 1.0 & Xprot <= 1.0)	[0.5/(qa0 q _{a)}	C)][rQa + Qa ^{2/(Sp - (}	^{As)} +gqQu + Qu ^{2/(S} s -
Xperm <= 1.0 & Xprot 2 qar				Qr + qagq		g(s _p -	[0.5/(qa0 Qu ^{2/(\$s - 0}	C)][rQa + g(Qa + (la)	Qr) + g q (Qr + Qu) +
Xperm > 1.0 & Xprot 3 Qr + Qal				Qa Q q		gu(S s - qa)	[0.5/(qa(Qa ^{2/(S_{p-}0}		+ Qr) + r (Qr + Qa) +
X _{perm} <= 1.0 4 0			qa(r + gq)	i)	[0.5/(Qa(C)][r + gq)Qu + Qu²	P/(S _{s -} Q _{a)}	
If X _{perm} > 1.0 (lagging lefts)	(perm > 1.0 (lagging 5 Qu - gu(()	[0.5/(Qa(Q _{a)}	C)][r + g _q)Qu + gu(Qu + Qa) + Qa ^{2/(Sp.}

		ВА	CK-O	F-QUE	UE W	ORKS	SHEET	Γ				
General Informat	tion											
Project Description	State Route	e 106 (L	ewisbu	rg Plke) TPR							
Average Back of	Queue											
	LT	EB TH	RT	LT	WB TH	RT	LT	NB TH	RT	LT	SB TH	RT
Lane group	L	T	R	Ĺ	T	R	L	T	R	L	T	R
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flow rate/lane	181	510	7	39	220	388	12	391	190	202	137	74
Satflow per lane	1108	1900	1615	546	1900	1615	1119	1900	1615	961	1900	1615
Capacity/lane	624	1579	707	596	1579	707	350	677	505	583	677	303
Flow ratio	0.16	0.14	0.00	0.04	0.06	0.24	0.01	0.11	0.12	0.11	0.04	0.05
v/c ratio	0.29	0.32	0.01	0.07	0.14	0.55	0.03	0.58	0.38	0.35	0.20	0.24
l factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Arrival type	3	3	3	3	3	3	3	3	3	3	3	3
Platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF 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
Q1	1.8	3.9	0.1	0.2	1.5	6.4	0.2	4.1	3.3	1.6	1.4	1.4
kв	0.8	0.9	0.8	0.5	0.9	0.8	0.5	0.5	0.7	0.5	0.5	0.5
Q2	0.3	0.4	0.0	0.0	0.1	1.0	0.0	0.7	0.4	0.2	0.1	0.1
Q avg.	2.1	4.3	0.1	0.2	1.7	7.4	0.2	4.8	3.7	1.9	1.5	1.5
Percentile Back (of Queue	(95th	perce	ntile)								
fB%	2.3	2.0	2.6	2.6	2.3	1.8	2.6	2.0	2.1	2.3	2.3	2.3
BOQ, Q%	4.7	8.8	0.2	0.6	3.9	13.5	0.5	9.5	7.6	4.3	3.5	3.6
Queue Storage R	atio											
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Q storage	0	0	0	0	0	0	0	0	0	0	0	0
Avg. Ra												
95% RQ%												

HCS2000TM

Copyright © 2000 University of Florida, All Rights Reserved

					LO	NG RE	EPC	DR1	Γ						
General Inf	formation						_		rmatio	on					
Analyst Agency or 0 Date Perfor Time Period	med d	inard E Asso 4/23 PM Pr	Gaffney Inginee ciates /2008 oposed	ring		A J	nters vrea uriso vnaly	Typ dicti	е		All o	6 & SF ther are of Fran 2013	eas		
Intersectio	n Geometry														
Grade = 0		æ	1 2	2		Gra	ade =	0					c		
1	<u>→</u>					<u>\</u>		1							
1 Grade = 0	7					√		2							
Volume an	d Timing In	† put	2	1		Gra	de =								
			<u> </u>	EB	L DT	<u> </u>	W				NB			SB	T 5-
Volume (vpl	n)		LT 233	TH 365	RT 31	105	22		256	132	TH 378	RT 123	126	TH 201	RT 45
% Heavy ve			0	0	0	0	0	_	0	0	0	0	0	0	0
PHF			0.90	0.90	0.90	0.90	0.9	-	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Actuated (P	/A)		P	Р	Р	P	P	_	P	P	Р	Р	P	Р	Р
Startup lost			2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	2.0	2.0
Ext. eff. gree	en		2.0	2.0	2.0	2.0	2.0	_	2.0	2.0	2.0	2.0	2.0	2.0	2.0
Arrival type			3	3	3	3	3	$\overline{}$	3	3	3	3	3	3	3
Unit Extensi	on OR Volume		3.0	3.0	3.0 0	3.0	3.0	4	3.0 0	3.0 0	3.0	3.0 0	3.0	3.0	3.0
Lane Width	OIX VOIGINE		12.0	12.0	12.0	12.0	12.	0	12.0	12.0	12.0	12.0	12.0	12.0	12.0
Parking (Y o	r N)		Ň	, 2.0	N	N N	1,5.	- +	N	12.0 N	1.2.0	N N	N	, 2.0	N N
Parking (1 o	,		1,4	+*-	\vdash	\dashv	. •	-		''	 ''		- '		
Bus stops/hr			0	0	0	0	0	\dashv	0	0	0	0	0	0	0
Ped timing						Ť	3.2	_		Ť	3.2		Ť	3.2	١
, oa aming	Excl. Left EW Perm 03				04	0.2	_	kcl. Le	ft Nic	S Perm	_	07		08	
	G = 5.0	G = 2		G =		G =			= 5.0	_	= 15.0	G =		G =	,,,
Timing	Y = 5				Y =			= 5.0 = 5		5 · 5	Y =		Y =		
Duration of A	ration of Analysis (hrs) = 0.25									Сус	le Leng	gth C =	70.0	file .	

VOLUME ADJUSTMENT AND SATURATION FLOW RATE WORKSHEET														
General Informa	ition													
Project Description	State R	oute 10	6 (Lewis	sburg P	lke) TPI	₹								
Volume Adjustn	nent													
		EB			WB			NB	r.	ļ.	SB			
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT		
Volume	233	365	31	105	221	256	32	378	123	126	201	45		
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90		
Adj. Flow Rate	259	406	34	117	246	284	36	420	137	140	223	50		
Lane Group	L	T	R	L	T	R	L	Т	R	L	Т	R		
Adj. flow rate	259	406	34	117	246	284	36	420	137	140	223	50		
Prop. LT or RT	0.000		0.000	0.000		0.000	0.000	= 0	0.000	0.000	7220	0.000		
Saturation Flow	Rate				<u>'</u>							'		
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Num. of lanes	1	2	1	2	2	1	1	2	9	2	2	1		
fW	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fHV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
fLU	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00		
fLT	0.950	1.000	22	0.950	1.000	~-	0.950	1.000	24	0.950	1.000			
Secondary fLT	0.499			0.254			0.459			0.391				
fRT	-	1.000	0.850	-	1.000	0.850		1.000	0.850	2 55 0	1.000	0.850		
fLpb	1.000	1.000		1.000	1.000	22	1.000	1.000	754A	1.000	1.000			
fRpb	·	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000		
Adj. satflow	1805	3610	1615	3502	3610	1615	1805	3610	1615	3502	3610	1615		
Sec. adj. satflow	949		44	937		22	873		S	1441		-		

		С	APAC	ITY A	ND LO	S WO	RKSH	ET						
General Informa	tion													
Project Description	State F	Route 10	06 (Lew	isburg F	Plke) TP	rR								
Capacity Analys	is													
		EB			WB			NB			SB			
Lane group	L	T	R	L	T	R	L	T	R	L	T	R		
Adj. flow rate	259	406	34	117	246	284	36	420	137	140	223	50		
Satflow rate	1805	3610	1615	3502	3610	1615	1805	3610	1615	3502	3610	1615		
Lost time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Green ratio	0.50	0.36	0.36	0.50	0.36	0.36	0.36	0.21	0.36	0.36	0.21	0.21		
Lane group cap.	536	1289	577	652	1289	577	378	774	577	662	774	346		
v/c ratio	0.48	0.31	0.06	0.18	0.19	0.49	0.10	0.54	0.24	0.21	0.29	0.14		
Flow ratio		0.11	0.02		0.07	0.18		0.12	0.08		0.06	0.03		
Crit. lane group	N	N	N	N	N	Y	N	Υ	N	N	N	N		
Sum flow ratios 0.40														
Lost time/cycle 20.00														
Critical v/c ratio 0.57														
Lane Group Cap	acity,	Contr	ol Del	ay, an	d LOS	Deter	minati	on						
		EB			WB			NB			SB			
Lane group	L	T	R	Ĺ	T	R	L	T	R	L	T	R		
Adj. flow rate	259	406	34	117	246	284	36	420	137	140	223	50		
Lane group cap.	536	1289	577	652	1289	577	378	774	577	662	774	346		
v/c ratio	0.48	0.31	0.06	0.18	0.19	0.49	0.10	0.54	0.24	0.21	0.29	0.14		
Green ratio	0.50	0.36	0.36	0.50	0.36	0.36	0.36	0.21	0.36	0.36	0.21	0.21		
Unif. delay d1	12.3	16.3	14.8	9.3	15.5	17.5	14.9	24.5	15.8	15.5	23.0	22.3		
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50		
Increm. delay d2	3.1	0.6	0.2	0.6	0.3	3.0	0.5	2.7	1.0	0.7	0.9	0.9		
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Control delay	15.4	16.9	15.0	9.9	15.9	20.5	15.4	27.2	16.8	16.2	24.0	23.2		
Lane group LOS	B B B A B C B C C											С		
Apprch. delay	16	6.3		1	6.8		2	4.1			21.3			
Approach LOS		3			В			С			С			
Intersec. delay	19	9.3				Intersec	tion LOS	3			В			

SUPPLEMENTAL								T TURNS FRO ED PHASES	OM EXCLUSIVE
General Informati	on								
Project Description S	State R	Route 106 (I	Lew	isburg Plke) TF	PR			
v/c Ratio Comput	ation								
				EB		W	3	NB	SB
Cycle length, C (s)							70	.0	
Prot. phase eff. green	intvl, g	(s)		5.0		5.0		5.0	5.0
Opposed queue eff. gr	een in	tvl, gq (s)		5.00		6.00	5	5.00	7.70
Unopposed green intvl	, gu (s)		25.00		23.9	4	15.00	12.30
Red time, r(s)				35.0		35.0)	45.0	45.0
Arrival rate, q _a (veh/s)				0.07		0.03	3	0.01	0.04
Prot. phase departure	rate, s	p (veh/s)		0.501		0.97	3	0.501	0.973
Perm. phase departure	rate,	ss (veh/s)		0.32		0.33	3	0.32	0.65
Xperm				0.27		0.12	2	0.04	0.10
Xprot (N/A for lagging l	eft-turi	ns)		1.15		0.27	7	0.20	0.40
Uniform Queue Size a	and De	elay Comp	uta	tions					
Queue at start of greer	arrow	/, Qa		2.52		1.14	4	0.45	1.75
Queue at start of unsat Qu	urated	l green,		1.66		0.20)	0.05	0.30
Residual queue, Qr				0.37		0.00)	0.00	0.00
Uniform delay, d1				12.3		9.3		14.9	15.5
Uniform Queue Size a	_		ions	5					
	Case	Qa		Qu		Qr		d1	
f Xperm <= 1.0 & Xprot <= 1.0	1	qar		qagq		0	[0.5/(qa0 q _{a)}	C)][rQa + Qa ^{2/(S_{p -} 0}	^{As)} + 9 qQu + Qu ^{2/(S} s -
f Xperm <= 1.0 & Xprot > 1.0	qar		Qr + qagq	Qa	a - g(Sp - Qa)	[0.5/(qa(Qu ^{2/(\$s - 0}	C)][rQa + g(Qa + (la)	Qr) +gq (Qr + Qu) +	
X _{perm} > 1.0 & X _{prot} 3 Qr + qal		Qr + qar		Qagq	Qu	- gu(Ss - Qa)	[0.5/(qa(Qa ^{2/(Sp. (}		+ Qr) + r (Qr + Qa) +
f X _{perm} <= 1.0 lagging lefts)	4	0		q _a (r + g _q)		0	[0.5/(q _a (C)][r + gq)Qu + Qu²	2/(S _s - Q _{a)}
f X _{perm} > 1.0 (lagging efts)	perm > 1.0 (lagging 5 Qu - gu(0	[0.5/(qa(q _{a)}	C)][r + gq)Qu + gu($Q_u + Q_a) + Q_a^{2/(S_p - 1)}$

		ВА	CK-O	F-QUE	EUE W	ORKS	SHEET	Γ				
General Informat	ion											
Project Description	State Route	e 106 (L	Lewisbu	ırg Plke) TPR							
Average Back of	Queue				14/5							
	LT	EB TH	RT	LT	WB TH	RT	LT	NB TH	RT	LT	SB TH	RT
Lane group	L	T	R	L	T	R	L	T	R	L	T	R
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flow rate/lane	259	406	34	117	246	284	36	420	137	140	223	50
Satflow per lane	1071	1900	1615	672	1900	1615	1059	1900	1615	955	1900	1615
Capacity/lane	536	1289	577	652	1289	577	378	774	577	662	774	346
Flow ratio	0.24	0.11	0.02	0.09	0.07	0.18	0.03	0.12	0.08	0.08	0.06	0.03
v/c ratio	0.48	0.31	0.06	0.18	0.19	0.49	0.10	0.54	0.24	0.21	0.29	0.14
l factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Arrival type	3	3	3	3	3	3	3	3	3	3	3	3
Platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF 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
Q1	2.6	3.0	0.4	0.6	1.7	4.3	0.5	3.8	1.9	0.9	1.9	0.8
kв	0.6	0.7	0.7	0.4	0.7	0.7	0.5	0.5	0.7	0.5	0.5	0.5
Q2	0.6	0.3	0.0	0.1	0.2	0.6	0.1	0.6	0.2	0.1	0.2	0.1
Q avg.	3.2	3.3	0.5	0.7	1.9	4.9	0.5	4.4	2.1	1.0	2.1	0.9
Percentile Back o	f Queue	(95th	perce	ntile)							•	
fв%	2.1	2.1	2.5	2.5	2.3	2.0	2.5	2.0	2.3	2.4	2.3	2.4
BOQ, Q%	6.8	7.0	1.2	1.7	4.3	9.7	1.3	8.9	4,7	2.5	4.8	2.1
Queue Storage R	atio											
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Q storage	0	0	0	0	0	0	0	0	0	0	0	0
Avg. Ra												
95% RQ%												

HCS2000TM

Copyright © 2000 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	MARY				
General Information			Site I	nform	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard Eng 4/23/2008 AM		Interse Jurisdi Analys	ction	r		Lewisbur City of Fr 2013		& M	oss
Project Description Sta	te Route 106 (L	Lewisburg Pike)	TPR							
East/West Street: Moss	Lane		North/S	South S	Stree	et: <i>Lewisl</i>	burg Pike			
Intersection Orientation:	North-South		Study	Period	(hrs): <i>0.25</i>				
Vehicle Volumes an	d Adjustme	nts								
Major Street	•	Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
Volume	14	677	0			0	388			8
Peak-Hour Factor, PHF	0.92	0.92	0.92	·]		0.92	0.92		C).92
Hourly Flow Rate, HFR	15	735	0			0	421			8
Percent Heavy Vehicles	0					0				
Median Type				Undiv	/idec	1				
RT Channelized			0							0
Lanes	1	2	0			0	2			0
Configuration	L	Τ					Τ			TR
Upstream Signal		0					0			
Minor Street		Westbound					Eastbou	nd		
Movement	7	8	9			10	11			12
	L	Т	R			L	Т			R
Volume	0	0	0			38	0			20
Peak-Hour Factor, PHF	0.92	0.92	0.92	'		0.92	0.92		C	.92
Hourly Flow Rate, HFR	0	0	0			41	0			21
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0	1				0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration	l 	l 	 				LR	_		
Delay, Queue Length, ar	ad Laval of So	rvico	1							
Approach	NB NB	SB		Westbo	01100	<u> </u>		Eastbo	und	
· ·				_				1		40
Movement	1	4	7	8		9	10	11	_	12
Lane Configuration	L						<u> </u>	LR		
v (vph)	15						ļ	62		
C (m) (vph)	1141							393		
v/c	0.01							0.16	3	
95% queue length	0.04							0.5	5	
Control Delay	8.2	Ì						15.9	9	
LOS	Α							С		
Approach Delay				<u> </u>				15.9)	
Approach LOS								C 75.5		
Rights Reserved		1								

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	SUN	IMARY				
General Information	on		Site	nfor	mat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 PM	ney gineering	Interse Jurisd Analys	iction	ar		Lewisbur City of Fi 2013			loss
	tate Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Mos						et: <i>Lewis</i>	sburg Pike			
Intersection Orientation	: North-South		Study	Period	d (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm									
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	<u> </u>	T	R			<u>L</u>	T			R
Volume	7	365	0	-		0	720			15
Peak-Hour Factor, PHF	0.92 7	0.92 396	0.92 0		_	0.92	0.92 782	-+).92 16
Hourly Flow Rate, HFR Percent Heavy Vehicles		396				0	702			
Median Type	0		<u> </u>	Undi	vido					
RT Channelized	+		0	Onai	vide	J	1	Т		0
Lanes	1	2	0		_	0	2	\dashv		0
Configuration	L	T	-			U	T	-		TR
Upstream Signal	<u> </u>	0					0	-		111
Minor Street		Westbound					Eastbou	ınd		
Movement	7	8	9			10	11	IIIu		12
MOVERNORM	1	T	R			L	T			R
Volume	0	0	0			11	0			20
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92			.92
Hourly Flow Rate, HFR		0	0	-		11	0			21
Percent Heavy Vehicles		0	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		l N					N			
Storage		0					0			
RT Channelized		 	0				<u> </u>			0
Lanes	0	0	0			0	0			0
Configuration		 	ľ				LR	_		
Delay, Queue Length,	and Loval of S	Carvias								
Approach	NB	SB		Westb	OUD/	٦	<u> </u>	Eastbo	und	
				î .						10
Movement	1	4	7	8		9	10	11		12
Lane Configuration	L							LF		
v (vph)	7							32		
C (m) (vph)	833							399		
v/c	0.01							0.0	8	
95% queue length	0.03							0.2	6	
Control Delay	9.4							14.	8	
LOS	Α							В		
Approach Delay						1	14.8	 3		
Approach LOS							 	В		
ucsanoaTM		right © 2003 Univers	CEL 1.	A11 D1 . 1	D	1	I			Version 4 1d

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UM	MARY			
General Information			Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 AM		Interse Jurisdi Analys	ction	r		Lewisburg City of Fr 2013		⁹ oplar
Project Description Sta	te Route 106 (Lewisburg Pike)	TPR						
East/West Street: Poplar						et: <i>Lewisl</i>	burg Pike		
Intersection Orientation:	North-South		Study	Period	(hrs	s): <i>0.25</i>			
Vehicle Volumes and	d Adjustme	nts							
Major Street	•	Northbound					Southboo	und	
Movement	1	2	3			4	5		6
	L	Т	R			L	T		R
Volume	15	720	0			0	393		8
Peak-Hour Factor, PHF	0.92	0.92	0.92	·		0.92	0.92		0.92
Hourly Flow Rate, HFR	16	782	0			0	427		8
Percent Heavy Vehicles	0					0			
Median Type				Undi	vide	d			
RT Channelized			0						0
Lanes	1	2	0			0	2		0
Configuration	L	T					T		TR
Upstream Signal		0					0		
Minor Street		Westbound					Eastbou	nd	
Movement	7	8	9			10	11		12
	L	T	R			L	Т		
Volume	0	0	0			6	0		3
Peak-Hour Factor, PHF	0.92	0.92	0.92)		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0			6	0		3
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized		İ	0						0
Lanes	0	0	0			0	0		0
Configuration	•						LR	_	
Delay, Queue Length, ar	nd Level of Se	rvice	<u>'</u>						
Approach	NB	SB	,	Westb	ound	٠	T =	Eastbound	
Movement	1	4	7	8		9	10	11	12
Lane Configuration	L	4	,	-			10	LR	12
v (vph)	16			 		-		9	+
C (m) (vph)	1135							376	†
v/c	0.01			 		†		0.02	†
95% queue length	0.04					ì		0.07	
Control Delay	8.2					ĺ		14.8	\top
LOS	Α							В	
Approach Delay								14.8	
Approach LOS								В	
Rights Reserved	•	•					-		

HCS2000TM Version 4.1d Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	IMARY				
General Information	n		Site	nfor	nat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 PM	ney gineering	Interse Jurisd Analys	iction	ar		Lewisbur City of Fi 2013			Poplar
	tate Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Pop							sburg Pike			
Intersection Orientation	: North-South		Study	Period	l (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound	•				Southbo	und		
Movement	1	2	3			4	5			6
Malana	L	T	R			L	T			R
Volume Peak-Hour Factor, PHF	8 0.92	388 0.92	0 0.92			0 0.92	730 0.92	\rightarrow		15).92
Hourly Flow Rate, HFR	8	421	0.92	-		0.92	793	-		16
Percent Heavy Vehicles						0	730	$\overline{}$		
Median Type	<u> </u>	l		Undi	vide					
RT Channelized	†		0		7,000			0		
Lanes	1	2	0			0	2			0
Configuration	L	Т					T			TR
Upstream Signal	1	0					0			
Minor Street	1	Westbound	•				Eastbou	ınd		
Movement	7	8	9			10	11	Î		12
	L	Т	R			L	Т			R
Volume	0	0	0			2	0			3
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0	.92
Hourly Flow Rate, HFR	0	0	0			2	0			3
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration							LR			
Delay, Queue Length,	and Level of S	ervice								
Approach	NB	SB		Westb	ound	d	l l	Eastbo	ound	
Movement	1	4	7	8		9	10	1	1	12
Lane Configuration	L							LF	7	
v (vph)	8							5		
C (m) (vph)	825						1	36		
v/c	0.01							0.0		
95% queue length	0.03						 	0.0		
Control Delay	9.4						 	14.		
LOS	A A						 	14. B		
	 			L			 	14.		
Approach LOS							<u> </u>	14.: B	3	
Approach LOS		right © 2003 Univers						В		Version 4 1d

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	SUN	IMARY					
General Information	on		Site	nfor	mat	ion					
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 AM	ney gineering	Interse Jurisd Analys	iction	ar		Lewisbur City of F 2013			Soloman	
	State Route 106	(Lewisburg Pik	e) TPR								
East/West Street: Solo	oman Drive		North/	South	Stre	et: <i>Lewis</i>	sburg Pike				
Intersection Orientation	: North-South		Study	Period	d (hr	s): <i>0.25</i>					
Vehicle Volumes a	nd Adjustm	ents									
Major Street		Northbound					Southbo	und			
Movement	1	2	3			4	5			6	
	<u> </u>	T	R			<u>L</u>	T			R	
Volume	15	730	0	-		0	401			8	
Peak-Hour Factor, PHF Hourly Flow Rate, HFR	1.	0.92 793	0.92 0	<u>'</u>		0.92 0	0.92 435		U).92 8	
Percent Heavy Vehicles		793				0	435				
Median Type	0			Undi	vido			<u> </u>			
RT Channelized	+		0	Onai	vide	J	1	0			
Lanes	1	2	0		_	0	2	\dashv		0	
Configuration	L	T	 			U	T			TR	
Upstream Signal	<u> </u>	0					0			111	
Minor Street		Westbound	<u> </u>				Eastbou	ınd			
Movement	7	8	9			10	11	I		12	
Wievernene	i	T	R			L	T			R	
Volume	0	0	0			18	0			10	
Peak-Hour Factor, PHF	_	0.92	0.92	?		0.92	0.92			.92	
Hourly Flow Rate, HFR		0	0			19	0			10	
Percent Heavy Vehicles		0	0			0	0			0	
Percent Grade (%)		0	•				0	,			
Flared Approach	1	N					N				
Storage		0					0				
RT Channelized			0				1			0	
Lanes	0	0	0			0	0			0	
Configuration	 	 	Ĭ				LR				
Delay, Queue Length,	and Level of S	Service	<u> </u>								
Approach	NB	SB		Westb	ound	٦		Eastb	ound		
Movement	1	4	7	8		9	10	1		12	
Lane Configuration	L	-	,				10	Li		12	
											
v (vph)	16						-	29			
C (m) (vph)	1128						<u> </u>	37			
v/c	0.01						ļ	0.0			
95% queue length	0.04	<u> </u>						0.2			
Control Delay	8.2			<u></u>				15	.5		
LOS	Α							C	;		
Approach Delay								15.	5		
Approach LOS								С			
HCS2000TM		vright © 2003 Univers	' CEL . '.1.	A 11 D 1 . 1	D					Version 4 1d	

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	MARY					
General Information	<u> </u>		Site I	nforn	nati	on					
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard Eng 4/23/2008 PM		Interse Jurisdi Analys	ction	ır		Lewisbui City of Fi 2013			oloman	
Project Description Sta	ite Route 106 (L	_ewisburg Pike)	TPR								
East/West Street: Solon	nan Drive		North/S	South	Stree	et: <i>Lewisk</i>	ourg Pike				
Intersection Orientation:	North-South		Study	Period	(hrs): <i>0.25</i>					
Vehicle Volumes an	d Adiustme	nts									
Major Street	<u> </u>	Northbound					Southbo	und			
Movement	1	2	3			4	5	1		6	
	L	Т	R			L	Т			R	
Volume	8	393	0			0	745			15	
Peak-Hour Factor, PHF	0.92	0.92	0.92	·		0.92	0.92		C).92	
Hourly Flow Rate, HFR	8	427	0			0	809			16	
Percent Heavy Vehicles	0					0					
Median Type				Undi	vided	d					
RT Channelized			0					0			
Lanes	1	2	0			0	2			0	
Configuration	L	T	ĺ				Т			TR	
Upstream Signal	ĺ	0					0				
Minor Street	Î	Westbound	•				Eastbou	ınd			
Movement	7	8	9			10	11			12	
	L	T	R			L	T			R	
Volume	0	0	0			5	0			10	
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92	$\neg \uparrow$.92	
Hourly Flow Rate, HFR	0	0	0			5	0			10	
Percent Heavy Vehicles	0	0	0			0	0			0	
Percent Grade (%)	,	0	<u>. </u>				0				
Flared Approach	1	l N	Г				l N	Т			
	<u> </u>	0	 				0	\dashv			
Storage		U	ļ				U				
RT Channelized		ļ	0							0	
Lanes	0	0	0			0	0			0	
Configuration							LR				
Delay, Queue Length, a	nd Level of Se	rvice									
Approach	NB	SB	,	Westb	ounc	t		Eastbo	ound		
Movement	1	4	7	8		9	10	1	1	12	
Lane Configuration	L							LF	7		
v (vph)	8							15			
C (m) (vph)	814						 	38			
v/c	0.01							0.0			
							 				
95% queue length	0.03							0.1			
Control Delay	9.5							14.	8		
LOS	Α							В			
Approach Delay								14.8	3		
Approach LOS								В			
Rights Reserved											

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	D-WAY STOP	CONTR	OL SU	MMARY			
General Information	on		Site I	nforma	ation			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 AM Propo	ngineering }	Interse Jurisdi Analys			Lewisbur Peytonsv City of Fr 2013	ville	
Project Description S	State Route 106	(Lewisbura Pike) TPR					
East/West Street: Old				South St	reet: Lewis	sburg Pike		
Intersection Orientation	: North-South				nrs): 0.25			
Vehicle Volumes a	and Adjustme	ents						
Major Street		Northbound				Southbo	und	
Movement	1	2	3		4	5		6
	L	T	R		L	Т		R
Volume	0	737	23		37	303		0
Peak-Hour Factor, PHF		0.92	0.92	?	0.92	0.92	_	0.92
Hourly Flow Rate, HFR		801	24		40	329		0
Percent Heavy Vehicles	s 0			77 " "	0			
Median Type	_	_	1 .	Undivid	ded			
RT Channelized			0					0
Lanes	0	2	0		1	2		0
Configuration	_	T	TR		L	T		
Jpstream Signal	-	0				0		
Minor Street		Westbound	T .		12	Eastbou	ınd	- 10
Movement	7	8	9	-	10	11		12
()	L	T	R		L	T		R
Volume	3	0	15		0	0		0
Peak-Hour Factor, PHF		0.92	0.92		0.92	0.92	_	0.92
Hourly Flow Rate, HFR Percent Heavy Vehicles		0	16		0	0		0
Percent Grade (%)	5 0		Q		0			0
		0				0		
Flared Approach		N	ļ			N		
Storage		0				0		
RT Channelized			0					0
anes	0	0	0		0	0		0
Configuration		LR	1					
Delay, Queue Length,						,		
Approach	NB	SB		Westbou	ınd		Eastboun	d
Movement	1	4	7	8	9	10	11	12
ane Configuration		L		LR				
/ (vph)		40		19				
C (m) (vph)		814		464				
r/c		0.05		0.04				
95% queue length		0.15		0.13				
Control Delay		9.7		13.1	1			1
.OS		A A		B	-	+	_	+
Approach Delay					4		L	
		-		13.1				
Approach LOS Lights Reserved		1221		В		<u> </u>		

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL SUM	MARY			
General Information	n		Site I	nformat	ion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 PM Propos	gineering	Interse Jurisdi Analys			Lewisbur Peytonsv City of Fr 2013	ville	
Project Description Sta	ate Route 106 (Lewisbura Pike	e) TPR					
East/West Street: Old F		9		South Stre	et: Lewis	burg Pike		
Intersection Orientation:	North-South	•	Study	Period (hr	s): 0.25			
Vehicle Volumes ar	nd Adjustme	nts						
Major Street		Northbound				Southbo	und	
Movement	11	2	3		4	5		6
	L.	Т	R		L	Т		R
Volume	0	401	8		13	620		0
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	0	435	8		14	673		0
Percent Heavy Vehicles	0			11. 11. 11	0			
Median Type			Undivided 0					
RT Channelized			0			2		
anes	0	2	0		1	100 11		0
Configuration	<u> </u>	T	TR		L	T		
Jpstream Signal	1	0				0 Eastbound		
Minor Street	4	Westbound	1 0		40		ınd	40
Movement	7	8 -	9	-	10	11		12
. 1	L	T	R		L	T		R
Volume Peak-Hour Factor, PHF	8 0.92	0	26		0	0		0
Hourly Flow Rate, HFR	8	0.92	0.92		0.92	0.92		0.92 0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)	 		U		- 0	0		
	·	0	T					
Flared Approach		N	-			N		
Storage		0	-			0		
RT Channelized	ļ		0					0
Lanes	0	0	0		0	0	_	0
Configuration		LR						
Delay, Queue Length, a								
Approach	NB	SB		Westboun			Eastboun	<u></u>
Movement	1	4	7	8	9	10	11	12
ane Configuration		L		LR				
(vph)		14		36				
C (m) (vph)		1128		595				
/c		0.01		0.06				
95% queue length		0.04		0.19				
Control Delay		8.2	 	11.4	1	 		_
.OS		A.2	-	B	1	 		+
			-		1	-		
Approach Delay		#		11.4		-		
Approach LOS Lights Reserved			L	В		J		

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

	TWO	-WAY STOP	CONTR	OL S	UM	MARY						
General Informatio	n		Site	nforr	nati	ion						
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard En 4/23/2008 AM Propos	gineering	Interse Jurisd Analys	iction	ar		Lewisbur City of Fr 2013	g Pike & H anklin	enpeck			
Project Description St) TPR									
East/West Street: Heng	eck Lane			South	Stre	et: <i>Lewis</i>	burg Pike					
Intersection Orientation:	North-South				_	s): 0.25						
Vehicle Volumes ar	nd Adjustme	nts		_								
Major Street	1	Northbound					Southbo	und				
Movement	1	2	3			4	5		6			
	T L	Т	R			L	Т		R			
Volume	95	538	11			18	272		48			
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92			
Hourly Flow Rate, HFR	103	584	0			0	295	T I	52			
Percent Heavy Vehicles	0					0			-			
Median Type				Undi	vide	d						
RT Channelized			0					0				
Lanes	1	2	0			Ö	2		0			
Configuration	L "	T					T		TR			
Upstream Signal		0					0					
Minor Street	i i	Westbound					Eastbou	ınd				
Movement	7	8	9		_	10	11	T T	12			
	Ĺ	T	R		_	L	T		R			
Volume	1	0	6	-	_	89	0		118			
Peak-Hour Factor, PHF	0.92	0.92	0.92)	_	0.92	0.92		0.92			
Hourly Flow Rate, HFR	0	0	0		_	96	0		128			
Percent Heavy Vehicles	0	0	0		-	0	0		0			
Percent Grade (%)		0			_		0					
Flared Approach	+	T N	Г —		_		T N					
	-	0	 		_		0					
Storage	-	<u> </u>	 		_		0					
RT Channelized			0						0			
Lanes	0	0	0		_	1	0		1			
Configuration		L	l			L			R			
Delay, Queue Length, a	nd Level of Se	rvice										
Approach	NB	SB		Westb	ound	d		Eastbound				
Movement	1	4	7	8		9	10	11	12			
Lane Configuration	L						L		R			
v (vph)	103						96		128			
C (m) (vph)	1223			_			291		846			
v/c	0.08				-	-	0.33					
					_				0.15			
95% queue length	0.28						1.40		0.53			
Control Delay	8.2						23.3		10.0			
LOS	Α						С		В			
Approach Delay								15.7				
Approach LOS							1	С				
Rights Reserved												

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UM	MARY			
General Information	on		Site I	nforr	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008 PM Propo	ngineering B osed	Interse Jurisdi Analys	ction	ar		Lewisbur City of Fr 2013	g Pike & H anklin	enpeck
Project Description S	State Route 106	(Lewisburg Pike							
East/West Street: Her			North/	South	Stree	et: <i>Lewis</i>	burg Pike		
Intersection Orientation	: North-South		Study	Period	l (hrs	s): 0.25			
Vehicle Volumes a	and Adjustme	ents							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	Т	R			L	Τ		R
Volume	75	266	11			18	547		48
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR		289	0		_	0	594		52
Percent Heavy Vehicles	s 0					0			
Median Type			,	Ųndi	vide	d			
RT Channelized			0						0
Lanes	1	2	0			0	2		0
Configuration	L	T						T TR	
Upstream Signal		0					0		
Minor Street		Westbound					Eastbou	ınd	
Movement	7	8	9			10	11		12
	L	Т	R			Ls	Т		R
Volume	1	0	6			52	0		116
Peak-Hour Factor, PHF		0.92	0.92			0.92	0.92		0.92
Hourly Flow Rate, HFR		0	0			56	0		126
Percent Heavy Vehicles	s 0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized			0						0
Lanes	0	0	0			1	0		1
Configuration						L			R
Delay, Queue Length,	and Level of S	ervice							
Approach	NB	SB		Westb	ound			Eastbound	
Movement	1	4	7	8		9	10	11	12
Lane Configuration	Ĺ			\vdash				- 	R
	81						56		126
v (vph)	949			_					
C (m) (vph)				-			248		679
v/c	0.09						0.23		0.19
95% queue length	0.28						0.85		0.68
Control Delay	9.1						23.7		11.5
LOS	Α						С		В
Approach Delay	112							15.3	
Approach LOS	164	1221						С	
Rights Reserved	·								

Version 4.1d

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UMI	MARY					
General Information	n		Site I	nforr	natio	on					
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 AM	ngineering	Interse Jurisdi Analys	ction	ar		Lewisburg Glenn City of Fr 2013	g Pike & D anklin	ouglas		
Project Description Sta	ate Route 106	(Lewisburg Pike) TPR								
East/West Street: Doug				South	Stree	t: <i>Lewis</i>	burg Pike				
Intersection Orientation:	North-South		Study	Period	l (hrs): <i>0.25</i>					
Vehicle Volumes ar	nd Adjustme	ents									
Major Street		Northbound					Southboo	und			
Movement	1	2	3			4	5		6		
	L	T	R			L	T		R		
Volume	12	582	0		<u> </u>	0	314		6		
Peak-Hour Factor, PHF	0.92	0.92	0.92	<u>'</u>	 	0.92	0.92		0.92		
Hourly Flow Rate, HFR	13	632	0		 	0	341		6		
Percent Heavy Vehicles	0			l lad:	vided	0					
Median Type RT Channelized	 	T	0	Undi	viued	ı	0				
Lanes	1	2	0		├─	0	2	_	0		
Configuration	1	T			 	U	T 2	_	TR		
Upstream Signal	 	0			 		0		111		
Minor Street	1	Westbound	Į				Eastbou				
Movement	7	8	9			10	11	Tiu I	12		
Movement	Ĺ	T	R			L	 		R		
Volume	0	0	0			11	0	_	6		
Peak-Hour Factor, PHF	0.92	0.92	0.92)		0.92	0.92	\neg	0.92		
Hourly Flow Rate, HFR	0	0	0			11	0		6		
Percent Heavy Vehicles	0	0	0			0	0		0		
Percent Grade (%)		0					0				
Flared Approach	1	N					N				
Storage	İ	0					0				
RT Channelized	1		0						0		
Lanes	0	0	0			0	0	\neg	0		
Configuration						-	LR		-		
Delay, Queue Length, a	nd Level of S	ervice	.,				<u>* </u>				
Approach	NB	SB		Westb	ound	<u> </u>	T E	Eastbound			
Movement	1	4	7	8		9	10	11	12		
Lane Configuration	L		<u>'</u>	۳	\Box		 	LR	 '-		
v (vph)	13			 			 	17			
	1223			├─	-		-	474	1		
C (m) (vph)				 			-				
V/C	0.01			 				0.04			
95% queue length	0.03			<u> </u>				0.11			
Control Delay	8.0			<u> </u>				12.9	ļ		
LOS	Α							В			
Approach Delay							<u> </u>	12.9			
Approach LOS								В			
Rights Reserved											

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	SUM	MARY			
General Information	on		Site	Inform	mati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 PM	ngineering	Interso Jurisd Analys		ar		Lewisbur Glenn City of Fi 2013	rg Pike & ranklin	Douglas
Project Description S	State Route 106	(Lewisburg Pi	ke) TPR						
East/West Street: Dou				South	Stree	et: <i>Lewis</i>	sburg Pike		
Intersection Orientation	: North-South	1	Study	Perioc	d (hrs): <i>0.25</i>			
Vehicle Volumes a	nd Adiustm	ents							
Major Street	1	Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	Т	R			L	Т		R
Volume	6	314	0			0	582		12
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR	-	341	0			0	632		13
Percent Heavy Vehicles	s 0					0			
Median Type				Undi	videa			-	
RT Channelized		<u> </u>	0						0
Lanes	1	2	0			0	2		0
Configuration	L	Т	<u> </u>				T		TR
Upstream Signal		0					0		
Minor Street		Westbound					Eastbou		
Movement	7	8	9			10	11		12
	L	T	R			L	Т		R
Volume	0	0	0			9	0		5
Peak-Hour Factor, PHF		0.92	0.92	2	(0.92	0.92		0.92
Hourly Flow Rate, HFR	_/	0	0			9	0		5
Percent Heavy Vehicles	s 0	0	0			0	0		0
Percent Grade (%)	<u> </u>	0					0		
Flared Approach		N	<u> </u>				N		
Storage		0					0		
RT Channelized			0						0
Lanes	0	0	0			0	0		0
Configuration							LR		
Delay, Queue Length,	and Level of S	Service							
Approach	NB	SB		Westb	ound		E	Eastbound	t
Movement	1	4	7	8		9	10	11	12
Lane Configuration	L			1		•	<u> </u>	LR	†
v (vph)	6			†	$\overline{}$		 	14	
C (m) (vph)	950				$\overline{}$		 	390	†
				-			 		
V/C	0.01							0.04	
95% queue length	0.02							0.11	
Control Delay	8.8						ļ	14.6	
LOS	Α						ļ	В	
Approach Delay								14.6	
Approach LOS								В	
HCS2000 TM	Con	vright © 2003 Univer	eity of Florida	All Digl	hte Pace	erved			Version 4.1

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UM	MARY			
General Information	n		Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Er 4/23/2008 AM Propo	ngineering R	Interse Jurisdi Analys		Γ		Lewisbur City of Fi 2013	rg Pike & ranklin	Ellingtor
Project Description Sta) TPR						
East/West Street: Elling		,		South S	Stree	et: Lewis	burg Pike		
Intersection Orientation:): 0.25			
Vehicle Volumes ar	nd Adjustme	ents							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	T	R			L	T		R
Volume	45	582	12			3	277		22
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	632	13			3	301		0
Percent Heavy Vehicles	Q					Q	3.55		
Median Type				Undiv	/idec	1			
RT Channelized			0						0
Lanes	0	2	0			1	2		0
Configuration		T	TR			L	T		
Jpstream Signal	l	0					0		
Minor Street		Westbound					Eastboo	12	
Movement	7	8	9			10	11		
West	LL_	Т	R			L	Т		R
Volume	20	0	16	_		12	0		16 0.92
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92			
Hourly Flow Rate, HFR	21	0	17			0	0		0
Percent Heavy Vehicles	0	0	0	-	_	0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized			0						0
_anes	0	0	0			0	0		0
Configuration		LR							
Delay, Queue Length, a	nd Level of S	ervice							
Approach	NB	SB		Westbo	ound	1		Eastboun	d
Movement	1	4	7	8		9	10	11	12
ane Configuration		L		LR			1		-
/ (vph)	8	3		38	_				1
C (m) (vph)		950		427	_		 		+
//c	-	0.00		0.09	_		 	-	-
					_		-	-	
95% queue length		0.01		0.29	_		_	-	+
Control Delay		8.8		14.3	3				
_OS		Α		В					
Approach Delay		(HE)		14.3	3				
Approach LOS		**		В					

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

General Information			Sita I	nform	ation					
Analyst Agency/Co.	Brian Gafl Clinard Er	ngineering	Interse Jurisdi	ection ction		City of F	rg Pike & . ranklin	Ellington		
Date Performed Analysis Time Period	4/23/2008 PM Propo	sed	·	sis Year		2013				
Project Description Sta		(Lewisburg Pike								
East/West Street: Ellingt			***************************************		treet: Lewi	sburg Pike				
Intersection Orientation:	North-South		Study	Period (hrs): 0.25					
Vehicle Volumes an	d Adjustme	ents								
Major Street		Northbound				Southbo	und			
Movement	1	2	3		4	5		6		
	Ļ	Т	R		L	T		R		
Volume	45	307	13		20	634		22		
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92		
Hourly Flow Rate, HFR	0	333	14		21	689		0		
Percent Heavy Vehicles	0		1000		0					
Median Type				Undivi	ded					
RT Channelized		<u> </u>	0					0		
Lanes	0	2	0		1	2		0		
Configuration		T	TR		L	T				
Upstream Signal		0				0	0			
Minor Street		Westbound				Eastboo	Eastbound			
Movement	7	8	9	9 10 1		11		12		
	L.	T	R		Ľ	T		R		
Volume	8	0	7		12	0		16		
Peak-Hour Factor, PHF	0.92	0.92	0.92	?	0.92	0.92		0.92		
Hourly Flow Rate, HFR	8	0	7		0	0		0		
Percent Heavy Vehicles	0	0	0		0	0		0		
Percent Grade (%)		Q				0				
Flared Approach		N				N				
Storage		0				0				
RT Channelized		1	Q					0		
Lanes	0	0	0		0	0		0		
Configuration	-	LR								
Delay, Queue Length, ar	d Lovel of Se									
Approach	NB	SB		Westbo	und	7	Eastboun	d		
Movement	1	4	7	8	9	10	11	12		
Lane Configuration	'	4 	/	LR	9	10		12		
				_		-		-		
v (vph)		21		15	_			-		
C (m) (vph)		1223		490						
//c		0.02		0.03						
95% queue length		0.05		0.09						
Control Delay		8.0		12.6						
LOS		Α		В						
Approach Delay		~~=		12.6						
Approach LOS				В		-				

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

	TWO	D-WAY STOP	CONTR	OL SI	UMMA	RY			
General Informatio	n		Site I	nform	nation				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gat Clinard E 4/23/2008 AM Propo	ngineering 3	Interse Jurisdi Analys		r		Lewisburg Pike & St Georges City of Franklin 2013		
Project Description S	tate Route 106	(Lewisburg Pike) TPR						
East/West Street: St. C	George's Way			South S	Street:	Lewis	burg Pike		
Intersection Orientation:	North-South		Study	Period	(hrs):	0.25			
Vehicle Volumes a	nd Adjustm	ents							
Major Street		Northbound					Southbo	ound	
Movement	11	2	3		4		5		6
		Т	R		L		T		R
/olume	45	647	7		6		288		22
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.9	2	0.92		0.92
Hourly Flow Rate, HFR	0	703	7		6		313		0
Percent Heavy Vehicles	0		**	1	0				
Median Type	_	T	T -	Ųndiv	rided		т		
RT Channelized	-		0				 		0
anes	0	2	0	_	1		2		0
Configuration		T	TR		L		T		
Jpstream Signal		0					0		
Minor Street	_ 	Westbound					Eastbo	und	10
Movement	7	8	9	-	10)	11		12
· · · · · · · · · · · · · · · · · · ·	L	Т	R		L		Т		R
Volume	11	0	26	_	12		0		16
Peak-Hour Factor, PHF	0.92	0.92	0.92	_	0.9	2	0.92		0.92
Hourly Flow Rate, HFR	11	0	28	_	0		0		0
Percent Heavy Vehicles	0	0	0	-	0		0		0
Percent Grade (%)		0		_			0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized			0						0
_anes	0	0	0		0		0		0
Configuration		LR							
Delay, Queue Length, a	and Level of S	ervice							
Approach	NB	SB	,	Westbo	ound			Eastbour	nd
Novement	1	4	7	8		9	10	11	12
ane Configuration		L		LR	$\neg \neg$				
(vph)		6		39	_		1		
(vpi) C (m) (vph)		899		481	\dashv				_
/c		0.01		0.08	-		1	+	
							-	+	-
95% queue length		0.02		0.26	-		-	-	
Control Delay		9.0		13.1					
.OS		Α		В					
Approach Delay	:##)	(25)		13.1					
Approach LOS		0==		В					

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	D-WAY STOR	CONTR	OL SU	MMARY					
General Informatio	n		Site I	nforma	tion					
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 PM Propo	ngineering 3	Interse Jurisdi Analys		· · · · · · · · · · · · · · · · · · ·	Lewisbur Georges City of Fr 2013		St		
Project Description St	ate Route 106	(Lewisburg Pike	e) TPR							
East/West Street: St. G	George's Way		North/	South Str	eet: Lewis	sburg Pike				
Intersection Orientation:	North-South		Study	Study Period (hrs): 0.25						
Vehicle Volumes a	nd Adjustme	ents								
Major Street		Northbound				Southbo	und			
Movement	1	2	3		4	5		6		
	L	Т	R		L	Т		R		
Volume	45	275	6		21	665		22		
Peak-Hour Factor, PHF	0.92	0.92	0.92	?	0.92	0.92		0.92		
Hourly Flow Rate, HFR	0	298	6		22	722		0		
Percent Heavy Vehicles	0				0			1.00		
Median Type				Undivid	ed					
RT Channelized			0					0		
Lanes	0	2	0		1	2		0		
Configuration		T	TR		L	T				
Upstream Signal		0				0				
Minor Street		Westbound				Eastbou	ınd			
Movement	7	8	9		10	11		12		
	La	Т	R		L	Т		R		
Volume	3	0	13		12	0		16		
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92		
Hourly Flow Rate, HFR	3	0	14		0	0		0		
Percent Heavy Vehicles	0	0	0		0	0		0		
Percent Grade (%)		0				0				
Flared Approach		N				N				
Storage		0				0				
RT Channelized			0					0		
Lanes	0	0	0		0	0		0		
Configuration		LR								
Delay, Queue Length, a	and Level of S	ervice				1137				
Approach	NB	SB		Westbou	nd		Eastboun	d		
Movement	1	4	7	8	9	10	11	12		
Lane Configuration		L	-	LR		1				
v (vph)		22	\vdash	17	<u> </u>			+		
C (m) (vph)		1268	-	703	+	+		+		
//c			-		-	+		+		
		0.02		0.02	-	4		-		
95% queue length		0.05		0.07						
Control Delay		7.9		10.2						
LOS		Α		В						
Approach Delay	1000			10.2						
Approach LOS			В					2 =		

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	MU	MARY			
General Information	on		Site I	nforr	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 AM Propo	ngineering	Interse Jurisdi Analys	ction	ar		Lewisbur City of Fr 2013	g Pike & E anklin	Bowman
Project Description S) TPR						
East/West Street: Boy				South	Stree	et: Lewis	bura Pike		
Intersection Orientation	: North-South): 0.25	3		
Vehicle Volumes a	nd Adjustme	ents							
Major Street		Northbound			Г		Southbo	und	
Movement	1	2	3			4	5	1	6
	L	T	R			L	Ť		R
Volume	7	678	4			Ö	289		12
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR		736	0			0	314		13
Percent Heavy Vehicles	5 0	<u>.</u>	22			0			**
Median Type				Undi	vided	1			
RT Channelized	J.		0						0
Lanes	1	2	0			0	2		0
Configuration	Ļ	T					T		TR
Upstream Signal		0					0		
Minor Street		Westbound					Eastbou		
Movement	7	8	9			10	11		12
	L	T	R			L	Т		R
Volume	6	0	14			72	0		18
Peak-Hour Factor, PHF		0.92	0.92			0.92	0.92		0.92
Hourly Flow Rate, HFR		0	0			78	0		19
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach	1	N					N		
Storage		0					0		
RT Channelized			0						0
Lanes	0	0	0			0	0		0
Configuration			† Ť			-	LR		
Delay, Queue Length,	and Level of Se	rvice			_			_	
Approach	NB	SB		Westb	ound		1	Eastbound	
Movement	1	4	7	8	_	9	10	11	
Lane Configuration	L	4		<u>8</u>		9	10	LR	12
v (vph)	7				-		-	97	-
C (m) (vph)	1244				-			421	_
//c	0.01			-	-		!		
	0.01						-	0.23	
95% queue length					_		ļ	0.88	-
Control Delay	7.9						-	16.1	-
LOS	Α							С	
Approach Delay								16.1	
Approach LOS								C	

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

		D-WAY STOP							
General Information				nform	ation				
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008	ngineering }	Interse Jurisdi Analys			Lewisbu Çity of F 2013	rg Pike & E ranklin	Bowman	
Project Description S		(Lewisburg Pike							
East/West Street: Bow					treet: Lewis	burg Pike			
Intersection Orientation:	North-South		Study	Period (hrs): 0.25				
Vehicle Volumes a	nd Adjustme	ents							
Major Street		Northbound				Southbo	und		
Movement	1	2	3		4	5		6	
	<u> </u>	T	R		Lo	Т		R	
Volume	9	285	4		0	660		42	
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92	
Hourly Flow Rate, HFR	9	309	0		0	717		45	
Percent Heavy Vehicles	0			11	0				
Median Type				Ųndivi	ded				
RT Channelized	_		0					0	
Lanes	1	2	0		0	2		0	
Configuration	L	T				T		TR	
Upstream Signal		0				0			
Minor Street		Westbound				Eastboo	und		
Movement	7	8	9		10	11		12	
	L	T	R		L	Т		R	
Volume	6	0	14		32	0		7	
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92	
Hourly Flow Rate, HFR	0	0	0		34	0		7	
Percent Heavy Vehicles	0	0	0		0	0		0	
Percent Grade (%)		0				0			
Flared Approach		N				N			
Storage		0				0			
RT Channelized	<u> </u>		0					0	
Lanes	0	0	0		0	0		0	
Configuration						LR			
Delay, Queue Length,	and Level of So	ervice							
Approach	NB	SB	1	Westbo	und		Eastbound	i	
Movement	1	4	7	8	9	10	11	12	
ane Configuration	L					 	LR	<u> </u>	
v (vph)	9				_	 	41	+	
C (m) (vph)	859				-	-	303	-	
						-		-	
//c	0.01						0.14	-	
95% queue length	0.03						0.46		
Control Delay	9.2			5			18.7		
OS	Α						С		
Approach Delay		24					18.7		
Approach LOS	(3 444)	1440		С					

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL SU	JMMARY					
General Information	1		Site	nform	ation					
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 AM Propos	gineering	Interse Jurisd Analys			Lewisbu City of F 2013	rg Pike & i ranklin	Holly Hill		
Project Description Sta	te Route 106 (i	Lewisburg Pike) TPR							
East/West Street: Holly	Hill Drive			South S	treet: Lewi	ewisburg Pike				
Intersection Orientation:	North-South		Study	Period (hrs): 0.25					
Vehicle Volumes an	d Adjustme	nts								
Major Street		Northbound				Southbo	und			
Movement	1	2	3		4	5		6		
	L	T	R		L	Т		R		
Volume	4	695	Ž		14	265		7		
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92		
Hourly Flow Rate, HFR	0	755	7		15	288		0		
Percent Heavy Vehicles	0	-	=		Ò	777		77		
Median Type				Ųndivi	ded					
RT Channelized			0					0		
Lanes	0	2	0		1	2		0		
Configuration		Τ	TR		L	T				
Upstream Signal		0				0				
Minor Street		Westbound				Eastbou	und			
Movement	7	8	9		10	11		12		
	L	Т	R		L	Т		R		
Volume	7	0	49		32	0		8		
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92		
Hourly Flow Rate, HFR	7	Ò	53		0	0		0		
Percent Heavy Vehicles	0	0	0		0	0		0		
Percent Grade (%)		0	100.0			0				
Flared Approach		N	1			N N				
Storage		0	1			0				
RT Channelized			0	-		+		0		
Lanes	0	0	0		0	0		0		
Configuration		LR	 	-	<u> </u>	+ -				
			<u></u>							
Delay, Queue Length, ar				101- 11	1		F	-1		
Approach	NB	SB		Westbo			Eastboun			
Movement	1	4	7	8	9	10	11	12		
ane Configuration		L		LR						
/ (vph)		15		60						
C (m) (vph)		859		538						
//c		0.02		0.11				1		
95% queue length		0.05		0.37			†	1		
Control Delay		9.3		12.5		+	 	+		
OS					_	+	-	+		
		Α		B	_1	-	L			
Approach Delay	-			12.5						
Approach LOS		Bad		В						

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UM	MARY				
General Informatio	n		Site I	nforn	nati	on				
Analyst Agency/Co. Date Performed	Brian Gaff Clinard Er 4/23/2008	ngineering	Interse Jurisdi Analys		r		Lewisbu City of F 2013		Holly Hil	
Analysis Time Period			,	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			20.0			
Project Description St		Lewisburg Pike								
East/West Street: Holly						et: <i>Lewisi</i>	burg Pike			
Intersection Orientation:			Study	Period	(hrs): 0.25				
Vehicle Volumes a	nd Adjustme	ents								
Major Street		Northbound					Southbo	ound		
Movement	1	2	3			4	5		6	
	L L	Т	R			L	T		R	
Volume	4	295	6			33	618		7	
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92	
Hourly Flow Rate, HFR Percent Heavy Vehicles	0	320	6			35 0	671		<u> </u>	
Median Type	1 0		75	Undiv	ido					
RT Channelized	-	1	1 0	Unaiv	nuec		l	- 1	0	
Lanes	0	2	0	-	_	1	2		0	
Configuration	†	T	TR			Ĺ	T			
Upstream Signal		0	1			- <u>-</u>	0			
Minor Street	†	Westbound		_			Eastbound			
Movement	7	8	9			10	11	<u> </u>	12	
	L	Т	R			Lo	Т		R	
Volume	4	0	26			32	0		8	
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.92	
Hourly Flow Rate, HFR	4	0	28			Q	0		0	
Percent Heavy Vehicles	0	0	0			0	0		0	
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0						0	
Lanes	0	0	0			0	0		0	
Configuration		LR								
Delay, Queue Length, a	and Level of Se	rvice								
Approach	NB	SB		Westbo	ounc			Eastbou	nd	
Movement	1	4	7	8		9	10	11	12	
Lane Configuration	***	L		LR	_					
v (vph)		35		32	_			1		
C (m) (vph)		1245		728	_					
v/c		0.03		0.04	_			1		
95% queue length		0.09		0.14	_		1		\neg	
Control Delay		8.0		10.2	_			1		
LOS		A		В			1		\vdash	
Approach Delay				10.2	,					
Approach LOS		-		B						
Rights Reserved					_		1			

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	BUM	MARY				
General Information	on		Site I	nfori	mati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 AM Propo	ngineering R	Interse Jurisdi Analys	ction	ar		Lewisbur City of Fr 2013	g Pike & I anklin	Donelson	
Project Description S) TPR							
East/West Street: Dor				South	Stree	et: <i>Lewis</i>	burg Pike			
Intersection Orientation	: North-South		Study							
Vehicle Volumes a	nd Adjustme	ents			7					
Major Street	1	Northbound					Southbo	und		
Movement	1	2	3		t	4	5		6	
	L	Т	R			L	T		R	
Volume	130	521	4			9	256		32	
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92		0.92	
Hourly Flow Rate, HFR		566	0			0	278		34	
Percent Heavy Vehicles	0	-				0				
Median Type				Undi	ivided	d				
RT Channelized			0						Q	
Lanes	1	2	0			0	2		1	
Configuration	L	T					T		R	
Upstream Signal		0					0			
Minor Street		Westbound					Eastbou	ind		
Movement	7	8	9			10	11		12	
	L	Т	R			Li	Т		R	
Volume	3	0	24			63	0		65	
Peak-Hour Factor, PHF		0.92	0.92			0.92	0.92		0.92	
Hourly Flow Rate, HFR		0	0			68	0		70	
Percent Heavy Vehicles	0	0	0		_	0	0		0	
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0						0	
Lanes	0	0	0			1	0		1	
Configuration						L			R	
Delay, Queue Length,	and Level of Se	ervice								
Approach	NB	SB		Westb	ounc	1		Eastboun	d	
Movement	1	4	7	8	3	9	10	11	12	
Lane Configuration	L.						L		R	
v (vph)	141			_			68		70	
C (m) (vph)	1260			_			273		890	
v/c	0.11			-	-	ÿ	0.25		0.08	
				-						
95% queue length	0.38			 			0.96		0.26	
Control Delay	8.2						22.5		9.4	
LOS	Α						Ç		Α	
Approach Delay		1 500 (1						15.9		
Approach LOS	144	9 44 6						C		

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	D-WAY STOP	CONTR	OL S	UM	MARY					
General Informati	on		Site	nforr	nati	on					
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/200	ngineering 3	Interse Jurisd Analys	iction	ar		Lewisbur City of Fr 2013		Donelson		
Project Description S	State Route 106	(Lewisburg Pike) TPR								
East/West Street: Do						et: <i>Lewis</i>	burg Pike				
Intersection Orientation			Study	Period	l (hrs): <i>0.25</i>					
Vehicle Volumes a	and Adjustm										
Major Street		Northbound	,				Southbo	und			
Movement		2	3			4	5		6		
Values a	L	T	R			L	T		R		
Volume Peak-Hour Factor, PHF	61	218 0.92	0.92			9	605 0.92		67		
Hourly Flow Rate, HFR		236	0.92		_	0.92 0	657		0.92 72		
Percent Heavy Vehicle		230			_	0					
Median Type	5		- 58	Ųndi	vider		- 55				
RT Channelized			1 0	Çnai	Viuec	<i>'</i>			0		
Lanes	1	2	0		_	0	2		1		
Configuration		T	 		_		T		R		
Upstream Signal		10	+		_		1 0	-/\			
Minor Street		Westbound					Eastbound				
Movement	7	8	9			10	11		12		
37	i	Ť	R			L	 		R		
Volume	3	0	24	_	_	55	0		183		
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92		0.92		
Hourly Flow Rate, HFR		0	0			59	0		198		
Percent Heavy Vehicle	s 0	0	0			0	0		0		
Percent Grade (%)		0	1.6				0				
Flared Approach		N					T N				
Storage		0	4				0	_			
RT Channelized			0				†		0		
Lanes	0	0	0			1	0	_	1		
Configuration			1		-	Ĺ			R		
Delay, Queue Length,	and Level of S	ervice									
Approach	NB	SB		Westb	ounc	I		Eastbound	4		
Movement	1	4	7	8		9	10	11	12		
Lane Configuration	L	+		├─°	-	9	L	- ''-	R		
				-			+				
v (vph)	66			_			59		198		
C (m) (vph)	884						258		674		
v/c	0.07						0.23		0.29		
95% queue length	0.24						0.86		1.22		
Control Delay	9.4						23.0		12.5		
LOS	A						C		В		
Approach Delay								15.0			
Approach LOS	200							В			

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

	TWC	-WAY STOP	CONTR	OL SUM	MARY			
General Information	1		Site I	nformat	ion			
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008 AM	ngineering }				Lewisbur City of Fr 2013	g Pike & D anklin	allas
Project Description Sta								
East/West Street: Dalla		Entrançe		South Stre		burg Pike		
Intersection Orientation:			Study	Period (hrs	s): <i>0.25</i>			
Vehicle Volumes an	d Adjustme	ents		1000				
Major Street		Northbound				Southbo	und	
Movement	1	2	3		4	5		6
	<u> </u>	T	R		L	T	_	R
Volume	7	659	7		105	239		18
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	0.92	_	0.92
Hourly Flow Rate, HFR Percent Heavy Vehicles	7	716	7		114 0	259		19
Median Type	-			<u>Undivide</u>			88	**
RT Channelized	-		0	Unaivide	u	T		0
Lanes	1	2	0		1	2	_	0
Configuration	<u> </u>	T	TR		L	T		TR
Upstream Signal	<u> </u>	1 0	1 1/1			0	_+_	111
Minor Street		Westbound				Eastbou	ın d	
Movement	7	8 8	9		10	Lastbot 11	ina T	12
Movement		Ť	R		10	 		R
Volume	2	0	47		116	0	_	48
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92
Hourly Flow Rate, HFR	2	0.02	51		126	0.02		52
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		T N	1			T N		
Storage		0	1			0		
RT Channelized	 	 	0			 		0
	0	1	0		0	1		1
Lanes Configuration	0	LTR	0		0 LT			R
	1				<u> </u>			
Delay, Queue Length, a				N				
Approach	NB	SB		Westboun			Eastbound	_
Movement	1	4	7	8	9	10	11	12
ane Configuration	L	L		LTR		LT		R
/ (vph)	7	114		53		126		52
C (m) (vph)	1296	889		568		207		890
//c	0.01	0.13		0.09		0.61		0.06
95% queue length	0.02	0.44		0.31		3.47		0.19
Control Delay	7.8	9.6		12.0		46.2		9.3
_os	A	A		В		E		A
Approach Delay				12.0		 	35.4	-
Approach LOS				B			E	
Sights Reserved				U		1		

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

Conoral Informati			0:44		4!						
General Informatio		<i>(</i> (, , , , , , , , , , , , , , , , , , ,		nform	nati	on			D = # =		
Analyst Agency/Co.	Brian Gai Clinard F	ttney ingineering	Interse Jurisdi				Lewisbur City of Fr	g Pike & L	vallas		
Date Performed	4/23/2008			sis Year	r		2013	arikiiri			
Analysis Time Period	PM Propo		, , i aliye			0					
		(Lewisburg Pike) TPR	*							
East/West Street: Dall			North/	South S	Stree	et: <i>Lewisi</i>	burg Pike				
Intersection Orientation	: North-South		Study	Period	(hrs): 0.25					
Vehicle Volumes a	nd Adjustm	ents									
Major Street		Northbound					Southbound				
Movement	1	2	3			4	5		6		
	L	T	R			L	Т		R		
Volume	23	262	3			42	718		84		
Peak-Hour Factor, PHF		0.92	0.92	2		0.92	0.92		0.92		
Hourly Flow Rate, HFR	24	284	3			45	780		91		
Percent Heavy Vehicles	0					0	32		996		
Median Type		-	"	Undiv	vide c	1					
RT Channelized			0						0		
Lanes	11	2	0			1	2		0		
Configuration	L	T	TR			L	T		TR		
Upstream Signal		0	1				0				
Minor Street		Westbound						Eastbound			
Movement	7	8	9			10	11		12		
	L	Т	R			L	Т		R		
Volume	5	0	56			54	0		16		
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92		0.92		
Hourly Flow Rate, HFR	5	0	60			58	0		17		
Percent Heavy Vehicles	0	0	0			0	0		0		
Percent Grade (%)	_	0					0				
Flared Approach		N					N				
Storage		0					0				
RT Channelized			0						0		
Lanes	0	1	0			0	1		1		
Configuration		LTR				LT			R		
Delay, Queue Length,	and Level of S	ervice									
Approach	NB	SB		Westbo	ound			Eastbound	4		
Movement	1	4	7	8		9	10	11	12		
Lane Configuration	L	L		LTR			LT		R		
v (vph)	24	45		65	_		58		17		
C (m) (vph)	783	1287		741	_		149		574		
		0.03			_						
v/c	0.03			0.09	_		0.39		0.03		
95% queue length	0.09	0.11		0.29	_		1.67		0.09		
Control Delay	9.7	7.9		10.3			43.8		11.5		
LOS	Α	Α		В			Ε		В		
Approach Delay	250	(946)		10.3	}			36.5			
Approach LOS			B E								

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UMI	MARY				
General Information)		Site I	nforn	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 AM	ngineering	Interse Jurisdi Analys	ction		Landin	City of Franklin			
Project Description Sta	ate Route 106	(Lewisburg Pike) TPR							
East/West Street: Moore				South S	Stree	et: <i>Lewis</i>	burg Pike			
Intersection Orientation:	North-South		Study Period (hrs): 0.25							
Vehicle Volumes an	d Adjustme	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
Volume	0	836	8			11	355			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	<u>'</u>		0.92	0.92			0.92
Hourly Flow Rate, HFR	0	908	8			11	385			0
Percent Heavy Vehicles	0				.,	0				
Median Type	ļ		1 .	Undi	/idec	1	1	1		
RT Channelized			0	\longrightarrow			+			0
Lanes	0	2	0			1	2			0
Configuration	ļ	T	TR			L	T			
Upstream Signal	<u> </u>	0					<u> </u>			
Minor Street		Westbound	1 0			40	Eastbou	und		10
Movement	7	8 -	9			10	11			12
N. 1	L	T	R			_ <u>L</u>		T		R
Volume	7	0	16			0	0		0.92	
Peak-Hour Factor, PHF	0.92 7	0.92	0.92	<u> </u>		0.92	0.92		'	
Hourly Flow Rate, HFR Percent Heavy Vehicles	0	0 0	17			0	0			0
Percent Grade (%)	U		U				0			U
. ,		0	1				-	1		
Flared Approach		N					N			
Storage		0	 				0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration		LR	<u></u>				<u></u>			
Delay, Queue Length, a	Ť						_			
Approach	NB	SB		Westb	ounc			Eastb		
Movement	1	4	7	8		9	10	1	1	12
Lane Configuration		L		LR						
v (vph)		11		24			1	Î		
C (m) (vph)		753		365	,			1		
v/c		0.01		0.07	_			1		
95% queue length		0.04		0.2	_		1	1		
Control Delay		9.9		15.6	_		+	\vdash		
LOS		9.9 A		75.0 C	-		+	\vdash		
							+			<u> </u>
Approach Delay				15.6			 			
Approach LOS Rights Reserved				С						

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL SU	JMN	IARY				
General Information	า		Site I	nform	atio	n				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gat Clinard El 4/23/2008 PM	ngineering	Interse Jurisdi Analys				Lewisbu Landin City of F 2013			oores
Project Description Sta	ate Route 106	(Lewisburg Pike) TPR							
East/West Street: Moor				South S	treet	: Lewis	burg Pike			
Intersection Orientation:	North-South		Study	Period ((hrs):	0.25				
Vehicle Volumes an	d Adjustm	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
Volume	0	358	4			26	828			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92			0.92
Hourly Flow Rate, HFR	0	389	4	\longrightarrow		28	899			0
Percent Heavy Vehicles	0				. , .	0				
Median Type		1	0	Undivi	ided					
RT Channelized						0				
Lanes	0	2	0	\rightarrow		1	2			0
Configuration		T	TR	\longrightarrow		L	T			
Upstream Signal		0					0			
Minor Street		Westbound	1				Eastboo	und		
Movement	7	8	9			10	11			12
	L	T	R			L	T			R
Volume	20	0	8			0	0			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92			0.92
Hourly Flow Rate, HFR	21	0	8			0	0			0
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)	<u> </u>	0					0			
Flared Approach		N	<u> </u>				N			
Storage		0					0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration		LR								
Delay, Queue Length, a	nd Level of S	ervice								
Approach	NB	SB	,	Westbo	und			Eastb	ound	
Movement	1	4	7	8		9	10		1	12
Lane Configuration		L		LR	十		†	†		
v (vph)		28		29	\dashv		 	+		
· /_		1177			\dashv		+	╁		
C (m) (vph)				339	_		+	_		
v/c		0.02		0.09	-		-	╂		
95% queue length		0.07		0.28	_			 		
Control Delay		8.1		16.6			<u> </u>	<u> </u>		
LOS		Α		С						
Approach Delay				16.6						
Approach LOS				С						
Rights Reserved							,			

Rights Reserved

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

	TWO-	WAY STOP	CONTR	OL S	SUM	IMARY				
General Information	on		Site	nfor	mat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 AM	ney gineering	Interse Jurisd Analys	iction	ar		Lewisbur City of F 2013			ssex
	State Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Ess			North/	South	Stre	et: <i>Lewis</i>	sburg Pike			
Intersection Orientation	: North-South		Study	Period	d (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L L	T	R			_ <u>L</u>	T			R
Volume	9	845	0	$\overline{}$		0	343			11
Peak-Hour Factor, PHF		0.92	0.92	<u>'</u>		0.92	0.92).92 11
Hourly Flow Rate, HFR	9	918	0		_	0	372			
Percent Heavy Vehicles Median Type	0			Undi	uido.	0		Į.		
RT Channelized	+	1	1 0	Unai	viaed	J	1	1		0
Lanes	1	2	0			0	2			0
Configuration	L	T	 				T			TR
Upstream Signal	 			_		0			IΠ	
Minor Street	<u> </u>	0 Westbound					Eastbou	ınd		
Movement	7	8	9			10	11	IIIG		12
iviovernerit	1	T	R			L	 ''			R
Volume	0	0	0			48	0	\rightarrow		20
Peak-Hour Factor, PHF		0.92	0.92	,		0.92	0.92	$\overline{}$.92
Hourly Flow Rate, HFR		0	0.02	-		52	0.02	$\neg \uparrow$		21
Percent Heavy Vehicles		0	0			0	0	$\neg \uparrow$		0
Percent Grade (%)		0				-	0			_
Flared Approach		T N	1				l N			
Storage	1	0					0			
RT Channelized		 	0				<u> </u>			0
Lanes	0	0	0			0	0			0
Configuration	U	, <i>u</i>	ا			U	LR	-		U
			<u> </u>				LII			
Delay, Queue Length,	NB	SB	,	Maath	01110		1 ,	Cootbo	d	
Approach				Westb				Eastbo		40
Movement	1	4	7	8		9	10	1		12
Lane Configuration	L						ļ	LF		
v (vph)	9							73		
C (m) (vph)	1187							36	6	
v/c	0.01							0.2	0	
95% queue length	0.02							0.7	'3	
Control Delay	8.1							17.	3	
LOS	Α							С		
Approach Delay						<u> </u>		17.3		
Approach LOS							 	C		
HCS2000TM		Converget © 2003 University of Florida, All Rights Reserved								Version 4 1d

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	IMARY				
General Information	on		Site	nfor	nat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 PM	ney gineering	Interse Jurisd Analys	iction	ar		Lewisbur City of F 2013			ssex
	State Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Ess			North/	South	Stre	et: <i>Lewis</i>	sburg Pike			
Intersection Orientation	: North-South		Study	Period	d (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
Volume	4	362	0			0	801			25
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92			0.92
Hourly Flow Rate, HFR	4	393	0			0	870			27
Percent Heavy Vehicles	0			11"	*.1.	0				
Median Type	 	1		Undi	vide	<u> </u>		ĺ		
RT Channelized		0	0							0
Lanes	1	2 T	0			0	2			0
Configuration	<u>L</u>					T 0			TR	
Upstream Signal	+	0								
Minor Street Movement	7	Westbound	9			10	Eastbou	ına T		12
wovernent	/	8 T	9 R			10	 ''	\dashv		R
Volume	0	0	0			11	0	_		26
Peak-Hour Factor, PHF		0.92	0.92	<u> </u>		0.92	0.92			.92
Hourly Flow Rate, HFR		0.52	0.32			11	0.52			28
Percent Heavy Vehicles		0	0			0	0		•	0
Percent Grade (%)	, ,	0					0			
Flared Approach		T N	1				l N	T		
Storage		0					0	\dashv		
RT Channelized		<u> </u>	0				-			0
	0	0	0			0	0	_		0
Lanes Configuration	0	0	0			0	LR	\dashv		0
	<u> </u>	<u> </u>					<u>L</u> n			
Delay, Queue Length,	í	The state of the s		ملده ملاه		<u> </u>	г ,	- a a tha a	ام میں	
Approach	NB	SB		Westb		i		Eastbo		4.0
Movement	1	4	7	8		9	10	11		12
Lane Configuration	L			ļ				LR		
v (vph)	4							39	'	
C (m) (vph)	765							384	4	
v/c	0.01							0.10	0	
95% queue length	0.02							0.3	4	
Control Delay	9.7						Ì	15.4	4	
LOS	Α							С		
Approach Delay						l	 	15.4	 !	
Approach LOS							 	C		
HCS2000TM										Version 4.1d

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	IMARY				
General Informatio	n		Site I	nfor	nat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 AM	ney gineering	Interse Jurisd Analys	iction	ar		Lewisbu City of F 2013			Gardner
	tate Route 106	(Lewisburg Pil	(e) TPR							
East/West Street: Gard			North/	South	Stre	et: <i>Lewis</i>	sburg Pike	ļ		
Intersection Orientation:	North-South	1	Study	Period	d (hrs	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	T	R			<u>L</u>	T			R
Volume	0	818	8	$\overline{}$		11	351		<u> </u>	0
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		(0.92
Hourly Flow Rate, HFR	0	889	8			11	381		<u> </u>	0
Percent Heavy Vehicles	0			Undi	ida	0				
Median Type RT Channelized	 	1	Ι ο	Unai	viaec	J	1		1	0
Lanes	0	2	0			1	2			0
Configuration	0	T	TR			L	T		 	U
Upstream Signal	 	0	10				0		_	
Minor Street	<u> </u>	Westbound	<u> </u>				Eastbou	ınd	<u> </u>	
Movement	7	8	9			10	11	and	1	12
Movement	1	T	R			L	<u> </u>			R
Volume	2	0	5			0	0			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92			0.92
Hourly Flow Rate, HFR	2	0.02	5			0	0.02			0
Percent Heavy Vehicles		0	0			0	0			0
Percent Grade (%)		0				-	0			-
Flared Approach		l N	1				N N			
Storage		0					0			
RT Channelized		· ·	0				 			0
	0	0	0			0	0			0
Lanes Configuration	U	LR	"			U	0			U
			<u> </u>				<u> </u>			
Delay, Queue Length,	NB	SB	,	Westb	01100		1	Eggth	ound	
Approach				î .	_					
Movement	1	4	7	8		9	10		11	12
Lane Configuration		L		LFI			ļ			
v (vph)		11		7			ļ	<u> </u>		
C (m) (vph)		765		376	3					
v/c		0.01		0.0	2					
95% queue length		0.04		0.0	6					
Control Delay	Î	9.8		14.	8			1		
LOS		Α		В	_		1	1		
Approach Delay				14.			†			
Approach LOS			B	-		 				
Approact Loo		 vright © 2003 Univers	· CE1 11		. D		<u> </u>			Version 4 1d

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	IMARY				
General Information	<u> </u>		Site I	nforr	nat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 PM	ney gineering	Interse Jurisdi Analys	ction	ır		Lewisbu City of F 2013			Gardne
		(Lewisburg Pil	ke) TPR							
East/West Street: Gard		, 3		South	Stre	et: <i>Lewis</i>	sburg Pike	9		
Intersection Orientation:	North-South					s): <i>0.25</i>				
Vehicle Volumes ar	d Adjustm	ents								
Major Street	•	Northbound					Southbo	ound		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
Volume	0	350	4			25	819			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92)		0.92
Hourly Flow Rate, HFR	0	380	4			27	890			0
Percent Heavy Vehicles	0					0				
Median Type				Undi	/ided	d				
RT Channelized			0							0
Lanes	0	2	0			1	2			0
Configuration		T	TR			L	T			
Upstream Signal						0				
Minor Street		Westbound					Eastbo	und		
Movement	7	8	9			10	11			12
	L	Т	R			L	Т			R
Volume	5	0	2			0	0			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92	1	(0.92
Hourly Flow Rate, HFR	5	0	2			0	0			0
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		l N	1				N		1	
Storage		0	1				0			
RT Channelized		 	0							0
	0	0	0			0	0			0
Lanes Configuration	U	LR	0			U	0			U
		ĮĮ.								
Delay, Queue Length, a	1	To the second se					1			
Approach	NB	SB		Westb	ound				oound	T
Movement	1	4	7	8		9	10		11	12
Lane Configuration		L		LR	'					
v (vph)		27		7						
C (m) (vph)	ĺ	1186		348	3					
v/c	<u> </u>	0.02		0.02						
95% queue length		0.07		0.00			 			
Control Delay	+	8.1		15.0				+		
LOS				C			 			
Approach Delay			15.0	<i>5</i>						
Approach LOS				С						

Copyright © 2003 University of Florida, All Rights Reserved

					LU	NG RE	EFL	JK I							
General In	formation							nform	atio	n					
Analyst Agency or o Date Perfor Time Perio	Co. <i>Cli</i> rmed d	nard E Asso 4/23	Gaffneg Inginee Iciates /2008 Ioposed	ring	· ·	li A J	nters Area uriso	ection Type diction rsis Yea			All o	Mack ther are of Fran 2013		er	
Intersection	n Geometry														
Grade = 0			0 2	1											
						Gra	ade =	0							
1						Ł_		1							
2	→					•	į.	2							
1	7					\checkmark		2							
Grade = 0															
		1	†	2		Gra	de =	0							
Volume ar	nd Timing In	put													
				EB											
							W	В			NB			SB	
			LT	TH	RT	LT	TH	H R	$\overline{}$	LT	TH	RT	LT	TH	RT
			6	TH 614	26	377	933	H R'	6	25	TH 203	616	108	TH 70	6
% Heavy v			6 0	TH 614 0	26 0	377 0	93: 0	H R 5 19 0	6	25 0	TH 203 0	616 0	108 0	TH 70	6 0
% Heavy v PHF	eh		6 0 0.92	TH 614 0 0.92	26 0 0.92	377 0 0.92	93: 0 0.9	H R' 5 196 0 2 0.9	6 2	25 0 0.92	TH 203 0 0.92	616 0 0.92	108 0 0.92	TH 70 0 0.92	6 0 0.92
Actuated (P	eh 7/A)		6 0 0.92 P	TH 614 0 0.92 P	26 0 0.92 P	377 0 0.92 P	93: 0 0.9 P	H R 5 199 0 0.9 P	2	25 0 0.92 P	TH 203 0 0.92 P	616 0 0.92 P	108 0 0.92 P	TH 70 0 0.92 P	6 0
% Heavy v PHF Actuated (P Startup lost	eh ² /A) time		6 0 0.92 P 2.0	TH 614 0 0.92 P 2.0	26 0 0.92 P 2.0	377 0 0.92 P 2.0	93; 0 0.9 P 2.0	H R 5 196 0 0.9 P 2.0	6 2	25 0 0.92 P 2.0	TH 203 0 0.92 P 2.0	616 0 0.92 P 2.0	108 0 0.92 P 2.0	TH 70 0 0.92 P 2.0	6 0 0.92
% Heavy v PHF Actuated (P Startup lost Ext. eff. gre	eh ² /A) time		6 0 0.92 P 2.0 2.0	TH 614 0 0.92 P 2.0 2.0	26 0 0.92 P 2.0 2.0	377 0 0.92 P 2.0 2.0	7H 933 0 0.9 P 2.0 2.0	H R 5 196 0 2 0.9 P 0 2.0 0 2.0	6 2)	25 0 0.92 P 2.0 2.0	TH 203 0 0.92 P 2.0 2.0	616 0 0.92 P 2.0 2.0	108 0 0.92 P 2.0 2.0	TH 70 0 0.92 P 2.0 2.0	6 0 0.92
% Heavy v PHF Actuated (P Startup lost Ext. eff. gre Arrival type	eh //A) time en		6 0 0.92 P 2.0 2.0 3	TH 614 0 0.92 P 2.0 2.0 3	26 0 0.92 P 2.0 2.0	377 0 0.92 P 2.0 2.0 3	7H 933 0 0.9 P 2.0 2.0	H R 5 190 2 0.9 P 0 2.0 0 2.0 3	6 2)	25 0 0.92 P 2.0 2.0 3	TH 203 0 0.92 P 2.0 2.0 3	616 0 0.92 P 2.0 2.0 3	108 0 0.92 P 2.0 2.0 3	TH 70 0 0.92 P 2.0 2.0 3	6 0 0.92
% Heavy volume Actuated (P Startup lost Ext. eff. gre Arrival type Unit Extens	eh //A) time en		6 0 0.92 P 2.0 2.0 3 3.0	TH 614 0 0.92 P 2.0 2.0	26 0 0.92 P 2.0 2.0 3 3.0	377 0 0.92 P 2.0 2.0 3 3.0	7H 933 0 0.9 P 2.0 2.0	H R 5 199 2 0.9 P 0 2.0 0 2.0 3 3 0 3.0	6 2 0 0	25 0 0.92 P 2.0 2.0 3 3.0	TH 203 0 0.92 P 2.0 2.0	616 0 0.92 P 2.0 2.0 3 3.0	108 0 0.92 P 2.0 2.0 3 3.0	TH 70 0 0.92 P 2.0 2.0	6 0 0.92 P
% Heavy v PHF Actuated (P Startup lost Ext. eff. gre Arrival type Jnit Extens Ped/Bike/R	eh /A) time en ion TOR Volume		6 0 0.92 P 2.0 2.0 3 3.0	TH 614 0 0.92 P 2.0 2.0 3 3.0	26 0 0.92 P 2.0 2.0 3 3.0	377 0 0.92 P 2.0 2.0 3 3.0	7H 933 0 0.9 P 2.0 3 3.0	H R 5 199 0 2 0.9 P 2.0 0 2.0 0 2.0 3 3.0	6 2 0 0	25 0 0.92 P 2.0 2.0 3 3.0	TH 203 0 0.92 P 2.0 2.0 3 3.0	616 0 0.92 P 2.0 2.0 3 3.0	108 0 0.92 P 2.0 2.0 3 3.0	TH 70 0 0.92 P 2.0 2.0 3 3.0	6 0 0.92
% Heavy v PHF Actuated (P Startup lost Ext. eff. gre Arrival type Unit Extens Ped/Bike/R Lane Width	eh /A) time en ion TOR Volume		6 0 0.92 P 2.0 2.0 3 3.0 0	TH 614 0 0.92 P 2.0 2.0 3	26 0 0.92 P 2.0 2.0 3 3.0 0	377 0 0.92 P 2.0 2.0 3 3.0 0 12.0	7H 933 0 0.9 P 2.0 2.0	H R 5 196 0 0.9 P P 0 2.0 0 2.0 3 3.0 0 0 12.	6 2 0 0	25 0 0.92 P 2.0 2.0 3 3.0 0 12.0	TH 203 0 0.92 P 2.0 2.0 3	616 0 0.92 P 2.0 2.0 3 3.0 0 12.0	108 0 0.92 P 2.0 2.0 3 3.0 0 12.0	TH 70 0 0.92 P 2.0 2.0 3	6 0 0.92 P
% Heavy v PHF Actuated (P Startup lost Ext. eff. gre Arrival type Jnit Extens Ped/Bike/R Lane Width Parking (Y o	eh /A) time en ion TOR Volume		6 0 0.92 P 2.0 2.0 3 3.0	TH 614 0 0.92 P 2.0 2.0 3 3.0	26 0 0.92 P 2.0 2.0 3 3.0	377 0 0.92 P 2.0 2.0 3 3.0	7H 933 0 0.9 P 2.0 3 3.0	H R 5 199 0 2 0.9 P 2.0 0 2.0 0 2.0 3 3.0	6 2 0 0	25 0 0.92 P 2.0 2.0 3 3.0	TH 203 0 0.92 P 2.0 2.0 3 3.0	616 0 0.92 P 2.0 2.0 3 3.0	108 0 0.92 P 2.0 2.0 3 3.0	TH 70 0 0.92 P 2.0 2.0 3 3.0	6 0 0.92 P
% Heavy very Heavy very Heavy very Heavy very Heavy very Heavy very Heavy very Heavy very Heavy very Heavy very Heavy very very very very very very very ve	eh VA) time en ion TOR Volume or N)		6 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 614 0 0.92 P 2.0 2.0 3 3.0	26 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	377 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	7H 933 0 0.9 P 2.0 2.0 3 3.0	H R 5 199 0 2 0.99 P 2.00 0 2.00 3 3.00 0 12.00 N	6 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	25 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 203 0 0.92 P 2.0 3 3.0 12.0	616 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	108 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 70 0 0.92 P 2.0 2.0 3 3.0	6 0 0.92 P
% Heavy very very heavy very heavy very heavy very heavy very very very very very very very ve	eh VA) time en ion TOR Volume or N)		6 0 0.92 P 2.0 2.0 3 3.0 0	TH 614 0 0.92 P 2.0 2.0 3 3.0 12.0	26 0 0.92 P 2.0 2.0 3 3.0 0	377 0 0.92 P 2.0 2.0 3 3.0 0 12.0	7H 933 0 0.9 P 2.0 2.0 3 3.0	H R 5 199 2 0.99 P 2.00 0 2.00 3 3 0 3.00 0 12. N	6 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	25 0 0.92 P 2.0 2.0 3 3.0 0 12.0	TH 203 0 0.92 P 2.0 2.0 3 3.0 12.0	616 0 0.92 P 2.0 2.0 3 3.0 0 12.0	108 0 0.92 P 2.0 2.0 3 3.0 0 12.0	TH 70 0 0.92 P 2.0 2.0 3 3.0 12.0	6 0 0.92 P
% Heavy very very heavy very heavy very heavy very heavy very very very very very very very ve	eh (/A) time en ion TOR Volume or N)		6 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 614 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2	26 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	377 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	7H 933 0 0.9 P 2.0 2.0 3 3.0	H R 5 199 0 2 0.9 P 2 0.0 0 2.0 0 3.0 0 12. N	6 2 2 D D D D D D D D D D D D D D D D D	25 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 203 0 0.92 P 2.0 3 3.0 12.0 0 3.2	616 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	108 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 70 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2	6 0 0.92 P
% Heavy very very heavy very heavy very heavy very heavy very very very very very very very ve	eh VA) time en ion TOR Volume or N) r	EW F	6 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 614 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2	26 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	377 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	7H 933 0 0.9 P 2.0 2.0 3 3.0	H R 5 199 2 0.9 P 2.0 0 2.0 0 2.0 0 12. N 0	6 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	25 0 0.92 P 2.0 3 3.0 0 12.0 N	TH 203 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2 S Perm	616 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	108 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 70 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2	6 0 0.92 P
% Heavy v PHF Actuated (P Startup lost Ext. eff. gre Arrival type Unit Extens	eh (/A) time en ion TOR Volume or N)		6 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 614 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2	26 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	377 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	7H 933 0 0.9 P 2.0 2.0 3 3.0	H R 5 199 0 2 0.9 P 2 0.0 0 2.0 0 3.0 0 12. N	6 2 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	25 0 0.92 P 2.0 3 3.0 0 12.0 N	TH 203 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2 S Perm = 15.0	616 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	108 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 70 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2	6 0 0.92 P

VOLU	ME ADJ	USTM	ENT A	ND SA	ATURA	NOITA	FLOV	V RAT	E WOI	RKSHI	EET	
General Inform	ation										7	
Project Description		oute 10	6 (Lewi:	sburg P	lke) TPI	7						
Volume Adjust	ment			_						r		
		EB		<u> </u>	WB			NB	т	ļ	SB	
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LŢ	TH	RT
Volume	6	614	26	377	935	196	25	203	616	108	70	6
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow Rate	7	667	28	410	1016	213	27	221	670	117	76	7
Lane Group	L	T	R	L	T	R	L	T	R	L	TR	
Adj. flow rate	7	667	28	410	1016	213	27	221	670	117	83	
Prop. LT or RT	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.084
Saturation Flow	v Rate											
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Num. of lanes	1	2	1	2	2	1	1	1	2	1	2	0
fW	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fHV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
fLU	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	0.88	1.00	0.95	
fLT	0.950	1.000		0.950	1.000		0.950	1.000		0.950	1.000	
Secondary fLT	0.175		55	0.181		355	0.525		Letter:	0.295		
fRT	8201	1.000	0.850	1000	1.000	0.850		1.000	0.850		0.987	
fLpb	1.000	1.000		1.000	1.000		1.000	1.000		1.000	1.000	
fRpb	=	1.000	1.000	2.57.52	1.000	1.000		1.000	1.000		1.000	
Adj. satflow	1805	3610	1615	3502	3610	1615	1805	1900	2842	1805	3564	
Sec. adj. satflow	332			667			998			560		

		CA	PACIT	ΓΥ ΑΝΙ	LOS	WORK	SHEE	Т				
General Informat	ion											
Project Description 3	State Ro	ute 106	(Lewisi	burg Plk	e) TPR							
Capacity Analysis	 S											\neg
		EB			WB			NB			SB	
Lane group	L	T	R	L	T	R	L	T	R	L	TR	
Adj. flow rate	7	667	28	410	1016	213	27	221	670	117	83	
Satflow rate	1805	3610	1615	3502	3610	1615	1805	1900	2842	1805	3564	
Lost time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Green ratio	0.61	0.50	0.83	0.61	0.50	0.83	0.28	0.17	0.83	0.28	0.17	
Lane group cap.	284	1805	1346	566	1805	1346	322	317	2368	224	594	
v/c ratio	0.02	0.37	0.02	0.72	0.56	0.16	0.08	0.70	0.28	0.52	0.14	
Flow ratio		0.18	0.02		0.28	0.13		0.12	0.24		0.02	
Crit. lane group	N	N	N	N	N	N	N	Υ	N	N	N	
Sum flow ratios						0.5	5					
Lost time/cycle						15.0	0					
Critical v/c ratio						0.60	6					
Lane Group Capa	city, C	ontro	Delay	, and	LOS D	eterm	inatior	1				
		EB			WB			NB			SB	
Lane group	Ĺ	T	R	L	T	R	L	T	R	L	TR	
Adj. flow rate	7	667	28	410	1016	213	27	221	670	117	83	
Lane group cap.	284	1805	1346	566	1805	1346	322	317	2368	224	594	
v/c ratio	0.02	0.37	0.02	0.72	0.56	0.16	0.08	0.70	0.28	0.52	0.14	
Green ratio	0.61	0.50	0.83	0.61	0.50	0.83	0.28	0.17	0.83	0.28	0.17	
Unif. delay d1	8.9	13.8	1.3	9.0	15.7	1.4	24.0	35.4	1.6	25.8	32.0	
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	
Increm. delay d2	0.2	0.6	0.0	7.9	1.3	0.3	0.5	12.0	0.3	8.5	0.5	
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Control delay	9.0	14.4	1.3	16.8	16.9	1.7	24.5	47.4	1.9	34.2	32.5	
Lane group LOS	Α	В	Α	В	В	Α	С	D	Α	С	С	
Apprch. delay	13	3.8		1	4.9		1	3.5			33.5	
Approach LOS		3			В			В			С	
Intersec. delay	15	5.4				Intersec	tion LOS	3			В	

SUPPLEMENTAL I								T TURNS FRO ED PHASES	OM EXCLUSIV
General Informati	on								
Project Description S	State R	oute 106 (Lew	risburg Plke) TP	PR			
v/c Ratio Comput	ation								
				EB		WE	3	NB	SB
Cycle length, C (s)							90	.0	
Prot. phase eff. green i	intvl, g	(s)		5.0		5.0	1	5.0	5.0
Opposed queue eff. gr	een in	tvl, g _q (s)		19.02		10.9	0	5.00	10.50
Unopposed green intvl	, gu (s))		30.98		39.1	0	15.00	9.50
Red time, r(s)				35.0		35.0)	65.0	65.0
Arrival rate, qa (veh/s)				0.00		0.1	1	0.01	0.03
Prot. phase departure i	p (veh/s)		0.501		0.97	3	0.501	0.501	
Perm. phase departure	ss (veh/s)		0.15		0.24	4	0.37	0.33	
Xperm			0.02		0.61	1	0.03	0.21	
Xprot (N/A for lagging le	eft-turr	ns)		0.03		0.94	1	0.21	0.91
Uniform Queue Size a	and De	elay Comp	uta	tions					
Queue at start of greer	arrow	/, Q a		0.07		3.99	9	0.49	2.11
Queue at start of unsat Qu	urated	l green,		0.04		1.24	1	0.04	0.34
Residual queue, Qr				0.00		0.00)	0.00	0.00
Uniform delay, d1				8.9		9.0		24.0	25.8
Uniform Queue Size a	_		ion		_				
	Case	Qa		Qu		Qr		d1	
f Xperm <= 1.0 & Xprot <= 1.0	1	qar		qagq		0	[0.5/(q a0 q _{a)}	C)][rQa + Qa ^{2/(Sp - (}	^{વેડ)} +gqQu + Qu ^{2/(S} ડ
f Xperm <= 1.0 & Xprot > 1.0	2	qar		Qr + qagq	Qa	- g(Sp - Qa)	[0.5/(qa0 Q _{u²/(} s _s .0	C)][rQa + g(Qa + (la)	Qr) +gq (Qr + Qu) +
X _{perm} > 1.0 & X _{prot} 3 Qr + Qa				qagq	Qu	- gu(Ss - qa)	[0.5/(qa0 Qa ^{2/(} S _{p -} 0	C)][gqQu + gu(Qa + la)	+ Qr) + r (Qr + Qa) +
f X _{perm} <= 1.0 lagging lefts)	4	0		qa(r + gq)		0	[0.5/(qa0	C)][r + gq)Qu + Qu²	_{!/(} S _{s -} Q _{a)}
f X _{perm} > 1.0 (lagging efts)	perm > 1.0 (lagging 5 Qu - gu					0	[0.5/(q a(q _{a)}	C)][r + gq)Qu + gu(Qu + Qa) + Qa ^{2/(S} p

		BAC	K-OF	-QUEI	JE WO	DRKSI	HEET					
General Information												
Project Description State	e Route	106 (Le	wisbur	g Plke)	TPR							
Average Back of Qu	eue											
		EB	Loz		WB	I DT		NB	Lot		SB	L D.T.
Lane group	LT L	TH T	RT R	LT L	TH T	RT R	LT L	TH T	RT R	LT L	TH TR	RT
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Flow rate/lane	7	667	28	410	1016	213	27	221	670	117	83	
Satflow per lane	466	1900	1615	477	1900	1615	1159	1900	1615	809	1875	
Capacity/lane	284	1805	1346	566	1805	1346	322	317	2368	224	594	
Flow ratio	0.02	0.18	0.02	0.44	0.28	0.13	0.02	0.12	0.24	0.14	0.02	
v/c ratio	0.02	0.37	0.02	0.72	0.56	0.16	0.08	0.70	0.28	0.52	0.14	
l factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3	3	3	3	3	3	3	3	3	3	
Platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Q1	0.1	5.4	0.1	2.1	9.3	1.0	0.5	5.2	2.1	2.2	0.9	
kв	0.5	1.1	1.4	0.5	1.1	1.4	0.5	0.5	1.4	0.4	0.5	
Q2	0.0	0.6	0.0	1.1	1.4	0.3	0.0	1.1	0.6	0.4	0.1	
Q avg.	0.1	6.0	0.1	3.3	10.7	1.3	0.5	6.3	2.6	2.6	1.0	
Percentile Back of Q	ueue (95th p	ercer	itile)							2	
fB%	2.6	1.9	2.6	2.1	1.7	2.4	2.5	1.9	2.2	2.2	2,4	
BOQ, Q%	0.2	11.4	0.4	6.9	18.3	3.1	1.3	11.8	5.7	5.7	2.4	
Queue Storage Ratio)											
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Q storage	0	0	0	0	0	0	0	0	0	0	0	
Avg. RQ												
95% Rq%												

Copyright © 2000 University of Florida, All Rights Reserved

					LC	NG RE	EPC	DRT							
General In	formation					111/12		nformat	ion	_					
Analyst		Brian	Gaffne	v											
Agency or	Co. Ci	inard E	ngine	ring				ection Type		SF	R 106 & All o	: маск ther ar		er	
Date Perfo			ciates /2008					diction				of Fran			
Time Perio			opose	d		<u> </u>	naly	sis Year	•		•	2013			
Intersection	on Geometry						_								
			0 2	1											
Grade = 0	t.,		0 2												
8			الميلا	{											
				, 3k											
						Gra	ade =	0							
1	∮					*		1							
2						◄		2							
1	¥					*		2							
Grade = 0															
			· ·												
		*	ſĨ												
				I		Gra	de =	0							
			_	0		Ola	uc –	Ü							
		1	1	2											
Volume ar	nd Timing In	put	_	LD.			۱۸	'D	_		ND		_	SB	_
			LT	EB TH	RT	LT	T TI		╫	LT	NB TH	RT	LT	TH	RT
Volume (vp	nh)		24	1068	108	357	40	_	-	33	62	268	116	291	21
% Heavy v			0	0	0	0	0	_		0	0	0	0	0	0
PHF			0.92	0.92	0.92	0.92	0.9	_	_	.92	0.92	0.92	0.92	0.92	0.92
Actuated (P	P/A)		Р	Р	Р	P	P	P		P	Р	Р	Р	Р	P
Startup lost	time		2.0	2.0	2.0	2.0	2.0	2.0	2	2.0	2.0	2.0	2.0	2.0	
Ext. eff. gre	en		2.0	2.0	2.0	2.0	2.0	2.0	2	2.0	2.0	2.0	2.0	2.0	
Arrival type			3	3	3	3	3			3	3	3	3	3	
Unit Extens			3.0	3.0	3.0	3.0	3.0			3.0	3.0	3.0	3.0	3.0	
_	TOR Volume		0		0	0	_	0	_	0		0	0		0
Lane Width			12.0	12.0	12.0	12.0	12.	_		2.0	12.0	12.0	12.0	12.0	
Parking (Y	or N)		N		N	N	<u> </u>	N	1	N		N	N		N
Parking/hr							_		┸						
	us stops/hr 0 0 0				0	0	0		┸	0	0	0	0	0	
Ped timing				3.2			3.2	2			3.2			3.2	
	Excl. Left	EW	Perm	03		04		Excl. L	eft	NS	S Perm		07		08
Timing	G = 5.0	G = :	95.0	G =		G =		G = 5.0)		= 25.0	G =		G =	
Fiming	Y = 5	Y = 8		Y =		Y =		Y = 5			5	Y =		Y =	
Ouration of	Analysis (hrs	lysis (hrs) = 0.25													

VOLUM	E ADJ	USTM	ENT A	ND SA	ATURA	ATION	FLOV	/ RAT	E WOF	RKSHI	EET	
General Informa	ition											
Project Description	State R	oute 10	6 (Lewis	sburg Pi	lke) TPI	7						
Volume Adjustn	nent											
		EB			WB			NB			SB	
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Volume	24	1068	108	357	406	49	33	62	268	116	291	21
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow Rate	26	1161	117	388	441	53	36	67	291	126	316	23
Lane Group	L	T	R	L	T	R	L	Τ	R	L	TR	
Adj. flow rate	26	1161	117	388	441	53	36	67	291	126	339	
Prop. LT or RT	0.000		0.000	0.000		0.000	0.000	(##7)	0.000	0.000	(. /	0.068
Saturation Flow	Rate											
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Num. of lanes	1	2	1	2	2	1	1	1	2	1	2	0
fW	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fHV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
fLU	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	0.88	1.00	0.95	
fLT	0.950	1.000	int.	0.950	1.000		0.950	1.000		0.950	1.000	
Secondary fLT	0.456		441	0.132			0.297		22	0.594		55
fRT	(1 1 1 1 1 1 1 1 1 1 	1.000	0.850		1.000	0.850		1.000	0.850	3000	0.990	
fLpb	1.000	1.000	-	1.000	1.000		1.000	1.000		1.000	1.000	
fRpb	1 21 1	1.000	1.000	44	1.000	1.000		1.000	1.000	244	1.000	
Adj. satflow	1805	3610	1615	3502	3610	1615	1805	1900	2842	1805	3573	
Sec. adj. satflow	866		-	486		V	564			1129		

		CA	PACIT	ΓΥ ΑΝΙ	D LOS	WORK	KSHEE	Т						
General Informat	tion													
Project Description	State Ro	ute 106	(Lewisi	burg Plk	(e) TPR									
Capacity Analysi	is													
		EB			WB			NB			SB			
Lane group	L	T	R	L	T	R	L	T	R	L	TR			
Adj. flow rate	26	1161	117	388	441	53	36	67	291	126	339			
Satflow rate	1805	3610	1615	3502	3610	1615	1805	1900	2842	1805	3573			
Lost time	2.0	2.0	2.0	2.0	2.0									
Green ratio	0.70	0.63	0.90	0.23	0.17									
Lane group cap.	637	2286	286	596										
v/c ratio	0.04	0.51 0.08 0.88 0.19 0.04 0.21 0.21 0.11 0.44 0.57 0.32 0.07 0.12 0.03 0.04 0.10 0.09												
Flow ratio														
Crit. lane group	N	N N N N N N N												
Sum flow ratios		0.72												
Lost time/cycle		15.00												
Critical v/c ratio						0.8	0							
Lane Group Capa	acity, C	ontro	l Delay	y, and	LOS [)eterm	inatio	1						
		EB			WB			NB			SB			
Lane group	L	T	R	L	T	R	L	T	R	L	TR			
Adj. flow rate	26	1161	117	388	441	53	36	67	291	126	339			
Lane group cap.	637	2286	1453	441	2286	1453	173	317	2558	286	596			
v/c ratio	0.04	0.51	0.08	0.88	0.19	0.04	0.21	0.21	0.11	0.44	0.57			
Green ratio	0.70	0.63	0.90	0.70	0.63	0.90	0.23	0.17	0.90	0.23	0.17			
Unif. delay d1	7.1	14.9	0.8	36.2	11.5	0.8	45.6	54.0	0.8	50.5	57.5			
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50			
Increm. delay d2	0.1	0.8	0.1	21.4	0.2	0.0	2.7	1.5	0.1	4.9	3.9			
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Control delay	7.2	15.7	0.9	57.6	11.7	0.8	48.3	55.5	0.9	55.4	61.4			
Lane group LOS	Α	В	Α	Ε	В	Α	D	Ε	Α	Ε	E			
Apprch. delay	14	1.2		3	1.2		1	4.5	16		59.8			
Approach LOS		B C B E												
Intersec. delay	26	5.1				Intersec	tion LOS	3			С			

General Information	on							
Project Description S	tate R	oute 106 (i	Lewisburg Pl	(e) T	TPR			
v/c Ratio Computa	ation							
			EB		WE	3	NB	SB
Cycle length, C (s)					,	150	0.0	
Prot. phase eff. green i	ntvl, g	(s)	5.0		5.0		5.0	5,0
Opposed queue eff. gre	een int	vl, gq (s)	8.14		28.2	7	13.75	5.00
Unopposed green intvl	, gu (s)	1	91.86		71.7	'3	16.25	25.00
Red time, r(s)			45.0		45.0)	115.0	115.0
Arrival rate, qa (veh/s)			0.01		0.1	1	0.01	0.04
Prot. phase departure r	rate, s _i	(veh/s)	0.501		0.97	3	0.501	0.501
Perm. phase departure	rate,	ss (veh/s)	0.26		0.19	9	0.29	0.38
Xperm			0.03		0.80)	0.06	0.11
X _{prot} (N/A for lagging le	eft-turr	ns)	0.14		1.1	1	0.48	1.68
Uniform Queue Size a	and De	lay Comp	utations					
Queue at start of green	arrow	/, Q a	0.32		4.88	5	1.15	4.03
Queue at start of unsat Qu	urated	green,	0.06		7.49	9	0.14	2.49
Residual queue, Qr			0.00		0.53	3	0.00	1.69
Uniform delay, d1			7.1		36.2	2	45.6	50.5
Uniform Queue Size a	nd De	lay Equat	ions	_				
	Case	Qa	Qu	\perp	Qr		d1	
f Xperm <= 1.0 & Xprot <= 1.0	1	qar	Qa g q		0	[0.5/(qa0 q _{a)}	C)][rQa + Qa ^{2/(Sp -}	q _{s) +} gqQu + Qu ^{2/(S} s
f X _{perm} <= 1.0 & X _{prot} > 1.0	Xperm <= 1.0 & Xprot 2			q	Qa - g(Sp - Qa)	[0.5/(qa0 Qu ^{2/(\$s.0}		Qr) +gq (Qr + Qu) +
Xperm > 1.0 & Xprot 3 Qr + qa			ar qagq		Qu - gu(Ss - Qa)			
X _{perm} <= 1.0 4 0			qa(r + g	1)	0	[0.5/(qa0)][r + gq)Qu + Qu	_{2/(} S _{s -} Q _{a)}
f X _{perm} > 1.0 (lagging efts)	5	Qu - gu(Ss qa)	- q _a (r + g ₀	q _a (r + g _q)		[0.5/(q a0 q _{a)}	$/(q_aC)][r + g_q)Q_u + g_u(Q_u + Q_a) + Q_a^{2/(S_p)}$	

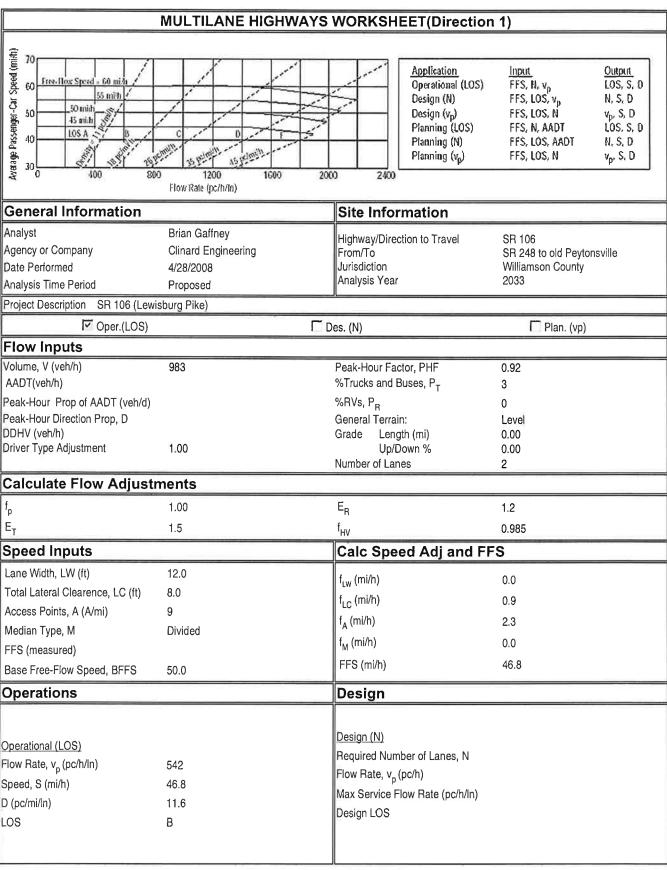
Page 5 of 5

BACK-OF-QUEUE WORKSHEET General Information Project Description State Route 106 (Lewisburg Plke) TPR Average Back of Queue SB EB WB NB LT TH RT LT TH RT LT TH RT LT TH RT Lane group L T R Ľ T R L T R L TR lnit, queue/lane 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 Flow rate/lane 26 1161 117 388 441 53 36 67 291 126 339 Satflow per lane 911 1900 1615 325 1900 1615 741 1900 1615 1226 1880 637 2286 1453 441 2286 1453 173 317 2558 286 596 Capacity/lane 0.32 0.07 0.04 0.10 0.10 Flow ratio 0.03 0.61 0.12 0.03 0.05 0.09 0.57 0.04 0.51 0.08 0.19 0.04 0.21 0.21 0.11 0.44 0.88 v/c ratio 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 1.000 factor 3 3 3 3 3 3 3 3 3 3 3 Arrival type 1.00 1.00 1.00 Platoon ratio 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 PF factor 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 13.8 2.6 4.0 0.2 1.2 2.4 0.8 4.1 6.8 0.3 0.5 Q_1 2.1 1.2 1.9 2.1 0.6 1.9 2.1 0.5 0.7 0.7 0.7 kв Q_2 0.1 1.9 0.2 2.4 0.4 0.1 0.1 0.2 0.3 0.5 0.9 0.4 15.6 0.7 5.0 4.5 0.3 1.3 2.6 1.0 4.6 7.7 Q avg. Percentile Back of Queue (95th percentile) 2.5 1.6 2.5 2.0 2.0 2.5 2.4 2.2 2.4 2.0 1.8 fB% BOQ, Q% 1.0 25.7 1.8 9.8 9.0 0.8 3.0 5.7 2.5 9.2 14.0 Queue Storage Ratio 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 25.0 Q spacing 0 0 0 0 0 0 0 0 0 0 Q storage 0 Avg. Ro 95% Ro%

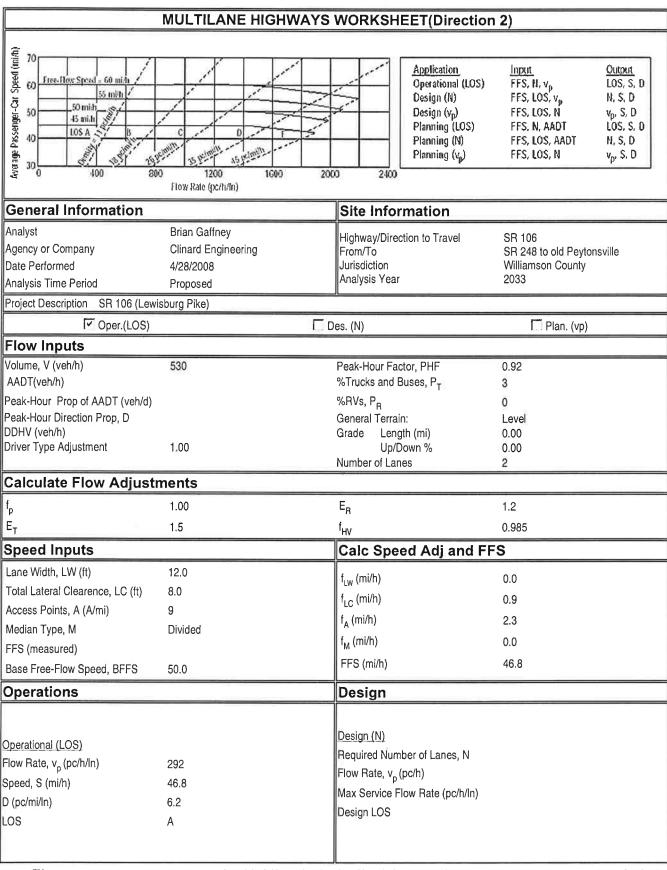
HCS2000TM

Long Report

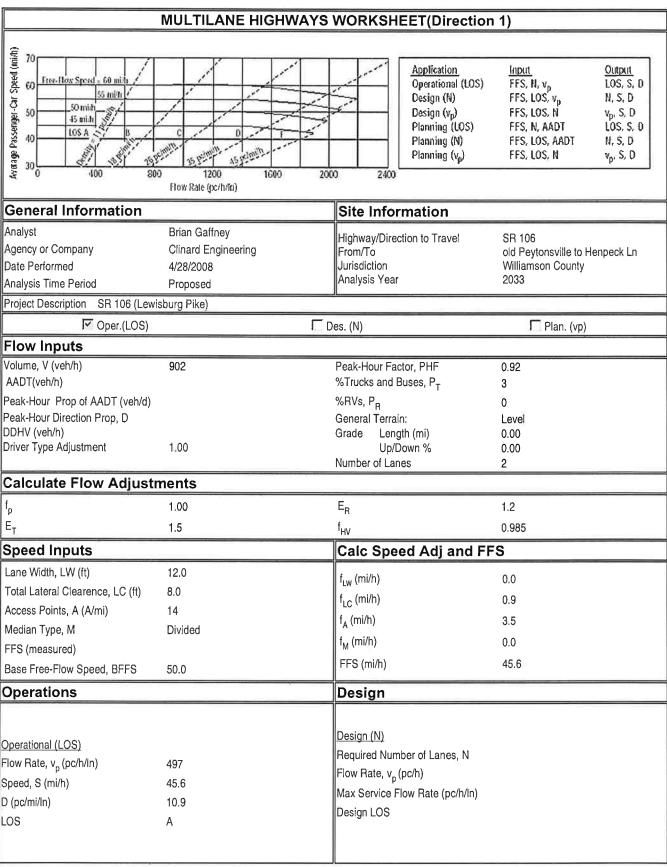
Copyright © 2000 University of Florida, All Rights Reserved



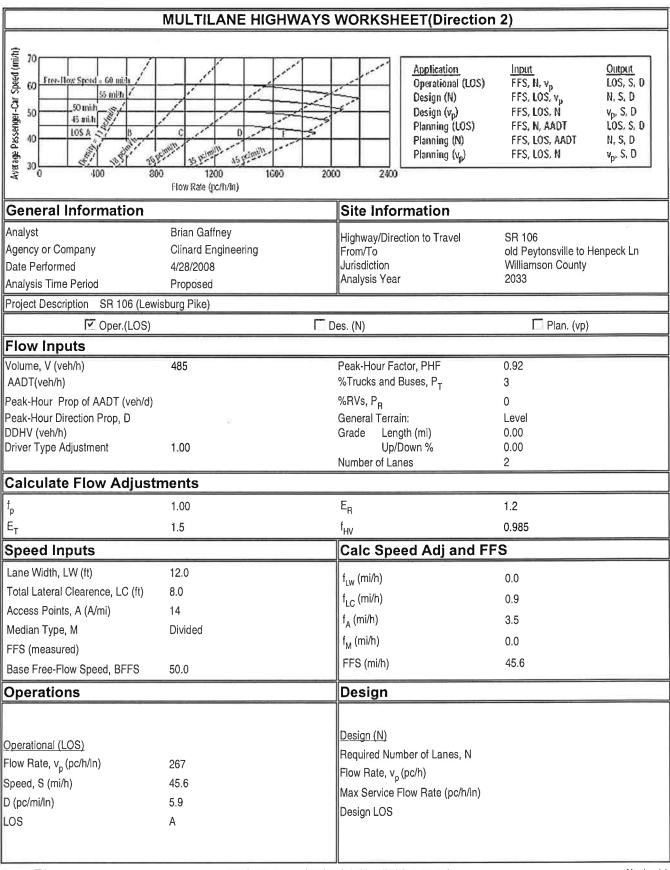
Copyright © 2003 University of Florida, All Rights Reserved



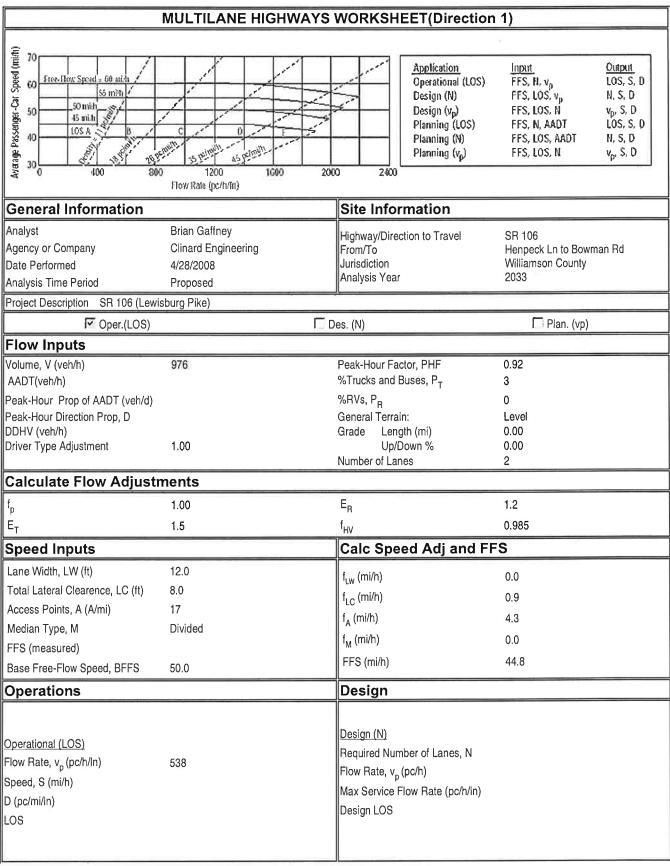
Copyright © 2003 University of Florida, All Rights Reserved



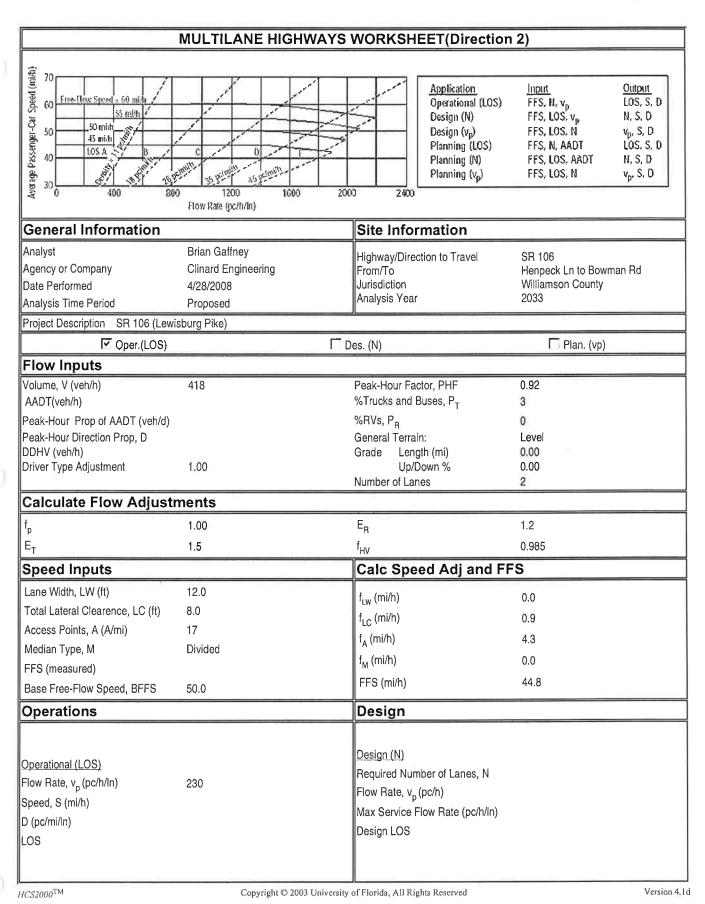
Copyright © 2003 University of Florida, All Rights Reserved

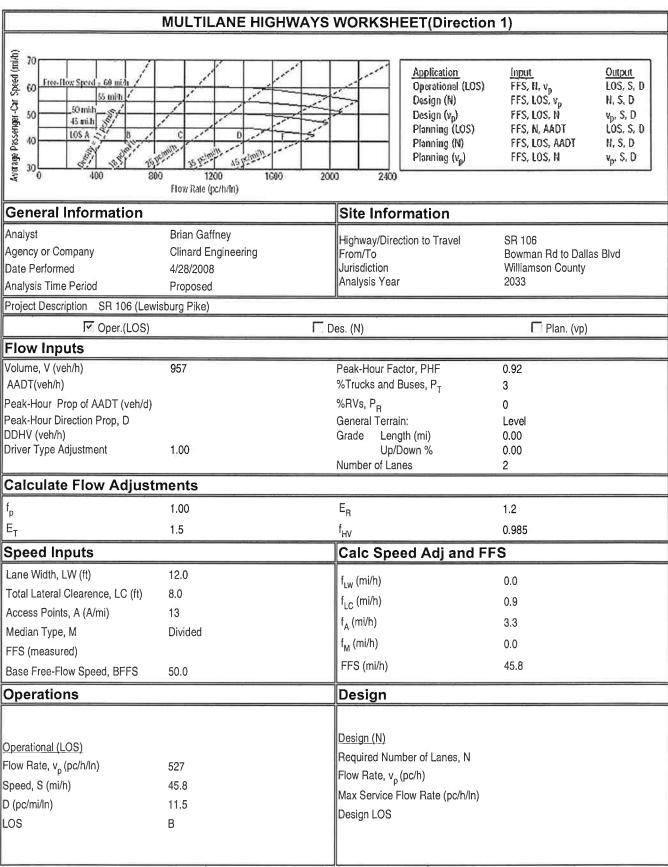


Copyright © 2003 University of Florida, All Rights Reserved

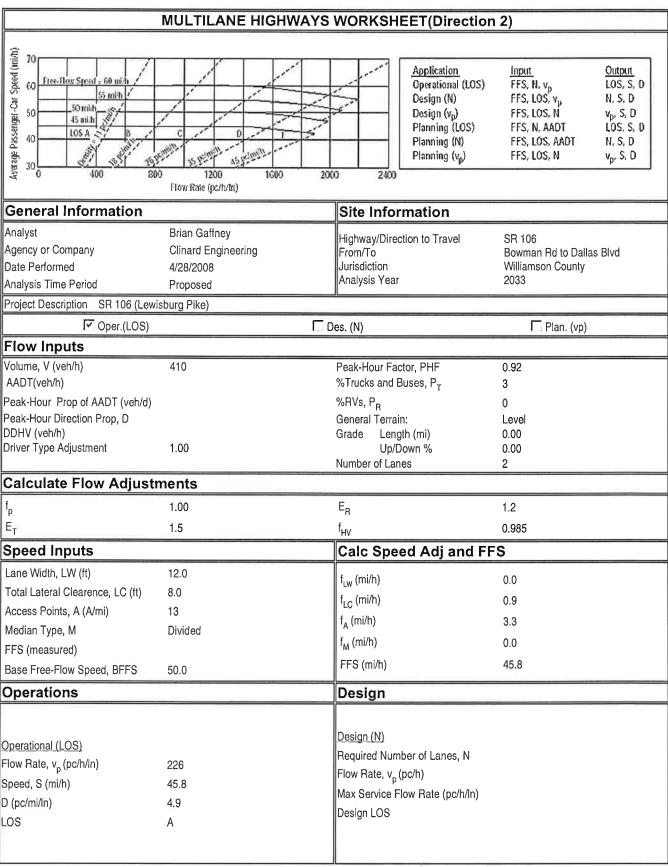


Copyright © 2003 University of Florida, All Rights Reserved

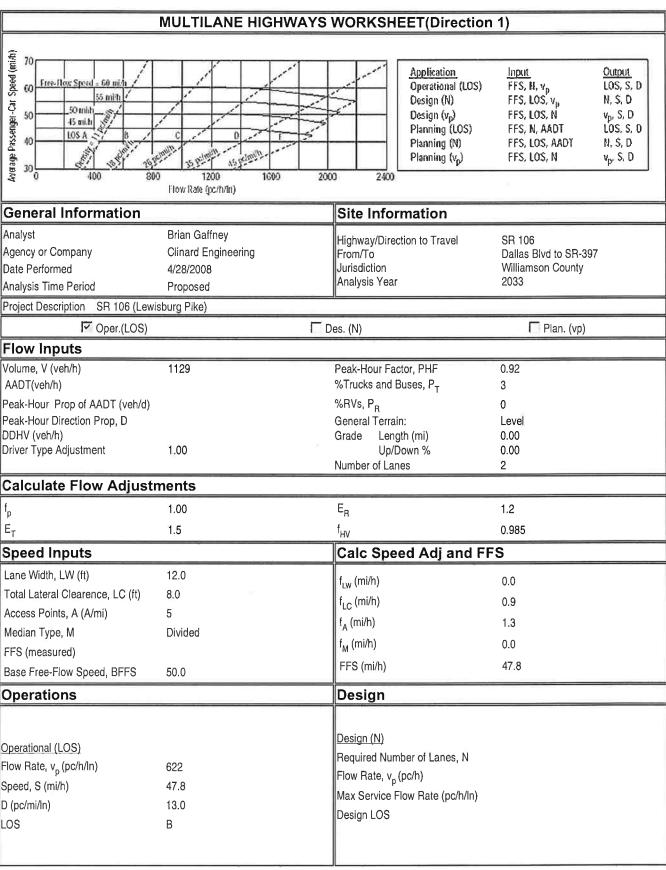




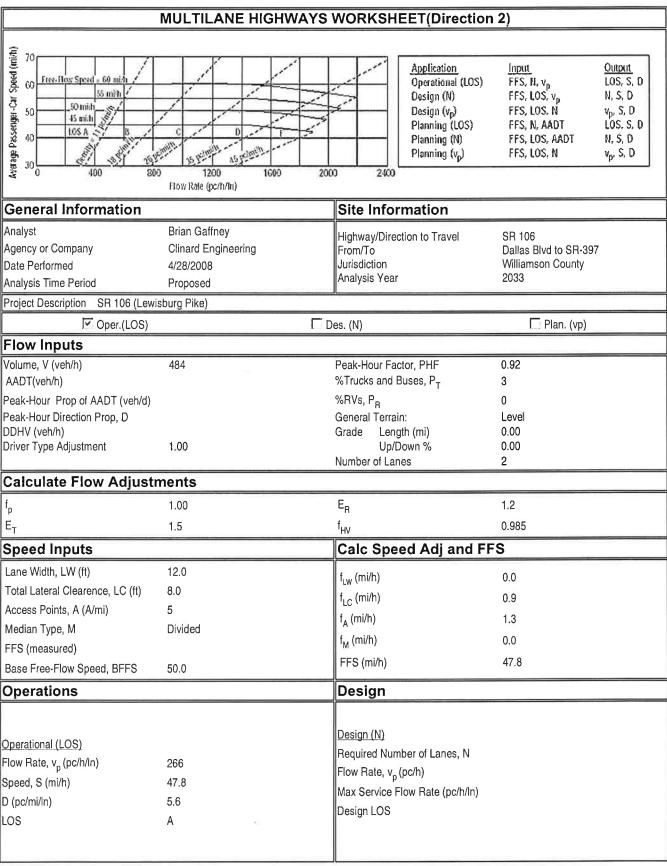
Copyright © 2003 University of Florida, All Rights Reserved



Copyright © 2003 University of Florida, All Rights Reserved



Copyright © 2003 University of Florida, All Rights Reserved



Copyright © 2003 University of Florida, All Rights Reserved

					LO	NG RI	EPC	ORT						
General In	formation							Informati	on					
Analyst		Brian	Gaffne	/						00.45	0.0.0	2.040		
Agency or (CO CI	inard E	nginee			100		section Type			6 & SF ther ar			
' '			ciates					diction			of Fran			
Date Perfor Time Period			/2008 oposed	1				/sis Year			2033			
	n Geometry		орозск											
Grade = 0			1 2	2										
]	Į										
		A.	'	*										
						Gra	ade =	0						
4														
	4													
1						<u>_</u>		1						
	•							100						
2						-		2						
	$\overline{}$					_								
1	*					*		2						
Grade = 0														
		_	3	_										
		₹.		3-										
			\											
						Cro	do -	0						
)			Gra	de =	0						
		1	2	1		Gra	de =	0						
Volume an	d Timing In		2			Gra								
Volume an	d Timing In			EB			W	В	I	NB			SB	
			LT	EB TH	RT	LT	W Th	B H RT	LT	TH	RT	LT	TH	RT
Volume (vpl	٦)		LT 232	EB TH 651	9	LT 50	W Th 28:	B RT 496	13	TH 444	215	259	TH 175	95
Volume (vpl % Heavy ve	٦)		LT 232 0	EB TH 651	9	LT 50	W Th 28:	B RT 1 496	13 0	TH 444 0	215 0	259 0	TH 175 0	95 0
Volume (vpl % Heavy ve PHF	n) eh		LT 232 0 0.90	EB TH 651 0	9 0 0.90	LT 50 0	W Th 281	B RT 496 0 0.90	13 0 0.90	TH 444 0 0.90	215 0 0.90	259 0 0.90	TH 175 0 0.90	95 0 0.90
Volume (vpł % Heavy ve PHF Actuated (P	n) eh /A)		LT 232 0 0.90 P	EB TH 651 0 0.90	9 0 0.90 P	LT 50 0 0.90	W Th 281 0	B	13 0 0.90 P	TH 444 0 0.90 P	215 0 0.90 P	259 0 0.90 P	TH 175 0 0.90	95 0 0.90 P
Volume (vpl % Heavy ve PHF Actuated (P Startup lost	n) eh /A) time		LT 232 0 0.90 P 2.0	EB TH 651 0 0.90 P 2.0	9 0 0.90 P 2.0	LT 50 0 0.90 P 2.0	W Th 28° 0 0.90	B -I RT -I 496	13 0 0.90 P 2.0	TH 444 0 0.90 P 2.0	215 0 0.90 P 2.0	259 0 0.90 P 2.0	TH 175 0 0.90 P 2.0	95 0 0.90 P 2.0
Volume (vph % Heavy ve PHF Actuated (P Startup lost Ext. eff. gree	n) eh /A) time		LT 232 0 0.90 P 2.0 2.0	EB TH 651 0 0.90 P 2.0	9 0 0.90 P 2.0 2.0	LT 50 0 0.90 P 2.0 2.0	W TH 281 0 0.90 P 2.0	B	13 0 0.90 P 2.0 2.0	TH 444 0 0.90 P 2.0 2.0	215 0 0.90 P 2.0 2.0	259 0 0.90 P 2.0 2.0	TH 175 0 0.90 P 2.0 2.0	95 0 0.90 P 2.0 2.0
Volume (vph % Heavy ve PHF Actuated (P Startup lost Ext. eff. gree Arrival type	n) eh /A) time		LT 232 0 0.90 P 2.0 2.0	EB TH 651 0 0.90 P 2.0 2.0 3	9 0 0.90 P 2.0 2.0 3	LT 50 0 0.90 P 2.0 2.0 3	W Th 28° 0 0.9° P 2.0° 2.0° 3	B RT 496 0 0.90 P 2.0 2.0 3	13 0 0.90 P 2.0 2.0	TH 444 0 0.90 P 2.0 2.0 3	215 0 0.90 P 2.0 2.0 3	259 0 0.90 P 2.0 2.0 3	TH 175 0 0.90 P 2.0 2.0 3	95 0 0.90 P 2.0 2.0
Volume (vph % Heavy ve PHF Actuated (Ph Startup lost Ext. eff. gree Arrival type Unit Extensi	n) eh /A) time en	put	LT 232 0 0.90 P 2.0 2.0 3 3.0	EB TH 651 0 0.90 P 2.0	9 0 0.90 P 2.0 2.0 3 3.0	LT 50 0 0.90 P 2.0 2.0 3 3.0	W TH 281 0 0.90 P 2.0	B -I RT -I 496	13 0 0.90 P 2.0 2.0 3 3.0	TH 444 0 0.90 P 2.0 2.0	215 0 0.90 P 2.0 2.0 3 3.0	259 0 0.90 P 2.0 2.0 3 3.0	TH 175 0 0.90 P 2.0 2.0	95 0 0.90 P 2.0 2.0 3 3.0
Volume (vph % Heavy ve PHF Actuated (P Startup lost Ext. eff. gree Arrival type Unit Extensi Ped/Bike/RT	n) eh /A) time	put	LT 232 0 0.90 P 2.0 2.0 3 3.0	EB TH 651 0 0.90 P 2.0 2.0 3 3.0	9 0.90 P 2.0 2.0 3 3.0	LT 50 0 0.90 P 2.0 2.0 3 3.0	W The 28 or 0 0.90 P 2.00 2.00 3 3.00	B -I RT -I 496	13 0 0.90 P 2.0 2.0 3 3.0	TH 444 0 0.90 P 2.0 2.0 3 3.0	215 0 0.90 P 2.0 2.0 3 3.0	259 0 0.90 P 2.0 2.0 3 3.0	TH 175 0 0.90 P 2.0 2.0 3 3.0	95 0 0.90 P 2.0 2.0 3 3.0
Volume (vph % Heavy ve PHF Actuated (P) Startup lost Ext. eff. gree Arrival type Unit Extensi Ped/Bike/RT Lane Width	n) eh /A) time en on FOR Volume	put	LT 232 0 0.90 P 2.0 2.0 3 3.0 0	EB TH 651 0 0.90 P 2.0 2.0 3	9 0.90 P 2.0 2.0 3 3.0 0	LT 50 0 0.90 P 2.0 2.0 3 3.0 0	W Th 28° 0 0.9° P 2.0° 2.0° 3	B -i RT 1 496 0 0.90 P 0 2.0 0 2.0 3 3 0 3.0 0 0 12.0	13 0 0.90 P 2.0 2.0 3 3.0 0	TH 444 0 0.90 P 2.0 2.0 3	215 0 0.90 P 2.0 2.0 3 3.0 0 12.0	259 0 0.90 P 2.0 2.0 3 3.0 0 12.0	TH 175 0 0.90 P 2.0 2.0 3	95 0 0.90 P 2.0 2.0 3 3.0 0
Volume (vph % Heavy ve PHF Actuated (PA Startup lost Ext. eff. gree Arrival type Unit Extensi Ped/Bike/RT Lane Width Parking (Y o	n) eh /A) time en on FOR Volume	put	LT 232 0 0.90 P 2.0 2.0 3 3.0	EB TH 651 0 0.90 P 2.0 2.0 3 3.0	9 0.90 P 2.0 2.0 3 3.0	LT 50 0 0.90 P 2.0 2.0 3 3.0	W The 28 or 0 0.90 P 2.00 2.00 3 3.00	B -I RT -I 496	13 0 0.90 P 2.0 2.0 3 3.0	TH 444 0 0.90 P 2.0 2.0 3 3.0	215 0 0.90 P 2.0 2.0 3 3.0	259 0 0.90 P 2.0 2.0 3 3.0	TH 175 0 0.90 P 2.0 2.0 3 3.0	95 0 0.90 P 2.0 2.0 3 3.0
Volume (vph % Heavy ve PHF Actuated (P) Startup lost Ext. eff. gree Arrival type Unit Extensi Ped/Bike/RT Lane Width Parking (Y o	n) eh /A) time en on FOR Volume	put	LT 232 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	EB TH 651 0 0.90 P 2.0 2.0 3 3.0	9 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	LT 50 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	W Th 28- 0 0.90 P 2.00 3 3.00	B	13 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	TH 444 0 0.90 P 2.0 2.0 3 3.0	215 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	259 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	TH 175 0 0.90 P 2.0 2.0 3 3.0	95 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N
Volume (vph % Heavy version PHF Actuated (Photograph Startup lost Ext. eff. greet Arrival type Unit Extensi Ped/Bike/RT Lane Width Parking (You Parking/hr Bus stops/hr	n) eh /A) time en on FOR Volume	put	LT 232 0 0.90 P 2.0 2.0 3 3.0 0	EB TH 651 0 0.90 P 2.0 2.0 3 3.0 12.0	9 0.90 P 2.0 2.0 3 3.0 0	LT 50 0 0.90 P 2.0 2.0 3 3.0 0	W 7H 281 0 0 0.90 P 2.00 3 3.00 12.00 0	B H RT 1 496 0 0.90 P 0 2.0 0 3.0 0 3.0 0 12.0 N	13 0 0.90 P 2.0 2.0 3 3.0 0	TH 444 0 0.90 P 2.0 2.0 3 3.0 12.0	215 0 0.90 P 2.0 2.0 3 3.0 0 12.0	259 0 0.90 P 2.0 2.0 3 3.0 0 12.0	TH 175 0 0.90 P 2.0 2.0 3 3.0	95 0 0.90 P 2.0 2.0 3 3.0 0
Volume (vph % Heavy version PHF Actuated (Photograph Startup lost Ext. eff. greet Arrival type Unit Extensi Ped/Bike/RT Lane Width Parking (You Parking/hr Bus stops/hr	n) eh /A) time en on FOR Volume	put	LT 232 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	EB TH 651 0 0.90 P 2.0 2.0 3 3.0 12.0 0 3.2	9 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	LT 50 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	W Th 28- 0 0.90 P 2.00 3 3.00	B -I RT -I 496	13 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	TH 444 0 0.90 P 2.0 2.0 3 3.0 12.0 0 3.2	215 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	259 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	TH 175 0 0.90 P 2.0 2.0 3 3.0 12.0	95 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N
Volume (vph % Heavy ve PHF Actuated (P Startup lost Ext. eff. gree Arrival type Unit Extensi Ped/Bike/RT	n) eh /A) time en on FOR Volume or N)	put EW F	LT 232 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	EB TH 651 0 0.90 P 2.0 2.0 3 3.0 12.0 0 3.2	9 0 0.90 P 2.0 3 3.0 0 12.0 N	LT 50 0 0.90 P 2.0 3 3.0 0 12.0 N	W 7H 281 0 0 0.90 P 2.00 3 3.00 12.00 0	B	13 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	TH 444 0 0.90 P 2.0 2.0 3 3.0 12.0 0 3.2 6 Perm	215 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	259 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	TH 175 0 0.90 P 2.0 2.0 3 3.0 12.0	95 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N
Volume (vph % Heavy version PHF Actuated (Photograph Startup lost Ext. eff. greet Arrival type Unit Extensi Ped/Bike/RT Lane Width Parking (You Parking/hr Bus stops/hr	n) eh /A) time en on FOR Volume	put	LT 232 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	EB TH 651 0 0.90 P 2.0 2.0 3 3.0 12.0 0 3.2	9 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	LT 50 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	W 7H 281 0 0 0.90 P 2.00 3 3.00 12.00 0	B -I RT -I 496	13 0 0.90 P 2.0 3 3.0 0 12.0 N o ft NS	TH 444 0 0.90 P 2.0 2.0 3 3.0 12.0 0 3.2	215 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N	259 0 0.90 P 2.0 3 3.0 0 12.0 N 0	TH 175 0 0.90 P 2.0 2.0 3 3.0 12.0	95 0 0.90 P 2.0 2.0 3 3.0 0 12.0 N

VOLUI	ME ADJ	USTM	ENT A	ND SA	ATURA	NOITA	FLOV	V RAT	E WOI	RKSHI	EET	
General Inform	ation				-							
Project Description		oute 10	6 (Lewis	sburg P	lke) TPI	7						
Volume Adjust	ment			T			Y			,		
		EB			WB			NB	r		SB	r
	LT	TH	RT	ĻΤ	TH	RT	LT	TH	RT	LT	TH	RT
Volume	232	651	9	50	281	496	13	444	215	259	175	95
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow Rate	258	723	10	56	312	551	14	493	239	288	194	106
Lane Group	L	T	R	L	T	R	L	Τ	R	L	T	R
Adj. flow rate	258	723	10	56	312	551	14	493	239	288	194	106
Prop. LT or RT	0.000		0.000	0.000		0.000	0.000		0.000	0.000		0.000
Saturation Flov	v Rate											
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Num. of lanes	1	2	1	2	2	1	1	2	1	2	2	1
fW	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
fH∨	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
fLU	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
fLT	0.950	1.000		0.950	1.000));	0.950	1.000		0.950	1.000	
Secondary fLT	0.492		.55	0.235		1992	0.472			0.435		
fRT		1.000	0.850	22	1.000	0.850		1.000	0.850		1.000	0.850
fLpb	1.000	1.000		1.000	1.000	(44))	1.000	1.000		1.000	1.000	
fRpb	*	1.000	1.000		1.000	1.000		1.000	1.000	1575	1.000	1.000
Adj. satflow	1805	3610	1615	3502	3610	1615	1805	3610	1615	3502	3610	1615
Sec. adj. satflow	935			868			897		(1603		

		С	APAC	ITY A	ND LO	s woi	RKSHE	EET							
General Informa	ation														
Project Description	State F	Route 10	06 (Lew	isburg F	Plke) TP	rR									
Capacity Analys	sis														
		EB			WB			NB			ŞB				
Lane group	L	T	R	L,	T	R	L	T	R	L	T	R			
Adj. flow rate	258	723	10	56	312	551	14	493	239	288	194	106			
Satflow rate	1805	3610	1615	3502	3610	1615	1805	3610	1615	3502	3610	1615			
Lost time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2,0	2.0	2.0			
Green ratio	0.56														
Lane group cap.	581														
v/c ratio	0.44	0.46 0.01 0.09 0.20 0.78 0.04 0.73 0.47 0.46 0.29 0.35 0.20 0.01 0.09 0.34 0.14 0.15 0.05 0.07													
Flow ratio		0.20 0.01 0.09 0.34 0.14 0.15 0.05 0.07 N N N N Y N Y N N N N													
Crit. lane group	N	N N N N Y N Y N N N													
Sum flow ratios		0.60													
Lost time/cycle		0.60 20.00													
Critical v/c ratio						0.	80								
Lane Group Ca _l	pacity,	Contr	ol Del	ay, an	d LOS	Deter	minati	on							
		EB			WB			NB			SB				
Lane group	L	T	R	L	T	R	L	T	R	L	T	R			
Adj. flow rate	258	723	10	56	312	551	14	493	239	288	194	106			
Lane group cap.	581	1579	707	653	1579	707	337	677	505	620	677	303			
v/c ratio	0.44	0.46	0.01	0.09	0.20	0.78	0.04	0.73	0.47	0.46	0.29	0.35			
Green ratio	0.56	0.44	0.44	0.56	0.44	0.44	0.31	0.19	0.31	0.31	0.19	0.19			
Unif. delay d1	11.0	15.8	12.7	8.7	13.9	19.2	19.2	30.6	22.2	21.4	27.9	28.3			
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50			
Increm. delay d2	2.5	1.0	0.0	0.3	0.3	8.3	0.2	6.8	3.2	2.5	1.1	3.2			
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Control delay	13.4	13.4 16.8 12.8 9.0 14.1 27.5 19.4 37.3 25.3 23.9 29.0										31.4			
Lane group LOS	В	B B B A B C B D C C C													
Apprch. delay	15.9 21.8 33.2 26.9														
Approach LOS		3			С			С			С				
Intersec. delay	23	3.5				Intersec	tion LOS	3			С				

SUPPLEMENTAL								T TURNS FRO ED PHASES	OM EXCLUSIVE
General Informati	on								
Project Description S	State R	oute 106 (Leu	isburg Plke) Ti	PR			
v/c Ratio Comput	ation								
				EB		Wi	В	NB	SB
Cycle length, C (s)							80	.0	
Prot. phase eff. green i	intvI, g	(s)		5.0	5.0)	5.0	5.0
Opposed queue eff. gr	een in	tvl, gq (s)		5.00		12.0	96	5.00	10.95
Unopposed green intvl	, gu (s)		35.00		27.9	4 15.00		9.05
Red time, r(s)						35.0	0	55.0	55.0
Arrival rate, qa (veh/s)		0.07			0.02	2	0.00	0.08	
Prot. phase departure	p (veh/s)		0.501		0.97	'3	0.501	0.973	
Perm. phase departure	ss (veh/s)		0.30		0.3	5	0.33	0.98	
Xperm				0.28		0.00	6 0.02		0.18
X _{prot} (N/A for lagging l	eft-turi	ns)		1.14		0.13	3	0.09	0.99
Uniform Queue Size a	and De	elay Comp	uta	tions					
Queue at start of greer	arrow	/, Qa		2.51		0.54	4	0.21	4.40
Queue at start of unsat Qu	urated	l green,		1.74		0.19	9	0.02	0.88
Residual queue, Qr				0.36		0.00)	0.00	0.00
Uniform delay, d1				11.0		8.7		19.2	21.4
Uniform Queue Size a			ion	S	_				
	Case	Qa		Qu		Qr		d1	
If Xperm <= 1.0 & Xprot <= 1.0	1	qar		q _a g _q		0	[0.5/(QaC q _{a)}	C)][rQa + Qa ^{2/(Sp - 0}	^q s) +gqQu + Qu ^{2/(S} s -
If Xperm <= 1.0 & Xprot > 1.0	Xperm <= 1.0 & Xprot 2				Q	a - g(Sp - Qa)	[0.5/(qa0 Qu ^{2/(} S _s - q		Qr) + g q (Qr + Qu) +
f Xperm > 1.0 & Xprot 3 Qr + Qa				ar qagq		u - gu(Ss - Qa)			
f X _{perm} <= 1.0 lagging lefts) 4 0				qa(r + gq)		0	[0.5/(qaC)][r + g _q)Q _u + Qu²	_{2/(} S _{s -} Q _{a)}
If X _{perm} > 1.0 (lagging lefts)	Qu - gu(Ss Qa)	-	qa(r + gq)	0		$[0.5/(q_aC)][r + g_q)Q_u + g_u(Q_u + Q_a) + Q_a^{2/(S_p)}$			

		ВА	CK-O	F-QUE	UE W	ORKS	SHEET	7				
General Informat	ion											
Project Description 3	State Route	e 106 (L	ewisbu	rg Plke) TPR							
Average Back of	Queue						r:			,		
	LT	EB	RT	LT	WB TH	RT	LT	NB TH	RT	LT	SB	RT
Lane group	L	T	R	L	T	R	L	T	R	L	T	R
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flow rate/lane	258	723	10	56	312	551	14	493	239	288	194	106
Satflow per lane	1032	1900	1615	598	1900	1615	1079	1900	1615	1022	1900	1615
Capacity/lane	581	1579	707	653	1579	707	337	677	505	620	677	303
Flow ratio	0.25	0.20	0.01	0.05	0.09	0.34	0.01	0.14	0.15	0.14	0.05	0.07
v/c ratio	0.44	0.46	0.01	0.09	0.20	0.78	0.04	0.73	0.47	0.46	0.29	0.35
l factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Arrival type	3	3	3	3	3	3	3	3	3	3	3	3
Platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF 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
Q1	2.6	5.9	0.1	0.3	2.2	10.5	0.2	5.4	4.3	2.3	1.9	2.0
kв	0.7	0.9	0.8	0.5	0.9	0.8	0.5	0.5	0.7	0.5	0.5	0.5
Q2	0.6	0.8	0.0	0.0	0.2	2.6	0.0	1.2	0.6	0.4	0.2	0.2
Q avg.	3.1	6.7	0.1	0.3	2.5	13.0	0.2	6.7	4.9	2.7	2.1	2.3
Percentile Back o	f Queue	(95th	perce	ntile)								
fB%	2.1	1.9	2.6	2.5	2.2	1.7	2.6	1.9	2.0	2.2	2.3	2.2
BOQ, Q%	6.7	12.5	0.4	0.8	5.5	21.8	0.6	12.4	9.6	6.0	4.8	5.1
Queue Storage Ra	atio											
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Q storage	0	0	0	0	0	0	0	0	0	0	0	0
Avg. Ra								,				
95% RQ%												

Copyright © 2000 University of Florida, All Rights Reserved

					LO	NG RI	EPC	DRT	_						
General Inf	ormation							nformat	ion						
Analyst		Brian	Gaffne	v						_					
Agency or C	CI	nard E	ngine					ection Type				6 & SF ther ar			
			ciates					rype diction				iner an of Fran			
Date Performant Time Period			/2008	<i>ا</i>				rsis Year				2033	,,,,,,		
		PIVI PI	opose	a			_								
intersection	n Geometry							-							
Grade = 0			1 2	2											
1			1 1	1											
		4	/ [-											
			т			0		•							
						Gra	ade =	0							
ı															
9	#					×		1							
i .						<u></u>		167							
2	→					-		2							
_						32X									
1						_		2							
,	•					7		-							
Grade = 0															
		_													
		-) I												
				ı		0	J	0							
						Gra	de =	U							
		1	2	1											
Volume and	d Timing In	out													
				EB			W	В	Ι		NB			SB	
			LT	TH	RT	LT	T	l RT		_T	TH	RT	LT	TH	RT
Volume (vph	1)		330	518	45	149	314	4 364	4	10	477	155	180	286	64
% Heavy ve	eh		0	0	0	0	0	0		0	0	0	0	0	0
PHF			0.90	0.90	0.90	0.90	0.9	0.90	0.	90	0.90	0.90	0.90	0.90	0.90
Actuated (P/	'A)		Р	Р	Р	P	Р	P		Р	Р	Р	Р	Р	Р
Startup lost t			2.0	2.0	2.0	2.0	2.0	2.0	2	.0	2.0	2.0	2.0	2.0	2.0
Ext. eff. gree	en		2.0	2.0	2.0	2.0	2.0			.0	2.0	2.0	2.0	2.0	2.0
Arrival type			3	3	3	3	3	3	_	3	3	3	3	3	3
Unit Extension			3.0	3.0	3.0	3.0	3.0	3.0	3	.0	3.0	3.0	3.0	3.0	3.0
Ped/Bike/RT	OR Volume		0		0	0		0		0		0	0		0
Lane Width			12.0	12.0	12.0	12.0	12.	0 12.0	12	2.0	12.0	12.0	12.0	12.0	12.0
Parking (Y o	r N)		Ν		N	N		N	1	٧		Ν	Ν		N
Parking/hr							Т		1						
Bus stops/hr			0	0	0	0	0	0	\top	0	0	0	0	0	0
Ped timing			Ť	3.2		Ť	_		+	_	3.2		Ť	3.2	<u> </u>
r eu ummg			<u></u>				3.2			_					
	Excl. Left	EW F		03		04		Excl. L			S Perm		07		80
Timing	G = 5.0	G = :		G =		G =		G = 5.0)		= 15.0	G =		G =	
9	Y = 5	Y = 8		Y =		Y =		Y = 5		Y =		Y =		Y =	
Duration of A			,-							10	le Leng	- AL- O -	70.0		

VOLUM	E ADJ	USTM	ENT A	ND S	ATURA	ATION	FLOV	V RAT	E WOI	RKSHI	EET	
General Informa	tion											
Project Description	State R	oute 10	6 (Lewi:	sburg P	lke) TPI	R						
Volume Adjustn	nent											
		EB			WB			NB		ļ	SB	
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Volume	330	518	45	149	314	364	40	477	155	180	286	64
PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow Rate	367	576	50	166	349	404	44	530	172	200	318	71
Lane Group	L	T	R	L	Ţ	R	L	T	R	L	Т	R
Adj. flow rate	367	576	50	166	349	404	44	530	172	200	318	71
Prop. LT or RT	0.000		0.000	0.000	124.0	0.000	0.000		0.000	0.000		0.000
Saturation Flow	Rate					-						
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Num. of lanes	1	2	1	2	2	1	1	2	1	2	2	1
fW	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
fH∨	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
fLU	1.00	0.95	1.00	0.97	0.95	1.00	1.00	0.95	1.00	0.97	0.95	1.00
fLT	0.950	1.000	312	0.950	1.000	240	0.950	1.000	-	0.950	1.000	142
Secondary fLT	0.450			0.283			0.401		99 44 8	0.429		::
fRT		1.000	0.850		1.000	0.850		1.000	0.850	S.F.	1.000	0.850
fLpb	1.000	1.000	i,i.u	1.000	1.000		1.000	1.000		1.000	1.000	Ý
fRpb	3 44 3	1.000	1.000		1.000	1.000		1.000	1.000	(mm)	1.000	1.000
Adj. satflow	1805	3610	1615	3502	3610	1615	1805	3610	1615	3502	3610	1615
Sec. adj. satflow	855		24	1045		122	763			1580		44

		С	APAC	ITY A	ND LO	S WO	RKSHI	EET							
General Informa	tion														
Project Description	State F	Route 10)6 (Lew	isburg F	Plke) TF	PR									
Capacity Analys	is														
		EB			WB			NB			SB				
Lane group	L	T	R	L	T	R	L	T	R	L	T	R			
Adj. flow rate	367	576	50	166	349	404	44	530	172	200	318	71			
Satflow rate	1805	3610	1615	3502	3610	1615	1805	3610	1615	3502	3610	1615			
Lost time	2.0														
Green ratio	0.50	5 1289 577 698 1289 577 347 774 577 701 774 346													
Lane group cap.	495	4 0.45 0.09 0.24 0.27 0.70 0.13 0.68 0.30 0.29 0.41 0.21													
v/c ratio	0.74	0.16 0.03 0.10 0.25 0.15 0.11 0.09 0.04													
Flow ratio		0.16 0.03 0.10 0.25 0.15 0.11 0.09 0.04 N N N N N Y N N N													
Crit. lane group	N	N N N N N Y N N N													
Sum flow ratios		0.55													
Lost time/cycle	0.55 15.00														
Critical v/c ratio						0.	70								
Lane Group Cap	acity,	Contr	ol Del	ay, an	d LOS	Deter	minati	on		2010					
		EB			WB			NB			SB				
Lane group	L	T	R	L	T	R	L	T	R	L	T	R			
Adj. flow rate	367	576	50	166	349	404	44	530	172	200	318	71			
Lane group cap.	495	1289	577	698	1289	577	347	774	577	701	774	346			
v/c ratio	0.74	0.45	0.09	0.24	0.27	0.70	0.13	0.68	0.30	0.29	0.41	0.21			
Green ratio	0.50	0.36	0.36	0.50	0.36	0.36	0.36	0.21	0.36	0.36	0.21	0.21			
Unif. delay d1	16.1	17.2	14.9	9.9	16.0	19.3	15.1	25.3	16.2	16.1	23.7	22.6			
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50			
Increm. delay d2	9.6	1.1	0.3	0.8	0.5	6.9	0.8	4.9	1.3	1.0	1.6	1.3			
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000			
Control delay	25.7											23.9			
Lane group LOS	C B B B C B C B C C														
Apprch. delay	20.9 19.7 26.4 22.4														
Approach LOS	(C B C C													
Intersec. delay	22	2.1				Intersec	tion LOS	3			С				

SUPPLEMENTAL								T TURNS FRO	OM EXCLUSIVE
General Informati	on								
Project Description S	State F	Route 106 (Lev	visburg Plke) TP	PR			
v/c Ratio Comput	ation								
				EB		WB		NB	SB
Cycle length, C (s)			70.0						
Prot. phase eff. green intvl, g (s)			5.0			5.0		5.0	5.0
Opposed queue eff. green intvl, gq (s)			5.11			9.11		5.64	10.09
Unopposed green intvl, gu (s)			24.89			20.89		14.36	9.91
Red time, r(s)			35.0			35.0		45.0	45.0
Arrival rate, qa (veh/s)			0.10			0.05		0.01	0.06
Prot. phase departure rate, sp (veh/s)			0.501			0.973		0.501	0.973
Perm. phase departure rate, ss (veh/s)			0.29			0.42		0.30	0.89
Xperm			0.43			0.16		0.06	0.13
X _{prot} (N/A for lagging left-turns)			1.63			0.38		0.24	0.57
Uniform Queue Size a	and De	elay Comp	uta	tions					
Queue at start of green arrow, Qa			3.57			1.61		0.55	2.50
Queue at start of unsaturated green, Qu				3.17		0.42		0.07	0.56
Residual queue, Qr				1.57		0.00)	0.00	0.00
Uniform delay, d1			16.1			9.9		15.1	16.1
Uniform Queue Size a									
	Case	Qa		Qu	_	Qr	d1		
If Xperm <= 1.0 & Xprot <= 1.0	1	qar		Qa g q		0	$[0.5/(q_aC)][rQ_a + Q_a^{2/(S_{p-}}q_s) + g_qQ_u + Q_u^{2/(S_s-q_a)}]$		
If Xperm <= 1.0 & Xprot > 1.0	2	qar		Qr + qagq		- g(Sp - Qa)	$[0.5/(q_aC)][rQ_a + g(Q_a + Q_r) + g_q(Q_r + Q_u) + Q_u^2/(s_s - q_a)$		
If Xperm > 1.0 & Xprot <= 1.0	3	Qr + qar		Qa Q q	Qu - gu(Ss - Qa)		[0.5/(qaC)][gqQu + gu(Qa + Qr) + r(Qr + Qa) + Qa ^{2/(S} p - qa)		
If X _{perm} <= 1.0 (lagging lefts)	4	0		qa(r + gq)	0		[0.5/(qaC)][r + gq)Qu + Qu ^{2/(\$s - qa)}		
If X _{perm} > 1.0 (lagging lefts)	5	Qu - gu(Ss - Qa)		qa(r + gq)		0	[0.5/(qaC)][r + gq)Qu + gu(Qu + Qa) + Qa ^{2/(Sp} - q _{a)}		

		ВА	CK-O	F-QUE	UE W	ORKS	SHEET	Γ				
General Information	on											
Project Description S	tate Route	∋ 106 (L	_ewisbu	ırg Plke) TPR							
Average Back of (Jueue											
	LT	EB TH	RT	LT	WB TH	l DT	1.7	NB	DT	1 -	SB TH	l DT
Lane group	L	T	R	L	T	RT R	LT L	TH T	RT R	LT L	T	RT R
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Flow rate/lane	367	576	50	166	349	404	44	530	172	200	318	71
Satflow per lane	991	1900	1615	720	1900	1615	971	1900	1615	1013	1900	1615
Capacity/lane	495	1289	577	698	1289	577	347	774	577	701	774	346
Flow ratio	0.37	0.16	0.03	0.12	0.10	0.25	0.05	0.15	0.11	0.10	0.09	0.04
v/c ratio	0.74	0.45	0.09	0.24	0.27	0.70	0.13	0.68	0.30	0.29	0.41	0.21
l factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000
Arrival type	3	3	3	3	3	3	3	3	3	3	3	3
Platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PF 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
Q1	3.8	4.5	0.6	0.8	2.5	6.7	0.6	5.0	2.4	1.3	2.8	1.1
kв	0.6	0.7	0.7	0.5	0.7	0.7	0.5	0.5	0.7	0.5	0.5	0.5
Q2	1.5	0.6	0.1	0.1	0.3	1.4	0.1	1.0	0.3	0.2	0.4	0.1
Q avg.	5.3	5.1	0.7	1.0	2.8	8.2	0.6	6.0	2.7	1.5	3,1	1.3
Percentile Back of	Queue	(95th	perce	ntile)								
fB%	1.9	2.0	2.5	2.4	2.2	1.8	2.5	1.9	2.2	2.3	2.1	2.4
BOQ, Q%	10.3	10.0	1.7	2.4	6.1	14.7	1.5	11.4	5.9	3.5	6.7	3.0
Queue Storage Ra	tio											
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0
Q storage	0	0	0	0	0 _	0	0	0	0	0	0	0
Avg. Ra												
95% Rq%												

HCS2000TM

Copyright © 2000 University of Florida, All Rights Reserved

Site Information Analyst Agency/Co. Clinard Engineering Agency/Co. Amalysis Time Period AM Amalysis Time Period AM Amalysis Time Period AM Amalysis Time Period AM Amalysis Time Period AM Amalysis Time Period AM Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Am Amalysis Time Period Amalysis Tim		TWO-	WAY STOP	CONTR	OL SI	UMI	MARY				
Ageircy/Co. Climate Engineering Ageircy/Co. Climate Engineering Aralysis Year 2033 Aralysis Time Period AM	General Information			Site I	nform	natio	on				
EastWest Street: Moss Lane North/South Struct: Lewisburg Pike Intersection Orientation: North-South Study Period (hrs): 0.25	Agency/Co. Date Performed	Clinard Eng 4/23/2008		Jurisdi	ction	r		City of Fr		Moss	;
North-South Study Period (hrs): 0.25 North-South Northbound	Project Description Sta	te Route 106 (L	Lewisburg Pike)	TPR							
Vehicle Volumes and Adjustments	East/West Street: Moss	Lane		North/S	South S	Stree	et: <i>Lewisl</i>	burg Pike			
Major Street	Intersection Orientation:	North-South		Study I	Period	(hrs): <i>0.25</i>				
Major Street	Vehicle Volumes and	d Adjustme	nts								
Column		•						Southboo	und		
Volume 20 964 0 0 552 11 Peak-Hour Factor, PHF 0.92 0.02 0	Movement	1	2	3			4	5		6	
Peak-Hour Factor, PHF 0.92		L	Т	R			L	Т		R	
Hourly Flow Rate, HFR											
Percent Heavy Vehicles			0.92	0.92	·			1		0.92	2
Median Type Undivided RT Channelized 0 0 2 0 Lanes 1 2 0 0 2 0 Configuration L T T TR TR Upstream Signal 0 0 0 0 1 TR Upstream Signal 0 29 0.92 <td< td=""><td></td><td>21</td><td>1047</td><td>0</td><td></td><td></td><td></td><td>599</td><td></td><td>11</td><td></td></td<>		21	1047	0				599		11	
RT Channelized		0					_				
Configuration					Undiv	ridec	1				
Configuration L T T T T T T T T T	RT Channelized										
Minor Street Westbound Eastbound Movement 7 8 9 10 11 12		1		0			0	 			
Minor Street Westbound Eastbound Movement 7 8 9 10 11 12 Volume L T R L T R Volume 0 0 0 53 0 29 Peak-Hour Factor, PHF 0.92 0.92 0.92 0.92 0.92 Hourly Flow Rate, HFR 0 0 0 57 0 31 Percent Heavy Vehicles 0 0 0 0 0 0 Percent Grade (%) 0 0 0 0 0 0 Percent Grade (%) 0 0 0 0 0 0 Flared Approach N N N N N N Storage 0 0 0 0 0 0 Lanes 0 0 0 0 0 0 Configuration 1 4 7 8 9 <td></td> <td>L</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>TR</td> <td></td>		L								TR	
Movement 7 8 9 10 11 12 Volume 0 0 0 53 0 29 Peak-Hour Factor, PHF 0.92	Upstream Signal		0					0			
L	Minor Street		Westbound					Eastbou	nd		
Volume 0 0 0 53 0 29 Peak-Hour Factor, PHF 0.92 <td< td=""><td>Movement</td><td>7</td><td>8</td><td>9</td><td></td><td></td><td>10</td><td>11</td><td></td><td>12</td><td></td></td<>	Movement	7	8	9			10	11		12	
Peak-Hour Factor, PHF 0.92		L	T	R			L	Т		R	
Hourly Flow Rate, HFR	Volume	0	0	0			53	0		29	
Percent Heavy Vehicles 0 0 0 0 0 Percent Grade (%) 0 0 0 0 Flared Approach N N N Storage 0	Peak-Hour Factor, PHF	0.92	0.92	0.92	'		0.92	0.92		0.92	2
Percent Grade (%) 0	Hourly Flow Rate, HFR	0	0	0			57	0		31	
N	Percent Heavy Vehicles	0	0	0			0	0		0	
Storage 0<	Percent Grade (%)		0					0			
RT Channelized	Flared Approach		N					N			
RT Channelized	Storage		0					0			
Lanes 0 <td></td> <td></td> <td></td> <td>0</td> <td></td> <td></td> <td></td> <td></td> <td>\neg</td> <td>0</td> <td></td>				0					\neg	0	
Configuration LR Delay, Queue Length, and Level of Service Approach NB SB Westbound Eastbound Movement 1 4 7 8 9 10 11 12 Lane Configuration L Image: Configuration of the con		0	0				0	0	_		
Delay, Queue Length, and Level of Service Approach NB SB Westbound Eastbound Movement 1 4 7 8 9 10 11 12 Lane Configuration L Image: Configuration of the configuration of the			 	ľ	-				-		
Approach NB SB Westbound Eastbound Movement 1 4 7 8 9 10 11 12 Lane Configuration L L LR LR LR LR LR S8 C (m) (vph) 979 250 CO <td< td=""><td><u> </u></td><td>ed Lovel of Co</td><td><u> </u></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td<>	<u> </u>	ed Lovel of Co	<u> </u>								
Movement 1 4 7 8 9 10 11 12 Lane Configuration		1			Maatha		<u> </u>		- oothour	. d	
Lane Configuration L LR v (vph) 21 88 C (m) (vph) 979 250 v/c 0.02 0.35 95% queue length 0.07 1.52 Control Delay 8.8 27.0 LOS A D Approach Delay	· ·					Juno				iu I	40
v (vph) 21 88 C (m) (vph) 979 250 v/c 0.02 0.35 95% queue length 0.07 1.52 Control Delay 8.8 27.0 LOS A D Approach Delay			4	/	8		9	10		_	12
C (m) (vph) 979 250 v/c 0.02 0.35 95% queue length 0.07 1.52 Control Delay 8.8 27.0 LOS A D Approach Delay								<u> </u>		4_	
v/c 0.02 0.02 0.35 95% queue length 0.07 1.52 Control Delay 8.8 27.0 LOS A D Approach Delay	` ' '	21							88		
95% queue length 0.07 1.52 Control Delay 8.8 27.0 LOS A D Approach Delay	C (m) (vph)	979							250		
Control Delay 8.8 27.0 LOS A D Approach Delay	v/c	0.02							0.35		
Control Delay 8.8 27.0 LOS A D Approach Delay	95% queue length	0.07	İ						1.52		
LOS			İ							十	
Approach Delay 27.0	•					\dashv				\dashv	
Approach LOS D								-			
Rights Reserved	··-								υ		

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UMI	MARY				
General Information			Site I	nform	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard Eng 4/23/2008 PM		Interse Jurisdi Analys	ction	r		Lewisbur City of Fr 2033		Мс	SS
Project Description Sta	te Route 106 (L	ewisburg Pike)	TPR							
East/West Street: Moss	Lane		North/S	South S	Stree	et: <i>Lewisl</i>	burg Pike			
Intersection Orientation:	North-South		Study I	Period	(hrs): <i>0.25</i>				
Vehicle Volumes an	d Adjustme	nts								
Major Street	<u> </u>	Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
Volume	11	519	0			0	1025			21
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92			92
Hourly Flow Rate, HFR	11	564	0			0	1114		2	22
Percent Heavy Vehicles	0					0				
Median Type				Undiv	<i>ridec</i>	1				
RT Channelized		<u> </u>	0							0
Lanes	1	2	0			0	2			0
Configuration	L	Τ					T		7	R
Upstream Signal		0					0			
Minor Street		Westbound					Eastbou	nd		
Movement	7	8	9			10	11			12
	L	Т	R			L	Т			R
Volume	0	0	0			15	0		2	29
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.	92
Hourly Flow Rate, HFR	0	0	0			16	0		3	31
Percent Heavy Vehicles	0	0	0			0	0		(0
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0				1	\neg		0
Lanes	0	0	0			0	0	$\overline{}$		0
Configuration		 	Ť				LR	_		
Delay, Queue Length, a	ad Lovel of Co	nvioo					Lit			
Approach	NB NB	SB		Westbo	aun o	1	Т .	Eastbou		
· · ·				ır	Junio		 		IU	-10
Movement	1	4	7	8		9	10	11	4	12
Lane Configuration	L							LR	4	
v (vph)	11	ļ						47		
C (m) (vph)	622							244		
v/c	0.02							0.19	T	
95% queue length	0.05	Ì						0.70	寸	
Control Delay	10.9	1			\neg			23.2	十	
LOS	В	-			\dashv		 	C	十	
		-					 	23.2		
Approach Delay							-			
Approach LOS Rights Reserved							L	С		

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	SUM	IMARY				
General Information	n		Site	Infori	mat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 AM	ney gineering	Interse Jurisd	ection			Lewisbur City of F 2033			Poplar
	tate Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Pop			North/	South	Stre	et: <i>Lewis</i>	sburg Pike			
Intersection Orientation:	North-South		Study	Period	d (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	T	R			_ <u>L</u>	T			R
Volume	21	1025	0			0	559			11
Peak-Hour Factor, PHF	0.92 22	0.92	0.92	2		0.92	0.92).92 11
Hourly Flow Rate, HFR	<u>.</u>	1114	0		_	0	607			
Percent Heavy Vehicles	0			Undi	uido.	0				
Median Type RT Channelized	 	Γ	1 0	Unai	viaed	J	1	1		0
Lanes	1	2	0			0	2			0
Configuration	L	T	, o			<u> </u>	T	\dashv		TR
Upstream Signal	<u> </u>	0			_		0	\dashv		IΠ
Minor Street	1	Westbound	<u>. </u>				Eastbou	ınd		
Movement	7	8	9			10	11	ina I		12
Movement	1	T	R			 	T			R
Volume	0	0	0			8	0			5
Peak-Hour Factor, PHF		0.92	0.92)		0.92	0.92		0	.92
Hourly Flow Rate, HFR	0	0	0.02	-		8	0.02			5
Percent Heavy Vehicles		0	0			0	0			0
Percent Grade (%)		0				-	0	<u> </u>		_
Flared Approach		<u> </u>	Î				l N			
Storage		0	 				0			
RT Channelized	1	<u> </u>	0							0
	0	0	0			0	0			0
Lanes Configuration	0	"	0			0	LR			U
	<u> </u>	<u> </u>					<u>Ln</u>			
Delay, Queue Length,	i i	The state of the s		٠٨/ ا		1	1 ,		al	
Approach	NB	SB		Westb		i		Eastb		- 10
Movement	1	4	7	8		9	10	1		12
Lane Configuration	L							LF	7	
v (vph)	22							13	3	
C (m) (vph)	972							24	13	
v/c	0.02							0.0	05	
95% queue length	0.07			ĺ				0.1	17	
Control Delay	8.8			Ì				20	.7	
LOS	A						<u> </u>	C		
Approach Delay				<u> </u>			 	20.		
Approach LOS							 	C		
Approact Loo		right © 2003 Univers		4 11 D' 1	. D		<u> </u>			Version 4.1d

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	SUN	IMARY				
General Information	on		Site	nfor	mat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 PM	ney gineering	Interse Jurisd Analys	ection iction			Lewisbur City of F 2033			Poplar
	State Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Pop			North/	South	Stre	et: <i>Lewis</i>	sburg Pike			
Intersection Orientation	: North-South		Study	Period	d (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	T	R			_ <u>L</u>	T			R
Volume	11	552	0	$\overline{}$		0	1038			21
Peak-Hour Factor, PHF	0.92 11	0.92	0.92	<u>'</u>		0.92	0.92			0.92
Hourly Flow Rate, HFR		599	0		_	0	1128	\dashv		22
Percent Heavy Vehicles	0			Undi	uida	0				
Median Type RT Channelized	 	Γ	<u> </u>	Unai	viae	J	1	1		0
Lanes	1	2	0			0	2	\dashv		0
Configuration	L	T	0			<u> </u>	T	\dashv		TR
Upstream Signal	<u> </u>	0			_		0	$\overline{}$		In
Minor Street	1	Westbound	<u>. </u>				Eastbou	ınd		
Movement	7	8	9			10	11	ina T		12
iviovernerit	1	T	R			 L	T T	-		R
Volume	0	0	0			2	0	\dashv		5
Peak-Hour Factor, PHF		0.92	0.92	,		0.92	0.92	$\overline{}$	0	0.92
Hourly Flow Rate, HFR		0	0			2	0	一十		5
Percent Heavy Vehicles		0	0			0	0			0
Percent Grade (%)		0					0			
Flared Approach		l N					l N	ſ		
Storage		0					0			
RT Channelized		 	0				-	\dashv		0
	0	0	0			0	0	-		0
Lanes Configuration	U	,	0			U	LR	-		U
			<u> </u>				LII			
Delay, Queue Length, Approach	NB	SB		Westb	OLID!		1 .	Eastb	aund	
· · ·				î .			-			40
Movement	1	4	7	8		9	10		1	12
Lane Configuration	L						ļ	LI		
v (vph)	11						<u> </u>	-	7	
C (m) (vph)	615							25	6	
v/c	0.02							0.0	03	
95% queue length	0.05							0.0	08	
Control Delay	11.0							19	.5	
LOS	В							(
Approach Delay							<u> </u>	19.		<u> </u>
Approach LOS							 	C		
HCS2000TM		right © 2003 Univers	C.E 1.	A11 D1 . 1	D	1				Version 4 1d

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	UM	MARY				
General Information			Site I	nform	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffr Clinard Eng 4/23/2008 AM		Interse Jurisdi Analys	ction	r		Lewisbur City of Fr 2033		Solon	nan
Project Description Sta	te Route 106 (L	Lewisburg Pike)	TPR							
East/West Street: Solom	an Drive	<u> </u>	North/S	South S	Stree	et: <i>Lewisi</i>	burg Pike			
Intersection Orientation:	North-South		Study I	Period	(hrs): <i>0.25</i>				
Vehicle Volumes an	d Adiustme	nts								
Major Street		Northbound		П			Southbo	und		
Movement	1	2	3			4	5		6	
	L	Т	R			L	T		R	
Volume	21	1038	0			0	571		12	
Peak-Hour Factor, PHF	0.92	0.92	0.92	· Í		0.92	0.92		0.92	
Hourly Flow Rate, HFR	22	1128	0			0	620		13	
Percent Heavy Vehicles	0					0				
Median Type			/	Undiv	/idec	d		-		
RT Channelized			0				1		0	
Lanes	1	2	0			0	2		0	
Configuration	L	T					T		TR	
Upstream Signal		0		$\neg \uparrow$			0			
Minor Street		Westbound		Î			Eastbou	nd		
Movement	7	8	9			10	11		12	
	L	T	R			L	T	-	R	
Volume	0	0	0			25	0	-	14	
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92	_	0.92	
Hourly Flow Rate, HFR	0	0	0.02			27	0		15	
Percent Heavy Vehicles	0	0	0			0	0		0	
Percent Grade (%)		0	<u> </u>				0	!		
Flared Approach		l N	1				l N	$ \Gamma$		
• • • • • • • • • • • • • • • • • • • •				-						
Storage		0	ļ				0			
RT Channelized			0						0	
Lanes	0	0	0			0	0		0	
Configuration							LR			
Delay, Queue Length, ar	nd Level of Se	rvice								
Approach	NB	SB	,	Westbo	ounc	d		Eastbour	ıd	
Movement	1	4	7	8		9	10	11		12
Lane Configuration	L							LR	丁	
v (vph)	22	 						42	_	
	960						+	230	+	
C (m) (vph)								·	-	
v/c	0.02							0.18	+	
95% queue length	0.07						ļ	0.65		
Control Delay	8.8							24.1		
LOS	Α							С		
Approach Delay						-	ĺ	24.1		
Approach LOS							1	С		
Rights Reserved	<u> </u>	.								

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	SUN	IMARY				
General Information	on		Site	nfor	mat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 PM	ney gineering	Interse Jurisd Analys	iction	ar		Lewisbur City of F 2033			Soloman
	State Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Solo	oman Drive		North/	South	Stre	et: <i>Lewis</i>	sburg Pike			
Intersection Orientation	: North-South		Study	Period	d (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	Т			R
Volume	11	559	0			0	1060			22
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92			0.92
Hourly Flow Rate, HFR	11	607	0		_	0	1152			23
Percent Heavy Vehicles	0			11"	•	0		Į		
Median Type	 			Undi	vide	<u>a</u>	1	1		_
RT Channelized	1	ļ	0							0
Lanes	1	2	0			0	2			0
Configuration	L	T	<u> </u>				T			TR
Upstream Signal	<u> </u>	0					0			
Minor Street	<u> </u>	Westbound				4.0	Eastbou	ınd		10
Movement	7	8	9			10	11	\rightarrow		12
	L	T	R			<u> </u>	T			R
Volume	0	0	0			7	0			14
Peak-Hour Factor, PHF		0.92	0.92	<u>:</u>		0.92	0.92	\dashv		1.92
Hourly Flow Rate, HFR		0	0			7	0			15 0
Percent Heavy Vehicles	0		U			0	0			U
Percent Grade (%)		0	1				1	Т		
Flared Approach		N	<u> </u>				N			
Storage		0					0			
RT Channelized		ļ	0							0
Lanes	0	0	0			0	0			0
Configuration							LR			
Delay, Queue Length,	and Level of S	ervice								
Approach	NB	SB	,	Westb	ound	b	Į į	Eastbo	ound	
Movement	1	4	7	8		9	10	1.	1	12
Lane Configuration	L							LF	?	
v (vph)	11	ĺ						22	?	
C (m) (vph)	602						1	23	5	
v/c	0.02						 	0.0		
95% queue length	0.06							0.3		
Control Delay	11.1						 	21.		
	B						 			
LOS								<u>C</u>		
Approach Delay								21.9	1	
Approach LOS		right © 2003 Univers	· CE · 1	A 11 D' 1	. D			С		Version 4 1d

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL SU	MARY			
General Informatio	n		Site	nforma	tion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 AM Propo	ngineering I	Interse Jurisdi Analys			Lewisbur Peytons City of F 2033		
Project Description St	ate Route 106	(Lewisburg Pike) TPR					
East/West Street: Old I				South Str	eet: Lewis	burg Pike		
Intersection Orientation:	North-South			Period (h				
Vehicle Volumes ar	nd Adjustme	ents						
Major Street		Northbound				Southbo	und	
Movement	1	2	3		4	5		6
	<u> </u>	T	R		<u> </u>	Т		R
Volume	0	1047	32		53	432		0
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR Percent Heavy Vehicles	0	1138	34	_	57	469	_	0
	0			I I a alla dal	0			
Median Type RT Channelized			1 0	Undivide	ea	T		
	0	+	0			+		0
_anes Configuration	+ · ·	2 T	0 TR		1 L	2 T		0
Jpstream Signal	-	0	1R		L	0		
Minor Street	+	Westbound					un d	
Movement	7	vesibound 8	T 9		10	Eastbou 11	una	12
viovernent	L	T	R			 ''	_	R
/olume	5	0	21			0		0
Peak-Hour Factor, PHF	0.92	0.92	0.92	, -	0.92	0.92		0.92
Hourly Flow Rate, HFR	5	0.32	22		0.92	0.92		0.32
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0	<u> </u>			0		
Flared Approach		T N				TN	-	
Storage		0		_		1 0		
RT Channelized		 	+			- 0		
	 		0			 		0
anes Configuration	0	LR	0		0	0		0
	11 1 10	-						
Delay, Queue Length, a						T -	E	
Approach	NB	SB		Westbour		+	Eastboun	
Movement	1	4	7	8	9	10	11	12
ane Configuration		L		LR	ļ			
(vph)		57		27				
C (m) (vph)		603		280				
r/c		0.09		0.10				
95% queue length		0.31		0.32				
Control Delay		11.6		19.2				
.os		В		С				1
Approach Delay				19.2		1		
Approach LOS				C		+		
ights Reserved	Priset		<u> </u>			1		

Version 4.1d

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	D-WAY STOF	CONTR	OL SU	JMMAR	Υ			
General Informatio	n		Site I	nform	ation				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gai Clinard E 4/23/2008 PM Propo	ngineering 3	Interse Jurisdi Analys				Lewisbu Peytons City of F 2033		
Project Description St			e) TPR						
East/West Street: Old I					treet: Le		urg Pike		
Intersection Orientation:			Study	Period	(hrs): 0.2	25			
Vehicle Volumes ar	nd Adjustm	ents		5.02					
Major Street		Northbound					Southbo	und	
Movement	1	2	3		4		5		6
77	L	T	R		L	\dashv	T		R
Volume	0	569	12	\rightarrow	18	\dashv	884		0
Peak-Hour Factor, PHF	0.92	0.92	0.92	<u>:</u>	0.92		0.92		0.92
Hourly Flow Rate, HFR	0	618	13		19	_	960		0
Percent Heavy Vehicles	0	201	192	11 11	0				
Median Type RT Channelized			1 0	Undiv	aea				
	 		0						0
Lanes	0	2	0		1		2		0
Configuration	1	T	TR		L		T		_
Upstream Signal	4	0					0		
Minor Street	<u> </u>	Westbound					Eastbo	und	10
Movement	7	8	9		10	_	11		12
	L	Т	R		L		T		R
Volume	11	0	37		0	_	0		0
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	_	0.92		0.92
Hourly Flow Rate, HFR	11	0	40		0	_	0		0
Percent Heavy Vehicles	0	0	0		0		0		0
Percent Grade (%)		0		_			0		
Flared Approach		N				_	N		
Storage		0					0		
RT Channelized			0						0
Lanes	0	0	0		0		0		0
Configuration		LR							
Delay, Queue Length, a	nd Level of S	ervice							
Approach	NB	SB		Westbo	und			Eastbour	nd
Movement	1	4	7	8	9	一	10	11	12
ane Configuration		L		LR		\neg			1
v (vph)		19		51		_		İ -	
C (m) (vph)		961		442		\dashv			+
//C		0.02	-	0.12		-		 	+
		0.02						1	+
95% queue length				0.39		-		ļ	+
Control Delay		8.8		14.2	_			-	_
LOS		Α		В					
Approach Delay		(22)		14.2					
Approach LOS	(44)	: 4 = :		В					

 $HCS2000^{\mathsf{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UMI	MARY			
General Informati	on		Site I	nforn	natio	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Er 4/23/2008 AM Propo	ngineering	Interse Jurisdi Analys	ction	ır		Lewisbur City of Fr 2033	rg Pike & ranklin	Henpeck
Project Description S	State Route 106	(Lewisburg Pike) TPR						
East/West Street: Her			North/	South:	Stree	t: <i>Lewis</i>	burg Pike		
Intersection Orientation	n: North-South		Study	Period	(hrs)	: 0.25			
Vehicle Volumes a	and Adjustme	ents							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
Wiscons and the second	L	Т	R			L	Т		R
Volume	135	766	11			18	386		68
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR		832	0			0	419		73
Percent Heavy Vehicles	s 0	*				0			
Median Type				Undi	vided				
RT Channelized			0						0
Lanes	1	2	0			0	2		0
Configuration	L	T					T		TR
Upstream Signal		0					0		
Minor Street		Westbound					Eastbou	ınd	
Movement	7	8	9			10	11		12
	L	T	R			L	Т		R
Volume	1	0	6			126	0		167
Peak-Hour Factor, PHF		0.92	0.92		(0.92	0.92		0.92
Hourly Flow Rate, HFR		0	0			136	0		181
Percent Heavy Vehicles	s 0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized			0				1		0
Lanes	0	0	0	$\overline{}$		1	0	_	1
Configuration			<u> </u>	_		Ĺ	† Ť		R
Delay, Queue Length,	and Lovel of Se	rvice							
Approach	NB NB	SB	,	Westbo	ound		T -	Eastboun	d
								Y	
Movement	1	4	7	8	_	9	10	11	12
Lane Configuration	L						L	ļ	R
v (vph)	146						136		181
C (m) (vph)	1082						165		760
v/c	0.13						0.82		0.24
95% queue length	0.47						5.56		0.93
Control Delay	8.8				一		85.5		11.2
LOS	A				\dashv		F		В
Approach Delay							†	43.1	
Approach LOS				-			 	43.1 E	
Rights Reserved								E	

Version 4.1d

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	D-WAY STOP	CONTR	OL S	UMMARY		9	
General Information	on		Site I	nform	nation			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gai Clinard E 4/23/2008 PM Propo	ngineering 3	Interse Jurisdio Analysi	ction	r	Lewisbur City of Fr 2033	g Pike & I ranklin	Henpeck
Project Description S) TPR					
East/West Street: Her				South S	Street: Lewis	sbura Pike		
Intersection Orientation	: North-South				(hrs): 0.25			
Vehicle Volumes a	and Adjustm	ents			V			
Major Street		Northbound		Т		Southbo	und	
Movement	1	2	3		4	5		6
	L _o	T	R		L	Т		R
Volume	107	379	11		18	776		67
Peak-Hour Factor, PHF		0.92	0.92		0.92	0.92		0.92
Hourly Flow Rate, HFR		411	0		0	843		72
Percent Heavy Vehicles	s 0	27			0	199		
Median Type				Undiv	rided			
RT Channelized			0					0
Lanes	1	2	0		0	2		0
Configuration	Ļ	T				T		TR
Upstream Signal		0				0		
Minor Street	l.	Westbound				Eastbou	ınd	
Movement	7	8	9		10	11		12
	L	T	R		L	Т		R
Volume	1	0	6		74	0		165
Peak-Hour Factor, PHF		0.92	0.92		0.92	0.92		0.92
Hourly Flow Rate, HFR		0	0		80	0		179
Percent Heavy Vehicles	s 0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0	1			0		
RT Channelized			O			1		0
Lanes	0	0	0		1	0		1
Configuration					L			R
Delay, Queue Length,	and level of S	ervice	*					
Approach	NB NB	SB	1	Westbo	ound	T	Eastboun	4
Movement	1	4	7	8	9	10	11	12
		4	- 1	\vdash	9		+	
ane Configuration	L					L	_	R
/ (vph)	116					80	ļ	179
C (m) (vph)	754					129		555
r/c	0.15					0.62		0.32
95% queue length	0.54					3.21		1.39
Control Delay	10.6					70.3		14.5
OS	В					F		В
Approach Delay	-					1	31.8	
Approach LOS						+	D	
ights Reserved			,				<u> </u>	

 $HCS2000^{\mathrm{TM}}$

Version 4.1d

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UN	IMARY			
General Information	on		Site I	nforr	nat	ion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 AM	ngineering	Interse Jurisdi Analys	ction	ar		Lewisbui Glenn City of Fi 2033		d Douglas
Project Description 5	State Route 106	6 (Lewisburg Pi	ke) TPR						
East/West Street: Dou				South	Stre	et: <i>Lewis</i>	sburg Pike		
Intersection Orientation	n: North-Souti	h	Study	Perioc	l (hr	s): <i>0.25</i>			
Vehicle Volumes a	and Adjustm	nents							
Major Street	1	Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	T	R			L	Т		R
Volume	17	828	0			0	446		9
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR		899	0			0	484		9
Percent Heavy Vehicles	s 0					0			
Median Type				Undi	vide	d			
RT Channelized			0						0
Lanes	1	2	0			0	2		0
Configuration	L	T	ļ				Т		TR
Upstream Signal	<u> </u>	0					0		
Minor Street	_	Westbound					Eastbou	ınd	
Movement	7	8	9			10	11		12
	L	Т	R			L	Т		R
Volume	0	0	0			16	0		9
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR		0	0			17	0		9
Percent Heavy Vehicle	s 0	0	0			0	0		0
Percent Grade (%)		0	1				0	- 1	
Flared Approach		N	<u> </u>				N		
Storage		0					0		
RT Channelized			0						0
Lanes	0	0	0			0	0		0
Configuration							LR		
Delay, Queue Length,	and Level of	Service							
Approach	NB	SB	,	Westb	ound	b	[Eastbour	nd
Movement	1	4	7	8		9	10	11	12
Lane Configuration	L							LR	
v (vph)	18						†	26	
C (m) (vph)	1081							325	
v/c	0.02			\vdash			 	0.08	_
95% queue length	0.02							0.26	
							-		
Control Delay	8.4						-	17.0	_
LOS	Α			<u></u>				С	
Approach Delay								17.0	
Approach LOS								С	
HCS2000 TM	Cor	yright © 2003 Univer	sity of Florida.	All Righ	its Res	served			Version 4.1

 $HCS2000^{\rm TM}$

	TWO	-WAY STOP	CONTR	OL S	UM	MARY				
General Information	n		Site I	nforn	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 PM	ngineering	Interse Jurisdi Analys	ction	ır		Lewisbur Glenn City of Fr 2033	_	& Do	uglas
Project Description St	ate Route 106	Lewisburg Pike) TPR							
East/West Street: Doug				South	Stree	et: <i>Lewisi</i>	burg Pike			
Intersection Orientation:	North-South		Study	Period	(hrs): <i>0.25</i>				
Vehicle Volumes ar	nd Adjustme	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	T			R
Volume	9	446	0			0	828			17
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92			.92
Hourly Flow Rate, HFR	9	484	0			0	899			18
Percent Heavy Vehicles	0				<u> </u>	. 0				
Median Type	ļ		1 -	Undi	vided	d	1	1		_
RT Channelized	ļ.,,		0				<u> </u>			0
Lanes	1	2	0			0	2			0
Configuration	L	T					T		I	TR
Upstream Signal		0					0			
Minor Street	<u> </u>	Westbound	1 -				Eastbou	ınd		
Movement	7	8	9			10	11			12
	L	Т	R			L	T			R
Volume	0	0	0			13	0			7
Peak-Hour Factor, PHF	0.92	0.92	0.92	<u>. </u>		0.92	0.92			92
Hourly Flow Rate, HFR	0	0	0			14	0			7
Percent Heavy Vehicles	0	0	0			0	0			0
Percent Grade (%)		0	1				0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration							LR			
Delay, Queue Length, a	and Level of So	ervice								
Approach	NB	SB		Westb	ound	d		Eastbou	nd	
Movement	1	4	7	8		9	10	11		12
Lane Configuration	L							LR	一	
v (vph)	9					i	† 	21	十	
C (m) (vph)	<i>752</i>							240	十	
v/c	0.01						 	0.09	\dashv	
95% queue length	0.04						 	0.03	\rightarrow	
									_	
Control Delay	9.8							21.4	_	
LOS	Α						ļ	С		
Approach Delay							<u> </u>	21.4		
Approach LOS								С		
Rights Reserved										

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL SU	MMARY			
General Information	1		Site	nforma	ation			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard En 4/23/2008 AM Propo	gineering sed	1 -			Lewisbur City of Fr 2033	g Pike & I ranklin	Ellington
Project Description Sta	ite Route 106 (Lewisburg Pike						
East/West Street: Elling					reet: <i>Lewis</i>	sburg Pike		
Intersection Orientation:	North-South		Study	Period (h	nrs): <i>0.25</i>			
Vehicle Volumes an	d Adjustme	nts						
Major Street		Northbound				Southbo	und	
Movement	1	2	3		4	5		6
	L	T	R		L	Т		R
Volume	45	827	17		4	394		22
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	0	898	18		4	428		0
Percent Heavy Vehicles	0				0	188		
Median Type				Ųndivid	led			
RT Channelized			0					0
Lanes	0	2	0		1	2		0
Configuration		T	TR		L	T		
Upstream Signal		0		1_		0		
Minor Street		Westbound				Eastbound		
Movement	7	8	9		10	11		12
	L	T	R		L	Т		R
Volume	28	0	23	23 12		0		16
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	30	0	24		0	0		0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
Lanes	0	0	0		0	0		0
Configuration	ı	LR	Ť			+ · ·		
Delay, Queue Length, a	ad Laval of Ca					1		
Approach	NB NB	SB		\		Т		
				Westbou			Eastboun	
Movement	1	4	7	8	9	10	11	12
Lane Configuration		L		LR				
v (vph)		4		54				
C (m) (vph)		753		279				
//c		0.01		0.19				
95% queue length		0.02		0.70	-i			1
Control Delay		9.8	-	21.0				
LOS		A.	-	C C		+	 	+
	-			21.0		-		
Approach Delay		2 52 1				114		
Approach LOS	1.	(dh)	С					

HCS2000TM Version 4.1d

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UM	MARY			
General Information			Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008	ngineering }	Interse Jurisdi Analys		r		Lewisbu City of F 2033	rg Pike & l ranklin	Ellington
Project Description Sta) TPR		_				
East/West Street: Elling		(======================================		South S	Stree	et: Lewis	bura Pike		
Intersection Orientation:				Period					
Vehicle Volumes an	d Adjustme	ents			.,				
Major Street	1	Northbound					Southbo	ound	
Movement	1	2	3			4	5		6
	L	Т	R			L	T		R
Volume	45	436	18			28	900		22
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	473	19			30	978		0
Percent Heavy Vehicles	0					0	188		HH.
Median Type				Undiv	/idec	1			
RT Channelized			0						0
Lanes	0	2	0			1	2		0
Configuration		T	TR			L	T		
Upstream Signal		0					0		
Minor Street		Westbound					Eastbound		
Movement	7	8	9			10	11		12
	L L	Т	R			L	T		R
Volume	27	0	25			12	0		16
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.92
Hourly Flow Rate, HFR	29	0	27			0	0		0
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized			0						0
Lanes	0	0	0			0	0		0
Configuration		LR							
Delay, Queue Length, a	nd Level of S								
Approach	NB I	SB		Westbo	วนทด	1		Eastboune	<u></u>
Movement	1	4	7	8		9	10	11	12
Lane Configuration		L		LR			1	 	+ '-
				_	_		-		+-
v (vph)		30		56	_		ļ	1	+
C (m) (vph)		1082		342	_			1	+
v/c		0.03		0.16	_				
95% queue length		0.09		0.58	3				
Control Delay		8.4		17.6	3				
LOS		Α		С					
Approach Delay	**:	(***)		17.6	5				
Approach LOS				С					
Rights Reserved									

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL SU	MMARY			
General Information	n		Site I	nforma	tion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 AM Propo	ngineering I	Interse Jurisdi Analys			Lewisbur Georges City of Fr 2033		St
Project Description Si	tate Route 106	(Lewisburg Pike						
East/West Street: St. C			North/	South Str	eet: Lewis	sburg Pike		
Intersection Orientation:			Study	Period (h	rs): 0.25	*****		
Vehicle Volumes a	nd Adjustme	ents						
Major Street		Northbound				Southbo	und	
Movement	1	2	3		4	5		6
	L	Т	R		L	Т		R
Volume	45	919	9		8	410		22
Peak-Hour Factor, PHF	0.92	0.92	0.92	?	0.92	0.92		0.92
Hourly Flow Rate, HFR	0	998	9		8	445		0
Percent Heavy Vehicles	0	221			0			
Median Type				Undivid	ed			
RT Channelized	<u> </u>		0					0
anes	0	2	0		1	2		0
Configuration		T	TR		L	T		
Jpstream Signal		0				0		
Minor Street		Westbound		Eas			ınd	
Movement	. 7	8	9		10	11		12
	L.	T	R		L.	T		R
Volume	15	0	37		12	0		16
Peak-Hour Factor, PHF	0.92	0.92	0.92		0.92	0.92		0.92
Hourly Flow Rate, HFR	16	0	40		0	0		0
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
anes	0	0	0		0	0		0
Configuration		LR						
Delay, Queue Length, a	and Level of Se	ervice						
Approach	NB	SB		Westboui	nd		Eastboun	d
Movement	1	4	7	8	9	10	11	12
ane Configuration				LR	1 3	10	 	+ 12
(vph)		8		56				+-
C (m) (vph)		696		325		+		+-
//c		0.01		0.17	1		-	+
95% queue length		0.03		0.11	+	-		
			 		1	-		+
Control Delay		10.2		18.4	-			+
.OS		В		С				
Approach Delay			18.4					
Approach LOS	(44)	-24%	С					

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL SU	JMMARY				
General Information	n		Site I	nform	ation				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 PM Propo	ngineering	Interse Jurisdi Analys			Georges	City of Franklin		
Project Description S	tate Route 106	(Lewisburg Pike) TPR						
East/West Street: St. (***************************************	North/	South S	Street: <i>Lewi</i>	sburg Pike			
Intersection Orientation	: North-South		Study	Period	(hrs): 0.25				
Vehicle Volumes a	nd Adjustme	ents							
Major Street		Northbound				Southbo	und		
Movement	1	2	3		4	5		6	
	L	T	R		L	Т		R	
Volume	45	390	8		29	947		22	
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92	
Hourly Flow Rate, HFR	0	423	8		31	1029		0	
Percent Heavy Vehicles	0	. 3 ## 0			0				
Median Type			1 6	Undiv	iaed				
RT Channelized	1 .	+	0					0	
anes	0	2	0		1	2		0	
Configuration		T	TR	L		T			
Jpstream Signal		0				0			
Minor Street	-	Westbound	1 0		- 10	Eastbou	ınd	40	
Movement	7	8	9		10	11		12	
7.	_ <u>L</u>	Т	R		L	Т		R	
Volume	4	0	19		12	0		16	
Peak-Hour Factor, PHF		0.92	0.92		0.92	0.92		0.92	
Hourly Flow Rate, HFR Percent Heavy Vehicles	0	0	20	-	0	0		0	
	0		0		0	0			
Percent Grade (%)		0				0			
Flared Approach		N				N			
Storage		0				0			
RT Channelized			0					0	
Lanes	0	0	0		0	0		0	
Configuration	1	LR							
Delay, Queue Length,	and Level of S	ervice							
Approach	NB	SB		Westbo	und		Eastboun	d	
Movement	1	4	7	8	9	10	11	12	
ane Configuration		L		LR					
/ (vph)		31		24			İ -		
C (m) (vph)		1139		569			†		
//c		0.03		0.04		+	 	+	
		0.08		0.04			 	+	
95% queue length						-	-	+	
Control Delay		8.2		11.6	_	-			
_OS		Α		В			l		
Approach Delay				11.6					
Approach LOS	==		В						

 $HCS2000^{\mathsf{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UM	MARY				
General Information			Site I	nfor	mati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008 AM Propo	ngineering R Psed	Interse Jurisdi Analys	iction	ar		Lewisbur City of Fr 2033	g Pike & E anklin	Bowman	
Project Description S		(Lewisburg Pike	e) TPR							
East/West Street: Box		***************************************	North/	South	Stre	et: <i>Lewis</i> .	burg Pike			
Intersection Orientation	: North-South		Study	Period	l (hrs	s): 0.25				
Vehicle Volumes a	and Adjustme	ents								
Major Street		Northbound					Southbo	und		
Movement	1	2	3			4	5		6	
NV.	L ta	Τ	R		_	<u> </u>	Т		R	
Volume Peak-Hour Factor, PHF	10	966	4			0	410		17	
Hourly Flow Rate, HFR		0.92 1049	0.92			0.92	0.92		0.92	
Percent Heavy Vehicles		1049	0		_	0	445		18	
Median Type	, , ,			Ųndi	vide					
RT Channelized			1 0	ÇHUI	17000				0	
Lanes	1	2	0		 	0	2		0	
Configuration	Ĺ	T	—		-		- T		TR	
Upstream Signal		0	*				0	<u></u>		
Minor Street		Westbound					Eastbou	ınd		
Movement	7	8	9			10	11		12	
	L	Т	R			L	Т		,R	
Volume	6	0	14			102	0		26	
Peak-Hour Factor, PHF		0.92	0.92	?		0.92	0.92		0.92	
Hourly Flow Rate, HFR		0	0			110	0		28	
Percent Heavy Vehicles	s 0	0	0			0	0		0	
Percent Grade (%)		0					0			
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0						0	
Lanes	0	0	0			0	0		0	
Configuration							LR			
Delay, Queue Length,	and Level of Se	ervice					224			
Approach	NB	SB		Westb	ound	d		Eastbound	l	
Movement	1	4	7	8		9	10	11	12	
Lane Configuration	L							LR		
v (vph)	10						1	138		
C (m) (vph)	1109							281		
v/c	0.01							0.49		
95% queue length	0.03							2.54		
Control Delay	8.3							29.6		
LOS	A A			_	-		-	D D	_	
Approach Delay				<u> </u>			 	29.6		
Approach LOS							 			
Rights Reserved							<u> </u>	D		

HCS2000TM Version 4.1d Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UMMARY			
General Informatio	n		Site	nforn	nation			
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008 PM Propo	ngineering sed			r	Lewisbur City of Fr 2033	g Pike & E anklin	dowman
Project Description St		(Lewisburg Pike	e) TPR					
East/West Street: Bown			North/	South S	Street: <i>Lewis</i>	burg Pike		
Intersection Orientation:	North-South		Study	Period	(hrs): 0.25			
Vehicle Volumes ar	nd Adjustme	ents						
Major Street		Northbound				Southbo	und	
Movement	1	2	3		4	5		6
	L	Ţ	R		L	T ¹		R
Volume	13	406	4		0	937		60
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	14	441	0		0	1018		65
Percent Heavy Vehicles	0	, 			0			
Median Type				Undiv	vided			
RT Channelized			0					0
_anes	1	2	0		0	2		0
Configuration	L	T				T		TR
Jpstream Signal		0				0		
Minor Street		Westbound		Eastbound				
Movement	7	8	9		10	11		12
	L	T	R		L	T		R
Volume	6	0	14		46	0		9
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0		49	0		9
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				T N		
Storage		0			X	0		
RT Channelized	1		0	_		 		0
anes	0	0	0	_	0	0		0
Configuration	+ -	+ -	 	_		LR	-	U
						LIX		
Delay, Queue Length, a			· · · ·	\A/+ : 41			C = +4b = · · ·	
Approach	NB	SB		Westbo			Eastbound	
Movement	1	4	. 7	8	9	10	11	12
ane Configuration	L						LR	
/ (vph)	14						58	
C (m) (vph)	652						171	
r/c	0.02						0.34	
95% queue length	0.07						1.40	
Control Delay	10.6						36.5	$\overline{}$
OS	B	· · · · · · · · · · · · · · · · · · ·	ł	 		+	E	
							36.5	
Approach Delay						_		
Approach LOS							Ε	

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

General Informatio	n		Site	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gat	ngineering 3	Interse Jurisdi	ection		OII	Lewisbu City of F 2033	rg Pike & Franklin	Holly Hill
Project Description Si) TPR						
East/West Street: Holls		, , , ,		South S	Stree	et: <i>Lewis</i>	burg Pike		
Intersection Orientation:): 0.25			
Vehicle Volumes a	nd Adjustme	ents							
Major Street		Northbound		T			Southbo	ound	
Movement	1	2	3			4	5		6
	L	Т	R			L,	T		R
Volume	4	987	10			20	376		7
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	1072	10			21	408		0
Percent Heavy Vehicles	0	194				0			22
Median Type				Undivided					
RT Channelized			0						0
Lanes	0	2	0			1	2		0
Configuration		T	TR			L	T		
Upstream Signal		0					0		
Minor Street		Westbound					Eastbo		
Movement	7	8	9			10	11		12
	L,	Т	R			Ĺ	Т		R
Volume	9	0	69	j		32	0		8
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	9	0	74			0	0		0
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		Q					0		
Flared Approach	Ï	N					T N		
Storage		0					0		
RT Channelized	1		0				1		0
Lanes	0	0	0			0	0		0
Configuration	†	LR	1 				t – Ť	_	
Delay, Queue Length, a	and Lovel of S		.	_	_	-			
Approach	NB I	SB		Westbo	21126	,	1	Eastbour	, d
					June		40		
Movement	1	4	7	8		9	10	11	12
Lane Configuration		L		LR	_				
v (vph)		21		83					
C (m) (vph)		652		390)				
v/c		0.03	. O.	0.21	1				
95% queue length		0.10		0.79	7		1		
Control Delay		10.7		16.7	_				
LOS		В		C			1		
Approach Delay	W.			16.7			1		
Approach LOS							 		
Rights Reserved		(***	С			L			

Rights Reserved HCS2000TM

Version 4.1d

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	D-WAY STOP	CONTR	OL S	UMI	MARY			
General Information	1		Site I	nform	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	4/23/2008	ngineering 3	Interse Jurisdi Analys		r		Lewisbu City of F 2033	rg Pike & ranklin	Holly Hil
Project Description Sta		(Lewisburg Pike) TPR						
East/West Street: Holly				South S	Stree	et: Lewis	burg Pike		
Intersection Orientation:	North-South		Study	Period	(hrs): <i>0.25</i>			
Vehicle Volumes an	d Adjustm	ents				-			
Major Street		Northbound					Southbo	und	
Movement	1	2	T 3	\neg		4	T 5		6
	L	T	R			L	Т		R
Volume	4	419	9			46	878		7
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	455	9			49	954		0
Percent Heavy Vehicles	0					0			_@#
Median Type				Ųndiv	vided	1			
RT Channelized			0					0	
anes	0	2	0			1	2		0
Configuration		T	TR			L	T		
Jpstream Signal		0					0		
Minor Street		Westbound					Eastbo		
Vovement	7	8	T 9	\neg		10	11		12
	L	 	R			L	Т		R
Volume	6	0	36	\neg		32	0		8
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		0.92
Hourly Flow Rate, HFR	6	0	39			0 0			
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		T N	1				T N		
Storage		0					0		
		 	 			-	0		0
RT Channelized			0				-		0
anes	0	0	0			0	0		0
Configuration		<u> </u> LR							
Delay, Queue Length, a							,		
Approach	NB	SB		Westbo	ound			Eastbour	nd
Movement	1	4	7	8		9	10	11	12
ane Configuration		L		LR					
/ (vph)		49		45				1	
C (m) (vph)		1108		581				t	\top
/c		0.04		0.08	$\overline{}$		 	-	+
					$\overline{}$		-	 	-
95% queue length		0.14		0.25	$\overline{}$		-	_	
Control Delay		8.4		11.7					
.OS		Α		В					
Approach Delay			11.7						
Approach LOS			В						

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

General Informatio Analyst Agency/Co. Date Performed Analysis Time Period Project Description St East/West Street: Done Intersection Orientation:	Brian Gaffi Clinard En 4/23/2008 AM Propos		Site I	nforn	nati	on			
Agency/Co. Date Performed Analysis Time Period Project Description St East/West Street: Done	Clinard En 4/23/2008 AM Propos		Interse						
East/West Street: Done			Jurisdi Analys		r		Lewisbur City of Fr 2033	onelson	
	ate Route 106 (Lewisburg Pike)							
Intersection Orientation:		kway				et: Lewisi	burg Pike		
			Study	Period	(hrs): 0.25			
Vehicle Volumes ar	nd Adjustme	nts							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	Т	R			L	Т		R
Volume	185	740	4	\longrightarrow		9	365		45
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92
Hourly Flow Rate, HFR Percent Heavy Vehicles	201	804	0	_	-	0	396	_	48
Median Type	0	1447	-	11	1.1°	0			
RT Channelized	 	T	1 0	Undiv	/laec	7			
Lanes	1	2	0	-	_	0	2		0
Configuration	L	T	<u> </u>		_		T	_	R
Upstream Signal		0		_			0		K
Minor Street	 	Westbound			-		Eastbou	no d	
Movement	7	8 8	9			10	Lastbou	ina T	12
viovernent	 	Ť	R		_		''	_	R
Volume	3	0	24			89	0		92
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0.02			96	0.02		99
Percent Heavy Vehicles	0	0	0			0	0		0
Percent Grade (%)		0					0		
Flared Approach		T N					I N		
Storage		0	-			VV	0		
RT Channelized	 		0	_					0
anes	0	0	0		_	1	0		1
Configuration	 	 	· ·			L	- ·		R
	I and I are I at Ca				-				
Delay, Queue Length, a Approach	NB	SB		Maath.				Caathausa	
				Westbo	June			Eastbound	_
Movement	1	4	7	8		9	10	11	12
ane Configuration	L						L		R
/ (vph)	201						96		99
C (m) (vph)	1127						149		816
ı/c	0.18						0.64		0.12
95% queue length	0.65						3.54		0.41
Control Delay	8.9						64.9		10.0
.OS	Α						F		В
Approach Delay	1212	1 825					2.	37.1	
Approach LOS							 	Е	

HCS2000TM Version 4.1d Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL S	UM	MARY				
General Information	n		Site	nforr	nati	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 PM Propo	ngineering R	Interse Jurisd Analys		ar		Lewisburg Pike & Done City of Franklin 2033			
Project Description S	tate Route 106	(Lewisburg Pike) TPR							
East/West Street: Don	elson Creek Pa	rkway	North/	South	Stre	et: <i>Lewis</i>	burg Pike			
Intersection Orientation:	North-South		Study	Period	l (hrs	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustme	ents								
Major Street	T	Northbound					Southbo	und		
Movement	1	2	3			4	5		6	
	L	Т	R			L	T		R	
Volume	87	309	4			9	861		96	
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92	
Hourly Flow Rate, HFR	94	335	0			0	935		104	
Percent Heavy Vehicles	0	- · · · · · · · · · · · · · · · · · · ·	-			0	7.7			
Median Type				Undi	vide	d				
RT Channelized			0						0	
Lanes	1	2	0			0	2		1	
Configuration	L	T					T		R	
Upstream Signal		0					0			
Minor Street		Westbound					Eastbound			
Movement	7	8	9			10	11		12	
	L	Т	R			L	Т	i	R	
Volume	3	0	24			77	0		259	
Peak-Hour Factor, PHF	0.92	0.92	0.92	2		0.92	0.92		0.92	
Hourly Flow Rate, HFR	0	0	0			83	0		281	
Percent Heavy Vehicles	0	0	0			0	0		0	
Percent Grade (%)		0					0			
Flared Approach		T N	T				T N			
Storage	·	0					0			
RT Channelized		<u> </u>	0		-		+ <u>`</u>		0	
Lanes	0	0	0			1	0		1	
Configuration	+	 	<u> </u>		-				R	
			<u>, </u>		_	L	1			
Delay, Queue Length,				141 1			-			
Approach	NB	SB		Westb		V		Eastbour		
Movement	1	4	7	8		9	10	11	12	
Lane Configuration	L						L		R	
v (vph)	94						83		281	
C (m) (vph)	677						136		547	
v/c	0.14						0.61		0.51	
95% queue length	0.48						3.18		2.91	
Control Delay	11.2				_		66.1		18.3	
				-	_					
LOS	В						F		С	
Approach Delay		3 4.7 4					29.2			
Approach LOS	22	744)					<u></u>	D		

HCS2000TM

Version 4.1d

Copyright © 2003 University of Florida, All Rights Reserved

	TWC	-WAY STOP	CONTR	OL SUI	MMARY			
General Information	n		Site	nforma	tion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Ei 4/23/2008 AM Propo	ngineering }	Interse Jurisdi Analys			Lewisbur City of Fr 2033	g Pike & [anklin	Dallas
Project Description S) TPR					
East/West Street: Dalla				South Str	eet: Lewis	sbura Pike		
Intersection Orientation:	North-South				rs): 0.25			
Vehicle Volumes a	nd Adjustme	ents						
Major Street	1	Northbound				Southbo	und	
Movement	1	2	3		4	5	1	6
	L	Т	R		L	Т		R
Volume	10	938	10		140	319		24
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	10	1019	10		152	346		26
Percent Heavy Vehicles	0	1404			0	244		***
Median Type				Undivid	ed			
RT Channelized			0					0
anes	1	2	0		1	2		0
Configuration	L	T	TR		L	T		TR
Upstream Signal		0				0		
Minor Street		Westbound				Eastbound		
Movement	7	8	9	T i	10	11		12
	L	Т	R		L	T		R
Volume	4	0	68		165	0		67
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	4	0	73		179	0		72
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0	-			0		
Flared Approach		N				T N		
Storage		0				0	_	
RT Channelized		 	0			 		0
	0	1	0		0	1	_	1
_anes Configuration	+	LTR	1		LT	1		R
	<u> </u>				LI			
Delay, Queue Length,				1.4.11		T		
Approach	NB	SB		Westbou			Eastbound	
Movement	1	4	7	8	9	10	11	12
ane Configuration	L	L		LTR		LT		R
/ (vph)	10	152		77		179		72
C (m) (vph)	1198	683		371		102		831
//c	0.01	0.22		0.21		1.75	ĺ	0.09
95% gueue length	0.03	0.85		0.77	1	14.31		0.28
Control Delay	8.0	11.8		17.2	1	448.3		9.7
OS		B		C C		F		A A
	Α					 	000.5	I A
Approach Delay			17.2			322.5		
Approach LOS		**		С			F	

HCS2000TM

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL SU	JMMARY	•		
General Informatio	n		Site	nform	ation			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaff Clinard Er 4/23/2008 PM Propo	ngineering	Interse Jurisd Analys			Lewisbur City of Fi 2033	rg Pike & L ranklin	Dallas
Project Description St) TPR					
East/West Street: Dalla				South S	treet: Lev	isburg Pike		
Intersection Orientation:	North-South				hrs): 0.25			
Vehicle Volumes a	nd Adiustme	ents						
Major Street	1	Northbound		T		Southbo	und	
Movement	1	2	3		4	5		6
	L ₂	Т	R		L	Т		R
Volume	33	373	4		56	960		113
Peak-Hour Factor, PHF	0.92	0.92	0.92	2	0.92	0.92		0.92
Hourly Flow Rate, HFR	35	405	4		60	1043		122
Percent Heavy Vehicles	0	Ş erie)			0			***
Median Type				Undivi	ded			
RT Channelized			0					0
Lanes	1	2	0 TR		1	2		0
Configuration	L ₁	Т			L	T		TR
Jpstream Signal		0				0		
Minor Street		Westbound	alli.	-		Eastbou	ınd	
Movement	7	8	9		10	11		12
	L	T	R		L	Т		R
√olume	8	0	79		77	0		23
Peak-Hour Factor, PHF	0.92	0.92	0.92	?	0.92	0.92		0.92
Hourly Flow Rate, HFR	8	0	85		83	0		24
Percent Heavy Vehicles	0	0	0		0	0		0
Percent Grade (%)		0				0		
Flared Approach		N				N		
Storage		0				0		
RT Channelized			0					0
_anes	0	1	0		0	1		1
Configuration		LTR			LT			Ŕ
Delay, Queue Length, a	and Level of Se	rvice						
Approach	NB	SB		Westbo	und		Eastbound	
Movement	1	4	7	8	9	10	11	12
ane Configuration	Ĺ	L		LTR	\dashv	LT	 	R
(vph)	35	60		93	+	83	i	24
	607			-			 	461
(m) (vph)		1161		578		71	 	+
//c	0.06	0.05		0.16		1.17	ļ	0.05
95% queue length	0.18	0.16		0.57		6.38	ļ	0.16
Control Delay	11.3	8.3		12.4		261.4		13.2
.OS	В	Α		В		F		В
Approach Delay	**	786		12.4		205.8		
Approach LOS		(12)		В		F		

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UM	MARY			
General Information	n		Site I	nforn	nati	ion			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gat Clinard E. 4/23/2008 AM	ngineering	Interse Jurisdi Analys		ır		Lewisbu Landin City of F 2033	_	& Moores
Project Description S	tate Route 100	6 (Lewisburg Pi	ke) TPR						
East/West Street: Mod				South	Stre	et: <i>Lewi</i> s	sburg Pike	1	
Intersection Orientation	: North-Sout	h	Study	Period	(hrs	s): <i>0.25</i>			
Vehicle Volumes a	nd Adjustn	nents							
Major Street		Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	L	Т	R			L	Т		R
Volume	0	1118	11			15	476		0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	1215	11			16	517		0
Percent Heavy Vehicles	0					0			
Median Type	<u> </u>			Undiv	⁄idec	1			
RT Channelized	ļ		0						0
Lanes	0	2	0			1	2		0
Configuration		T	TR			L	T		
Upstream Signal		0					0		
Minor Street		Westbound					Eastbou	und	
Movement	7	8	9			10	11		12
	L	Т	R		L		Т		R
Volume	10	0	23			0	0		0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92
Hourly Flow Rate, HFR	10	0	24			0	0		0
Percent Heavy Vehicles	0	0	0		0		0		0
Percent Grade (%)		0					0		
Flared Approach		N					N		
Storage		0					0		
RT Channelized	1	1	0						0
Lanes	0	0	0			0	0		0
Configuration		LR							
Delay, Queue Length,	and I evel of	Service							
Approach	NB	SB	,	Westbo	าเทด	1	1	Eastbour	nd
Movement	1	4	7	8		9	10	11	12
	'		/			3	10	''	12
Lane Configuration		L		LR	_		 	 	-
v (vph)		16		34	_			<u> </u>	-
C (m) (vph)		576		234	_			<u> </u>	
v/c		0.03		0.15	5				
95% queue length		0.09		0.50)				
Control Delay		11.4		23.0)		1	1	
LOS		В		С			1	1	1
Approach Delay			 				 		
Approach LOS			23.0 C				 		
HCS2000 TM		ovright © 2003 Univer							Version

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO	-WAY STOP	CONTR	OL S	UMI	MARY				
General Information			Site I	nforn	natio	on				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gafi Clinard Er 4/23/2008 PM	ngineering	Interse Jurisdi Analys	ction	r		Lewisbui Landin City of Fi 2033	_		oores
Project Description Stat	te Route 106	(Lewisburg Pike) TPR							
East/West Street: Moore				South S	Stree	t: <i>Lewis</i>	burg Pike			
ntersection Orientation:	North-South		Study	Period	(hrs)): <i>0.25</i>				
Vehicle Volumes and	d Adjustme	ents								
Major Street	•	Northbound					Southbo	und		
Movement	1	2	3			4	5			6
	L	Т	R			L	T			R
/olume	0	479	5			34	1110			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	<u> </u>		0.92	0.92		C	.92
Hourly Flow Rate, HFR	0	520	5			36	1206			0
Percent Heavy Vehicles	0					0				
Median Type				Undiv	/idea	1	_	-		_
RT Channelized			0							0
anes	0	2 T	0			1	2			0
Configuration		TR			L	T				
Jpstream Signal						0				
Minor Street						Eastbound				
Movement	7	8	9			10	11	\dashv		12
	L	T	R			_ <u>L</u>	T			R
/olume	28	0	12			0	0	\longrightarrow		0
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92		U	.92
Hourly Flow Rate, HFR	30	0	13		0		0	\dashv		0
Percent Heavy Vehicles	0	0	0		0		0			0
Percent Grade (%)		0					1	Г		
Flared Approach		N					N			
Storage		0					0			
RT Channelized			0							0
_anes	0	0	0			0	0			0
Configuration		LR								
Delay, Queue Length, an	d Level of S	ervice								
Approach	NB	SB	1	Westbo	ound	l		Eastbo	ound	
Movement	1	4	7	8		9	10	1	1	12
ane Configuration		L		LR						
/ (vph)		36		43			Î			
C (m) (vph)		1052		228	_		†			
//C		0.03		0.19			 			
95% queue length		0.11		0.78	_		 	1		
Control Delay	-	8.5		24.4			 			
<u> </u>							-			
LOS		Α		C						
Approach Delay				24.4	4		ļ			
Approach LOS				С						

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-V	WAY STOP	CONTR	OL S	SUM	IMARY				
General Information	n		Site	nfor	mat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard Eng 4/23/2008 AM	ney gineering	Interse Jurisd	ection			Lewisbur City of F 2033			ssex
	tate Route 106	(Lewisburg Pik	e) TPR							
East/West Street: Ess			North/	South	Stre	et: <i>Lewis</i>	sburg Pike			
Intersection Orientation	North-South		Study	Period	d (hr	s): <i>0.25</i>				
Vehicle Volumes a	nd Adjustm	ents								
Major Street		Northbound					Southbound			
Movement	1	2	3			4	5			6
	L	T	R			_ <u>L</u>	T			R
Volume	11	1133	0	$\overline{}$		0	460			14
Peak-Hour Factor, PHF	0.92 11	0.92	0.92	<u>'</u>		0.92	0.92		L).92 15
Hourly Flow Rate, HFR	<u>.</u>	1231	0		_	0	499			15
Percent Heavy Vehicles Median Type	0			Undi	uido.	0				
RT Channelized	 	T	<u> </u>	Unai	viaed	J	1			0
Lanes	1	0			0	2			0	
Configuration	-	1 2 L T 0				<u> </u>	T		0 TR	
Upstream Signal	<u> </u>			_		0	-+		<i>I</i> n	
Minor Street		<u>. </u>				Eastbou	ınd			
Movement	7	9		10		11	ina T		12	
Movement	/	8 T	R			 L	T	-+		R
Volume	0	0	0			<i>68</i>	0	-+		<u> 29</u>
Peak-Hour Factor, PHF		0.92	0.92	,		0.92	0.92	$\overline{}$		0.92
Hourly Flow Rate, HFR	0	0	0			73	0	一十		31
Percent Heavy Vehicles		0	0			0	0			0
Percent Grade (%)	1	0					0			
Flared Approach	1	N					l N			
Storage	1	0					0	$\overline{}$		
RT Channelized	 		0				-	-+		0
Lanes	0	0	0			0	0	$\overline{}$		0
Configuration	U	0	0			U	LR	$\overline{}$		U
			<u> </u>				Lit			
Delay, Queue Length,	NB	SB		Westb	01110		· ·	- ooth o	امصد	
Approach								Eastbo		40
Movement	1	4	7	8		9	10	11		12
Lane Configuration	L							LR	_	
v (vph)	11							104		
C (m) (vph)	1062							250)	
v/c	0.01							0.42	2	
95% queue length	0.03							1.93	3	
Control Delay	8.4	ĺ						29.3	3	
LOS	Α						1	D		
Approach Delay							 	29.3	 }	
Approach LOS							 	D		
Approact LOS		<u> </u>							Version 4 1a	

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	-WAY STOP	CONTR	OL S	UM	MARY			
General Information	n		Site I	nforn	nati	on			
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaffi Clinard En 4/23/2008 PM		Interse Jurisdi Analys	ction	ır		Lewisbur City of Fr 2033	g Pike & E anklin	ssex
	ate Route 106 (Lewisburg Pike	TPR						
East/West Street: Esse		/		South	Stree	et: <i>Lewisi</i>	burg Pike		
Intersection Orientation:	North-South					s): 0.25			
Vehicle Volumes ar	nd Adiustme	nts							
Major Street	<u> </u>	Northbound					Southbo	und	
Movement	1	2	3			4	5		6
	† L	Т	R			L	T		R
Volume	5	486	0			0	1074		33
Peak-Hour Factor, PHF	0.92	0.92	0.92)		0.92	0.92		0.92
Hourly Flow Rate, HFR	5	528	0			0	1167		<i>35</i>
Percent Heavy Vehicles	0					0			
Median Type				Undi	vide	d			
RT Channelized	Ī		0						0
Lanes	1	2	0			0	2		0
Configuration	L	L T					T		TR
Jpstream Signal	1	0					0		
Minor Street	1					Eastbou	nd .		
Movement	7	Westbound 8	9			10	11	1	12
	L	T	R			L	T		R
Volume	0	0	0			16	0	-	37
Peak-Hour Factor, PHF	0.92	0.92	0.92	,		0.92	0.92		0.92
Hourly Flow Rate, HFR	0	0	0			17	0	\neg	40
Percent Heavy Vehicles	0	0	0			0	0	\neg	0
Percent Grade (%)		0				_	0		
Flared Approach		T N	1				l N	1	
Storage		0	 				0	_	
RT Channelized		· · ·					- ·		
			0						0
Lanes	0	0	0			0	0	_	0
Configuration							LR		
Delay, Queue Length, a							1		
Approach	NB	SB	,	Westb	ound	b	I	Eastbound	
Movement	1	4	7	8		9	10	11	12
Lane Configuration	L	İ						LR	
v (vph)	5					1		57	
C (m) (vph)	588			\vdash		 		249	\vdash
v/c	0.01			\vdash			 		\vdash
				 			-	0.23	_
95% queue length	0.03			<u> </u>				0.86	<u> </u>
Control Delay	11.2							23.7	
LOS	В							С	
Approach Delay								23.7	
Approach LOS								С	
Rights Reserved	I								

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

Version 4.1d

	TWO-	WAY STOP	CONTR	OL S	UM	MARY				
General Information)		Site I	nforr	nati	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaf Clinard Er 4/23/2008 AM	ngineering	Interse Jurisdi Analys	ction	ır		Lewisbu City of I 2033			Gardner
		6 (Lewisburg Pil	ke) TPR							
East/West Street: Gardi		,		South	Stre	et: <i>Lewi</i> :	sburg Pike	9		
Intersection Orientation:	North-South	ำ	Study	Period	l (hrs	s): <i>0.25</i>				
Vehicle Volumes an	d Adjustm	ents								
Major Street	•	Northbound					Southbound			
Movement	1	2	3			4	5		6	
	L	Т	R			L	Т		R	
Volume	0	1096	11			15	468			0
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92	
Hourly Flow Rate, HFR	0	1191	11			16	508	'	<u> </u>	0
Percent Heavy Vehicles	0					0				
Median Type		,	Undiv	/idec	<u> </u>					
RT Channelized		0							0	
Lanes	0	0			1	2		<u> </u>	0	
Configuration		TR			L	T		<u> </u>		
Upstream Signal		<u> </u>				0				
Minor Street						Eastbo	und	1		
Movement	7	9		10		11			12	
	L	Т		R		L	Т			R
Volume	3	0	7			0	0			0
Peak-Hour Factor, PHF	0.92	0.92	0.92			0.92	0.92)	(0.92
Hourly Flow Rate, HFR	3	0	7			0	0			0
Percent Heavy Vehicles	0	0	0		0		0			0
Percent Grade (%)		0	1				0		1	
Flared Approach		N	<u> </u>				N			
Storage		0					0			
RT Channelized			0							0
Lanes	0	0	0			0	0			0
Configuration		LR								
Delay, Queue Length, a	nd Level of	Service								
Approach	NB	SB	1	Westbo	ounc	t		East	bound	
Movement	1	4	7	8		9	10		11	12
Lane Configuration		L		LR				1		
v (vph)		16		10	_			+		
C (m) (vph)	16 588			240	_			+		
v/c		0.03			_		 	╫		
				0.04				+		
95% queue length		0.08		0.13	_			+		
Control Delay		11.3		20.7	\Box		ļ			
LOS		В		С						
Approach Delay				20.7	7					
Approach LOS				С						

 $HCS2000^{\mathrm{TM}}$

Copyright © 2003 University of Florida, All Rights Reserved

	TWO-	WAY STOP	CONTR	OL S	SUM	IMARY				
General Information	n		Site I	nfor	mat	ion				
Analyst Agency/Co. Date Performed Analysis Time Period	Brian Gaft Clinard Er 4/23/2008 PM	ngineering	Interse Jurisdi Analys	ction	ar		Lewisbu City of F 2033		Gardner	
	tate Route 106	(Lewisburg Pil	ke) TPR							
East/West Street: Gard		,		South	Stre	et: <i>Lewis</i>	sburg Pike	1		
Intersection Orientation:	North-South	1	Study	Period	d (hr	s): 0.25	5			
Vehicle Volumes a	nd Adiustm	ents								
Major Street	1	Northbound					Southbo	und		
Movement	1	2	3			4	5	1	6	
	Ĺ	T T	R			L	Ť		R	
Volume	0	470	5			34	1095		0	
Peak-Hour Factor, PHF	0.92	0.92	0.92	?		0.92	0.92		0.92	
Hourly Flow Rate, HFR	0	510	5			36	1190	$\neg \uparrow$	0	
Percent Heavy Vehicles						0		-		
Median Type				Undi	vide					
RT Channelized		0						0		
Lanes	0	0			1	2		0		
Configuration	 	0 2 T				L	T			
Upstream Signal	1	TR				0				
Minor Street		<u>. </u>				Eastbou	ınd			
Movement	7	9		10		11	IIIU	12		
Movement	L	8 T	R			L	 ''	_	R	
Volume	7	0			0		0	_	0	
Peak-Hour Factor, PHF		0.92	3 0.92			0.92	0.92	- 	0.92	
Hourly Flow Rate, HFR	7	0.92	0.92 3		0.32		0.92	_	0.92	
Percent Heavy Vehicles		0	0			0	0	_	0	
	U		0				0		U	
Percent Grade (%)	<u> </u>	0	1					1		
Flared Approach		N					N			
Storage	<u> </u>	0					0			
RT Channelized			0						0	
Lanes	0	0	0			0	0		0	
Configuration		LR								
Delay, Queue Length,	and Level of S	Service								
Approach	NB	SB	1	Westb	ound	d		Eastbour	ıd	
Movement	1	4	7	8		9	10	11	12	
Lane Configuration	+	L		LFI			1	 	1	
	+	36		10				 	+	
v (vph)								-	-	
C (m) (vph)		1061		233			-		1	
v/c		0.03		0.0						
95% queue length		0.11		0.1	3					
Control Delay		8.5		21.	1					
LOS	i	Α		С				ĺ	1	
Approach Delay			21.1				1			
Approach LOS										
HCS2000 TM	Į	sity of Florida.			1			Version 4.1		

 $HCS2000^{\rm TM}$

Copyright © 2003 University of Florida, All Rights Reserved

			LO	NG RI	EPO	RT						
General Information						nformation	on					
	an Gaffne	v		$\overline{}$						44 - 4		
Agency or Co Clinai	d Engine	ering				ection Type	SF	R 106 &	l Mack ther ar		er	
l · · · · · · · · · · · · · · · · · · ·	ssociates					liction			of Fran			
T.	/23/2008 1 Propose	d				sis Year			2033			
Intersection Geometry	rropose	u										
intersection decinetry												
Grade = 0	0 2	1										
		l l										
	<i>*</i>	* /*										
				Gra	ade =	0						
4				1								
1				<u>_</u>		1						
_ _						call.						
2						2						
1				_		2						
′ ₹				*		2						
Grade = 0												
	- A		* 31									
		I		Gra	ide =	0						
	1 1	0		0.0								
		2										
Volume and Timing Input	_			_						_		
	LT	EB TH	LDT	17	W		1.7	NB	Гот	17	SB	I DT
Volume (vph)	12	1167	RT 49	LT	T⊦ 140		LT	TH	RT	LT	TH	RT
% Heavy veh	0	0	0	567 0	0	6 295 0	34	271	824	161	104	8
PHF	0.92	0.92	0.92	0.92	0.92		0 0.92	0 0.92	0 0.92	0.92	0.92	0.92
Actuated (P/A)	P 0.92	P	P	0.92 P	0.92 P	P P	0.92 P	0.92 P	0.92 P	0.92 P	0.92 P	P
Startup lost time	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	F
Ext. eff. green	2.0	2.0	2.0	2.0	2.0		2.0	2.0	2.0	2.0	2.0	
Arrival type	3	3	3	3	3	3	3	3	3	3	3	
Unit Extension	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0	3.0	3.0	
Ped/Bike/RTOR Volume	0		0	0		0	0		0	0		0
Lane Width	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	12.0	
Parking (Y or N)	N		N	N		N	N		N	N		N
Parking/hr												-
Bus stops/hr	0	0	0	0	0	0	0	0	0	0	0	
Ped timing		3.2			3.2			3.2			3.2	
eu illilliu					V. 2		<u> </u>		_	07		
	M Dorm	0.0		\cap Λ								no -
Excl. Left E	W Perm	03		04	_	Excl. Le	_	Perm		07		80
Excl. Left $=$ E $=$ $=$ $=$ $=$ $=$ $=$ $=$ $=$ $=$ $=$	W Perm = 45.0 = 5	03 G = Y =	(04 G = Y =		Excl. Let $G = 5.0$ $Y = 5$	_	= 15.0	G = Y =		G =	08

VOLUME ADJUSTMENT AND SATURATION FLOW RATE WORKSHEET General Information													
General Informa	tion								-				
Project Description	State R	oute 10	6 (Lewis	sburg P	lke) TPI	7							
Volume Adjustn	nent									T			
		EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	ТН	RT	LT	TH	RT	
Volume	12	1167	49	567	1406	295	34	271	824	161	104	8	
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow Rate	13	1268	53	616	1528	321	37	295	896	175	113	9	
Lane Group	L	Τ	R	L	T	R	L	T	R	L	TR		
Adj. flow rate	13	1268	53	616	1528	321	37	295	896	175	122		
Prop. LT or RT	0.000		0.000	0.000	:==:	0.000	0.000		0.000	0.000		0.074	
Saturation Flow	Rate		4										
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900		
Num. of lanes	1	2	1	2	2	1	1	1	2	1	2	0	
fVV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fHV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
fLU	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	0.88	1.00	0.95		
fLT	0.950	1.000		0.950	1.000		0.950	1.000	0	0.950	1.000		
Secondary fLT	0.080			0.293		1.000	0.506		Utter	0.200			
fRT		1.000	0.850	22	1.000	0.850		1.000	0.850		0.989		
fLpb	1.000	1.000		1.000	1.000	(***))	1.000	1.000		1.000	1.000		
fRpb		1.000	1.000		1.000	1.000		1.000	1.000	-	1.000		
Adj. satflow	1805	3610	1615	3502	3610	1615	1805	1900	2842	1805	3570		
Sec. adj. satflow	152		**	1080			961		::=:	380			

CAPACITY AND LOS WORKSHEET													
General Informat	ion												
Project Description	State Ro	ute 106	(Lewis	burg PII	(e) TPR								
Capacity Analysi	is												
		EB			WB			NB			SB		
Lane group	L	T	R	L	T	R	L	T	R	L	TR		
Adj. flow rate	13	1268	53	616	1528	321	37	295	896	175	122		
Satflow rate	1805	3610	1615	3502	3610	1615	1805	1900	2842	1805	3570		
Lost time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0		
Green ratio	0.61	0.50	0.83	0.61	0.50	0.83	0.28	0.17	0.83	0.28	0.17		
Lane group cap.	184	1805	1346	795	1805	1346	314	317	2368	184	595		
v/c ratio	0.07	0.70	0.04	0.77	0.85	0.24	0.12	0.93	0.38	0.95	0.21		
Flow ratio		0.35	0.03		0.42	0.20		0.16	0.32		0.03		
Crit. lane group	N	N	N	N	Y	N	N	N	N	N	N		
Sum flow ratios		0.73											
Lost time/cycle						15.0	0						
Critical v/c ratio						0.8	3						
Lane Group Capa	acity, C	ontro	l Delay	y, and	LOS [)eterm	inatio	า					
		ΕB			WB			NB			SB		
Lane group	L	T	R	L	I	R	L	T	R	L	TR		
Adj. flow rate	13	1268	53	616	1528	321	37	295	896	175	122		
Lane group cap.	184	1805	1346	795	1805	1346	314	317	2368	184	595		
v/c ratio	0.07	0.70	0.04	0.77	0.85	0.24	0.12	0.93	0.38	0.95	0.21		
Green ratio	0.61	0.50	0.83	0.61	0.50	0.83	0.28	0.17	0.83	0.28	0.17		
Unif. delay d1	14.4	17.3	1.3	21.5	19.5	1.6	24.1	37.0	1.8	32.3	32.4		
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50		
Increm. delay d2	0.7	0.7 2.3 0.1 7.3 5.1 0.4 0.8 35.6 0.5 54.6									0.8		
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000		
Control delay	15.1	19.7	1.3	28.8	24.6	2.0	24.9	72.6	2.3	87.0	33.1		
Lane group LOS	В	В	Α	C	С	Α	С	Ε	Α	F	С		
Apprch. delay	18	3.9		2	2.7		1	9.9			64.9		
Approach LOS		3			С			В			Е		
Intersec. delay	23	3.4				Intersec	tion LO	S			С	-	

SUPPLEMENTAL								T TURNS FRO ED PHASES	M EXCLUSIVE
General Informati	on								
Project Description S	State F	Route 106 (Leu	visburg Plke) TF	PR			
v/c Ratio Comput	ation								
				EB		W	3	NB	SB
Cycle length, C (s)							90	.0	•
Prot. phase eff. green	intvl, g	ı (s)		5.0		5.0)	5.0	5.0
Opposed queue eff. gr	een in	tvl, gq (s)		36.34		26.5	1	5.00	14.70
Unopposed green intvl	, gu (s)		13.66		23.4	9	15.00	5.30
Red time, r(s)				35.0		35.0)	65.0	65.0
Arrival rate, qa (veh/s)				0.00		0.17	7	0.01	0.05
Prot. phase departure	rate, s	p (veh/s)		0.501		0.97	'3	0.501	0.501
Perm. phase departure	rm. phase departure rate, ss (veh					0.64	4	0.36	0.40
Xperm	erm					0.57	7	0.04	0.46
X _{prot} (N/A for lagging l	ns)		0.06		1.4	1	0.29	1,36	
Uniform Queue Size a	and De	elay Comp	outations						
Queue at start of greer				0.13		5.99	9	0.67	3.16
Queue at start of unsat Qu	urated	green,		0.13		8.19	9	0.05	2.13
Residual queue, Qr				0.00		1.98	3	0.00	0.90
Uniform delay, d1				14.4		21.8	5	24.1	32.3
Uniform Queue Size a			ion	s					
	Case	Qa		Qu		Qr		d1	
If Xperm <= 1.0 & Xprot <= 1.0	1	qar		qagq		0	[0.5/(qa(q _{a)}	C)][rQa + Qa ^{2/(Sp - C}	ls) +gqQu + Qu ^{2/(S} s -
X _{perm} <= 1.0 & X _{prot} 2 q _a r				Qr + qagq	Qa	a - g(Sp - Qa)	[0.5/(qa0 Qu ^{2/(Ss-0}	C)][rQa + g(Qa + 0	Qr) + gq (Qr + Qu) +
f Xperm > 1.0 & Xprot = 1.0			r qagq		Qu - gu(Ss -		$s_s = \frac{[0.5/(q_aC)][g_qQ_u + g_u(Q_a + Q_r) + r(Q_r + Q_a) + Q_a^2/(s_p - q_a)}{Q_a^2/(s_p - q_a)}$		
f X _{perm} <= 1.0 4 0				qa(r + gq)		0	[0.5/(qa(C)][r + gq)Qu + Qu²	(S _{s -} Q _{a)}
If X _{perm} > 1.0 (lagging lefts)	Qu - gu(Ss qa)	-	qa(r + gq)		0	[0.5/(qa(q _{a)}	C)][r + gq)Qu + gu(0	$Q_u + Q_a) + Q_a^{2/(S_p)}$	

		BAC	K-OF	-QUE	JE WO	ORKSI	HEET					
General Informatio	n											
Project Description Sta	ate Route	106 (Le	ewisbur	g Plke)	TPR							
Average Back of Q	ueue											
	LT	EB TH	RT	LT	WB TH	RT	LT	NB TH	RT	LT	SB TH	RT
Lane group	L	T	R	L	T	R	L	T	R	L	TR	181
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Flow rate/lane	13	1268	53	616	1528	321	37	295	896	175	122	
Satflow per lane	302	1900	1615	670	1900	1615	1130	1900	1615	665	1878	
Capacity/lane	184	1805	1346	795	1805	1346	314	317	2368	184	595	
Flow ratio	0.04	0.35	0.03	0.47	0.42	0.20	0.03	0.16	0.32	0.26	0.03	
v/c ratio	0.07	0.70	0.04	0.77	0.85	0.24	0.12	0.93	0.38	0.95	0.21	
l factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3	3	3	3	3	3	3	3	3	3	
Platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Q1	0.1	12.8	0.2	3.2	17.4	1.7	0.7	7.3	3.1	3.3	1.4	
kв	0.3	1,1	1.4	0.6	1.1	1.4	0.5	0.5	1.4	0.4	0.5	
Q2	0.0	2.4	0.1	1.8	4.8	0.4	0.1	3.2	0.8	2.3	0.1	
Q avg.	0.2	15.3	0.3	5.0	22.2	2.1	0.7	10.5	3.9	5.6	1.5	
Percentile Back of	Queue (95th p	ercer	ntile)								
fв%	2.6	1.6	2.5	2.0	1.6	2.3	2.5	1.7	2.1	1.9	2.3	
BOQ, Q%	0.4	25.2	0.7	9.9	35.8	4.8	1.8	18.0	8.1	10.8	3.5	
Queue Storage Rat	io											
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Q storage	0	0	0	0	0	0	0	0	0	0	0	
Avg. Ra												
95% RQ%												

HCS2000TM

Copyright © 2000 University of Florida, All Rights Reserved

					LO	NG RI	ΞPC	DRT							
General Int	formation						Site Information								
Analyst		Brian	Gaffne	У			-4			0.0	1400.0) A 4 = =1-	Hataba		
Agency or (Co. Cli		ngine	ering				ection Type		Sr		ther ar	Hatche eas	er	
Date Perfor			ciates /2008					diction				of Fran			
Time Period			oposei	d		/ <u>-</u>	naly	sis Yea	ır			2033			
	n Geometry														
<u> </u>			0 0												
Grade = 0			0 2												
			ارد												
				* *											
						Gra	ade =	0							
J.	4					*		6							
1						_		1							
2						4		2							
	-							2							
1	$\overline{}$					_		2							
·	N					y		ē							
Grade = 0															
		*	A												
			'	I		Gra	de =	0							
		1	1	2											
Volume an	id Timing In														
		put		ED		T	10.	D.	_		ND			0.0	
		put	I T	EB	Грт	 	W		1	17	NB	Грт	IT	SB I TU	Грт
Volume (vol		put	LT 46	TH	RT 205	LT 527	TH	H R1	_	LT	TH	RT 358	LT	TH	RT
	h)	put	46	TH 2031	205	537	61°	H R7	_	44	TH 82	358	172	TH 434	32
% Heavy ve	h)	put	46 0	TH 2031 0	205 0	537 0	61 0	H R1 1 73 0	1	44 0	TH 82 0	358 0	172 0	TH 434 0	32 0
% Heavy ve PHF	h) eh	put	46 0 0.92	TH 2031 0 0.92	205 0 0.92	537 0 0.92	61 0 0.9	H R1 1 73 0 2 0.92	1	44 0 0.92	TH 82 0 0.92	358 0 0.92	172 0 0.92	TH 434 0 0.92	32 0 0.92
% Heavy ve PHF Actuated (Pa	h) eh /A)	put	46 0 0.92 P	TH 2031 0 0.92 P	205 0 0.92 P	537 0 0.92 P	61 0 0.9	H R1 1 73 0 2 0.92 P	2 0	44 0).92 P	TH 82 0 0.92 P	358 0 0.92 P	172 0 0.92 P	TH 434 0 0.92 P	32 0
% Heavy ve PHF Actuated (P Startup lost	h) eh /A) time	put	46 0 0.92 P 2.0	TH 2031 0 0.92 P 2.0	205 0 0.92 P 2.0	537 0 0.92 P 2.0	0.9 P	H R7 1 73 0 2 0.92 P 0 2.0	2 0	44 0 0.92 P 2.0	TH 82 0 0.92 P 2.0	358 0 0.92 P 2.0	172 0 0.92 P 2.0	TH 434 0 0.92 P 2.0	32 0 0.92
% Heavy ve PHF Actuated (P Startup lost	h) eh /A) time	out	46 0 0.92 P	TH 2031 0 0.92 P	205 0 0.92 P	537 0 0.92 P	61 0 0.9	H R1 1 73 0 2 0.92 P 0 2.0 0 2.0	2 0	44 0).92 P	TH 82 0 0.92 P	358 0 0.92 P	172 0 0.92 P	TH 434 0 0.92 P	32 0 0.92
PHF Actuated (Pa Startup lost Ext. eff. gree	h) eh /A) time en	out	46 0 0.92 P 2.0 2.0	TH 2031 0 0.92 P 2.0 2.0	205 0 0.92 P 2.0 2.0	537 0 0.92 P 2.0 2.0	7H 61 0 0.9 P 2.0	H R1 1 73 0 2 0.92 P 0 2.0 0 2.0 3	2 (44 0 0.92 P 2.0 2.0	TH 82 0 0.92 P 2.0 2.0	358 0 0.92 P 2.0 2.0	172 0 0.92 P 2.0 2.0	TH 434 0 0.92 P 2.0 2.0	32 0 0.92
% Heavy ve PHF Actuated (P Startup lost Ext. eff. gree Arrival type Unit Extensi	h) eh /A) time en		46 0 0.92 P 2.0 2.0 3	TH 2031 0 0.92 P 2.0 2.0	205 0 0.92 P 2.0 2.0	537 0 0.92 P 2.0 2.0 3	7H 61 0 0.9 P 2.0 2.0	H R1 1 73 0 2 0.92 P 0 2.0 0 2.0 3	2 (44 0 0.92 P 2.0 2.0	TH 82 0 0.92 P 2.0 2.0 3	358 0 0.92 P 2.0 2.0 3	172 0 0.92 P 2.0 2.0	TH 434 0 0.92 P 2.0 2.0	32 0 0.92
% Heavy ve PHF Actuated (P Startup lost Ext. eff. gree Arrival type Unit Extensi	h) eh /A) time en		46 0 0.92 P 2.0 2.0 3 3.0	TH 2031 0 0.92 P 2.0 2.0	205 0 0.92 P 2.0 2.0 3 3.0	537 0 0.92 P 2.0 2.0 3 3.0	7H 61 0 0.9 P 2.0 2.0	H R1 1 73 0 0 2 0.92 P 0 2.00 0 2.00 3 3.00 0 0	2 0	44 0 0.92 P 2.0 2.0 3	TH 82 0 0.92 P 2.0 2.0 3	358 0 0.92 P 2.0 2.0 3 3.0	172 0 0.92 P 2.0 2.0 3 3.0	TH 434 0 0.92 P 2.0 2.0	32 0 0.92 P
% Heavy ve PHF Actuated (P. Startup lost Ext. eff. gree Arrival type Unit Extensi Ped/Bike/R1	h) eh /A) time en ion FOR Volume		46 0 0.92 P 2.0 2.0 3 3.0	TH 2031 0 0.92 P 2.0 2.0 3 3.0	205 0 0.92 P 2.0 2.0 3 3.0	537 0 0.92 P 2.0 2.0 3 3.0	7H 61 0 0.9 P 2.0 2.0 3	H R1 1 73 0 0 2 0.92 P 0 2.0 0 2.0 3 3.0 0 0	2 0	44 0 0.92 P 2.0 2.0 3 3.0	TH 82 0 0.92 P 2.0 2.0 3 3.0	358 0 0.92 P 2.0 2.0 3 3.0	172 0 0.92 P 2.0 2.0 3 3.0	TH 434 0 0.92 P 2.0 2.0 3 3.0	32 0 0.92 P
% Heavy ver PHF Actuated (PA Startup lost Ext. eff. gree Arrival type Unit Extensi Ped/Bike/RT Lane Width	h) eh /A) time en ion FOR Volume		46 0 0.92 P 2.0 2.0 3 3.0 0	TH 2031 0 0.92 P 2.0 2.0 3 3.0	205 0 0.92 P 2.0 2.0 3 3.0 0 12.0	537 0 0.92 P 2.0 2.0 3 3.0 0 12.0	7H 61 0 0.9 P 2.0 2.0 3	H R1 1 73 0 2 0.92 P 2.0 0 2.0 3 3 0 3.0 0 12.0	2 0	44 0 0.92 P 2.0 2.0 3 3.0 0	TH 82 0 0.92 P 2.0 2.0 3 3.0	358 0 0.92 P 2.0 2.0 3 3.0 0 12.0	172 0 0.92 P 2.0 2.0 3 3.0 0 12.0	TH 434 0 0.92 P 2.0 2.0 3 3.0	32 0 0.92 P
% Heavy very PHF Actuated (P. Startup lost Ext. eff. green Arrival type Unit Extensi Ped/Bike/RT Lane Width Parking (Y c	h) eh /A) time en for Volume		46 0 0.92 P 2.0 2.0 3 3.0 0	TH 2031 0 0.92 P 2.0 2.0 3 3.0	205 0 0.92 P 2.0 2.0 3 3.0 0 12.0	537 0 0.92 P 2.0 2.0 3 3.0 0 12.0	7H 61 0 0.9 P 2.0 2.0 3	H R1 1 73 0 2 0.92 P 2.00 0 2.00 3 3 0 3.00 0 12.00 N	2 0	44 0 0.92 P 2.0 2.0 3 3.0 0	TH 82 0 0.92 P 2.0 2.0 3 3.0	358 0 0.92 P 2.0 2.0 3 3.0 0 12.0	172 0 0.92 P 2.0 2.0 3 3.0 0 12.0	TH 434 0 0.92 P 2.0 2.0 3 3.0	32 0 0.92 P
% Heavy very PHF Actuated (PASTATTUP lost Ext. eff. green Arrival type Unit Extensing Ped/Bike/RT Lane Width Parking (Y controller) Parking/hr Bus stops/hi	h) eh /A) time en for Volume		46 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 2031 0 0.92 P 2.0 3 3.0 12.0	205 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	537 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 61 0 0.9 P 2.0 2.0 3 3.0	H R1 1 73 0 0.92 P 0.2.0 0 2.00 3 3.0 0 12.0 N	2 0	44 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 82 0 0.92 P 2.0 2.0 3 3.0	358 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	172 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 434 0 0.92 P 2.0 2.0 3 3.0 12.0	32 0 0.92 P
% Heavy very PHF Actuated (PASTATTUP lost Ext. eff. green Arrival type Unit Extensing Ped/Bike/RT Lane Width Parking (Y controller) Parking/hr Bus stops/hi	h) eh /A) time en ion FOR Volume or N)		46 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 2031 0 0.92 P 2.0 3 3.0 12.0 0 3.2	205 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	537 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 61 0 0.9 P 2.0 2.0 3 3.0	H R1 1 73 0 2 0.92 P 2.0 0 2.0 0 3.0 0 12.0 N 0 2	22 (44 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 82 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2	358 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	172 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 434 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2	32 0 0.92 P
% Heavy very PHF Actuated (PAStartup lost Ext. eff. green eff. green eff. green eff. green eff. eff. eff. eff. eff. eff. eff. e	h) eh /A) time en FOR Volume or N)	EWI	46 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 2031 0 0.92 P 2.0 3 3.0 12.0 0 3.2 03	205 0 0.92 P 2.0 3 3.0 0 12.0 N	537 0 0.92 P 2.0 3 3.0 0 12.0 N	TH 61 0 0.9 P 2.0 2.0 3 3.0	H R1 1 73 0 0.92 P 0.92 0 2.00 0 3.00 0 12.00 N 0 0	2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2	44 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 82 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2 S Perm	358 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	172 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 434 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2	32 0 0.92 P
% Heavy very PHF Actuated (PASTATTUP lost Ext. eff. green Arrival type Unit Extensing Ped/Bike/RT Lane Width Parking (Y controller) Parking/hr Bus stops/hi	h) eh /A) time en ion FOR Volume or N)		46 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N 0	TH 2031 0 0.92 P 2.0 3 3.0 12.0 0 3.2	205 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	537 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 61 0 0.9 P 2.0 2.0 3 3.0	H R1 1 73 0 2 0.92 P 2.0 0 2.0 0 3.0 0 12.0 N 0 2	2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2 (2	44 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	TH 82 0 0.92 P 2.0 2.0 3 3.0 12.0 6 Perm = 25.0	358 0 0.92 P 2.0 2.0 3 3.0 0 12.0 N	172 0 0.92 P 2.0 3 3.0 0 12.0 N	TH 434 0 0.92 P 2.0 2.0 3 3.0 12.0 0 3.2	32 0 0.92 P

VOLUM	E ADJ	USTM	ENT A	ND SA	ATURA	ATION	FLOV	V RAT	E WO	RKSHI	EET	
General Informa	tion											
Project Description	State R	oute 10	6 (Lewis	sburg P	lke) TPI	7						
Volume Adjustm	ent			T								
		EB	·		WB		ļ	NB	·		SB	
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	ТН	RT
Volume	46	2031	205	537	611	73	44	82	358	172	434	32
PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow Rate	50	2208	223	584	664	79	48	89	389	187	472	35
Lane Group	L	T	R	L	T	R	L	T	R	L	TR	
Adj. flow rate	50	2208	223	584	664	79	48	89	389	187	507	
Prop. LT or RT	0.000		0.000	0.000	100	0.000	0.000	2443	0.000	0.000	¥=	0.069
Saturation Flow Rate												
Base satflow	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Num. of lanes	1	2	1	2	2	1	1	1	2	1	2	0
fW	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fHV	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fg	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fp	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fbb	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
fa	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
fLU	1.00	0.95	1.00	0.97	0.95	1.00	1.00	1.00	0.88	1.00	0.95	
fLT	0.950	1.000		0.950	1.000		0.950	1.000		0.950	1.000	
Secondary fLT	0.346			0.477		O me /4	0.133			0.548		
fRT		1.000	0.850		1.000	0.850		1.000	0.850	-	0.990	
fLpb	1.000	1.000		1.000	1.000	(*** ?	1.000	1.000	-	1.000	1.000	440
fRpb		1.000	1.000		1.000	1.000		1.000	1.000	:	1.000	
Adj. satflow	1805	3610	1615	3502	3610	1615	1805	1900	2842	1805	3573	
Sec. adj. satflow	658			1759			253			1041		

1		CA	PACIT	ΓΥ ΑΝΙ	D LOS	WOR	KSHEE	T				
General Informat	General Information											
Project Description 3	State Ro	ute 106	(Lewisi	burg Plk	(e) TPR							
Capacity Analysis	s				Ų.							
		EB			WB			NB			SB	
Lane group	L	T	R	L	T	R	L	T	R	L	TR	
Adj. flow rate	50	2208	223	584	664	79	48	89	389	187	507	
Satflow rate	1805	3610	1615	3502	3610	1615	1805	1900	2842	1805	3573	
Lost time	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	
Green ratio	0.70	0.63	0.90	0.70	0.63	0.90	0.23	0.17	0.90	0.23	0.17	
Lane group cap.	499	2286	1453	1290	2286	1453	111	317	2558	268	596	
v/c ratio	0.10	0.97	0.15	0.45	0.29	0.05	0.43	0.28	0.15	0.70	0.85	
Flow ratio		0.61	0.14		0.18	0.05		0.05	0.14		0.14	
Crit. lane group	N	Υ	N	N	N	N	N	N	N	N	Υ	
Sum flow ratios	Sum flow ratios 0.82											
Lost time/cycle	Lost time/cycle 20.00											
Critical v/c ratio						0.9	5					
Lane Group Capa	city, C	ontro	Delay	y, and	LOS [)eterm	inatior	1				
		EB			WB			NB			SB	
Lane group	L	T	R	L	Τ	R	L	T	R	L	TR	
Adj. flow rate	50	2208	223	584	664	79	48	89	389	187	507	
Lane group cap.	499	2286	1453	1290	2286	1453	111	317	2558	268	596	
v/c ratio	0.10	0.97	0.15	0.45	0.29	0.05	0.43	0.28	0.15	0.70	0.85	
Green ratio	0.70	0.63	0.90	0.70	0.63	0.90	0.23	0.17	0.90	0.23	0.17	
Unif. delay d1	7.6	26.0	0.9	14.2	12.4	0.8	47.0	54.6	0.9	55.2	60.7	
Delay factor k	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	0.50	
Increm. delay d2	0.4	12.4	0.2	1.1	0.3	0.1	11.8	2.2	0.1	14.1	14.2	
PF factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Control delay	8.0	38.3	1.1	15.4	12.7	0.9	58.8	56.8	1.0	69.3	74.9	
Lane group LOS	Α	D	Α	В	В	Α	Ε	Ε	Α	Ε	Ε	
Apprch. delay	34	1.4		1	3.2		1	5.7			73.4	
Approach LOS		C			В			В			Ε	
Intersec. delay	32	2.2				Intersec	tion LOS	3			С	

SUPPLEMENTAL								T TURNS FRO	OM EXCLUSIVE
General Informati	on			*					
Project Description S	State F	Route 106 (Leu	visburg Plke) T	PR			
v/c Ratio Comput	ation								
				EB		W	В	NB	SB
Cycle length, C (s)							15	0.0	
Prot. phase eff. green intvl, g (s)				5.0		5.0)	5.0	5.0
Opposed queue eff. green intvl, gq (s)				13.25		96.0	00	21.76	6.50
Unopposed green intvl, gu (s)				86.75		4.0	0	8.24	23.50
Red time, r(s)				45.0		45.	0	115.0	115.0
Arrival rate, qa (veh/s)				0.01		0.1	6	0.01	0.05
Prot. phase departure rate, sp (veh/s)				0.501		0.97	' 3	0.501	0.501
Perm. phase departure	rate,	ss (veh/s)		0.21 12.2			?2	0.26	0.37
Xperm				0.08		0.33		0.19	0.18
Xprot (N/A for lagging le	eft-turi	าร)		0.28		1.6	7	0.64	2.49
Uniform Queue Size a	and De	elay Comp	uta	itions					
Queue at start of greer	arrow	/, Qa		0.63		7.30		1.53	5.97
Queue at start of unsat Qu	urated	l green,		0.18	0.00		0	0.29	4.73
Residual queue, Qr				0.00	3.28		5	0.00	3.73
Jniform delay, d1				7.6		14.2	2	47.0	55.2
Uniform Queue Size a	_	r —	ion	s	_		r. —		
	Case	Qa		Qu		Qr		d1	
f Xperm <= 1.0 & Xprot <= 1.0	1	qar		qagq		0	[0.5/(qa0 q _{a)}	C)][rQa + Qa ^{2/(S_{p -} 0}	^{]s)} +gqQu + Qu ^{2/(S} s -
f Xperm <= 1.0 & Xprot > 1.0	2	qar		Qr + qagq	Q	a - g(Sp - Qa)	[0.5/(qa(Qu ^{2/(S_{s-})}	C)][rQa + g(Qa + (la)	Qr) + g q (Qr + Qu) +
f Xperm > 1.0 & Xprot <= 1.0	3	Qr + qar		Qagq	Qı	u - gu(Ss - Qa)	[0.5/(qa(Qa ^{2/(Sp. 0}	C)][gqQu + gu(Qa + la)	$-Q_r) + \Gamma(Q_r + Q_a) +$
f X _{perm} <= 1.0 lagging lefts)	4	0		qa(r + gq)		0	[0.5/(Qa0	C)][r + gq)Qu + Qu²	_{/(} S _{s -} Q _{a)}
f X _{perm} > 1.0 (lagging efts)	5	Qu - gu(Ss Qa)	-	qa(r + gq)		0	[0.5/(qa0 q _{a)}	C)][r + gq)Qu + gu($Q_u + Q_{a} + Q_{a^{2/(S_p - 1)}}$

	BACK-OF-QUEUE WORKSHEET											
General Informatio	n											
Project Description Sta	ite Route	106 (Le	ewisbur	g Plke)	TPR							
Average Back of Q	ueue		18									
	LT	EB	RT	LT	WB TH	RT	LT	NB TH	RT	LT	SB TH	RT
Lane group	L	T	R	L	T	R	L	T T	R	L	TR	IXI
Init. queue/lane	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Flow rate/lane	50	2208	223	584	664	79	48	89	389	187	507	
Satflow per lane	713	1900	1615	949	1900	1615	475	1900	1615	1150	1880	
Capacity/lane	499	2286	1453	1290	2286	1453	111	317	2558	268	596	
Flow ratio	0.07	0.61	0.14	0.32	0.18	0.05	0.10	0.05	0.14	0.16	0.14	
v/c ratio	0.10	0.97	0.15	0.45	0.29	0.05	0.43	0.28	0.15	0.70	0.85	
l factor	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	1.000	
Arrival type	3	3	3	3	3	3	3	3	3	3	3	
Platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
PF factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	
Q1	0.6	45.7	1.1	3.8	6.5	0.3	1.6	3.2	1.1	6.1	10.8	
kв	1.0	1.9	2.1	1.2	1.9	2.1	0.4	0.7	2.1	0.7	0.7	
Q2	0.1	14.1	0.4	1.0	0.8	0.1	0.3	0.3	0.4	1.3	2.8	
Q avg.	0.7	59.8	1.5	4.8	7.3	0.5	1.8	3.5	1.4	7.4	13.5	
Percentile Back of (Queue (95th p	ercer	ntile)	-							
fB%	2.5	1.6	2.3	2.0	1.8	2.5	2.3	2.1	2.3	1.8	1.7	
BOQ, Q%	1.8	95.7	3.4	9.5	13.4	1.2	4.2	7.4	3.4	13.6	22.6	
Queue Storage Rati	0											
Q spacing	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	25.0	
Q storage	0	0	0	0	0	0	0	0	0	0	0	
Avg. RQ												
95% RQ%												

 $HCS2000^{\mathrm{TM}}$

Copyright © 2000 University of Florida, All Rights Reserved

Version 4.1d

TRIMS DATA (PROVIDED BY TDOT)

ROUTE FEATURE DESCRIPTION LISTING WILLIAMSON County - SR106

COUNTY: WILLIAMSON

COUNTY NO. 94

ROUTE: SR106

SPECIAL CASE:

None

CTY SEQ:

1 LOG ITEM **DESC ROUTE FEATURE** MILE CODE CODE BRIDGE [94SR1060027]: BRANCH 231 9.030 2 Two have ENTER NASHVILLE URBAN BOUNDARY 9.040 1 140 BEGIN SPEED LIMIT 45 MPH 932 9.320 9 TRAFFIC SIGNAL 9.730 9 905 SR-248 GOOSE CREEK BYPASS RT. & LT. 310 9.730 3 BRIDGE [94SR1060009]: GOOSE CREEK 221 9.750 2 A500 MOSS LN. LT. 530 9.830 5 A502 POPLAR ST. LT. 530 9.930 5 B776 SOLOMON DR. LT. 530 10.020 5 A245 OLD PEYTONSVILLE RD. RT. 10.220 5 520 A311 HENPECK LN, LT. 530 5 10.450 BRIDGE [94SR1060029]: BRANCH 231 10.580 2 10.770 5 B772 DOUGLAS GLEN LN. LT. 530 A496 ELLINGTON DR. RT. 520 10.800 5 B120 ST. GEORGES WAY RT. 520 10.990 5 OAK VALLEY BAPTIST CHURCH RT. 912 11.350 9 A654 BOWMAN RD. LT. 530 11.360 5 ENTER FRANKLIN CITY LIMITS 11.390 130 BEGIN LEWISBURG AV 920 11.390 0 GRACE CUMBERLAND PRESBYTERIAN CHURCH RT. 9 912 11.410 A517 HOLLY HILL DR. RT. 520 11.590 5 BEGIN SPEED LIMIT 40 MPH 11.630 9 932 C449 DONELSON CREEK PKWY.) LT. 11.680 5 530 BEGIN 15 MPH SCHOOL ZONE 9 933 11.880 BRIDGE [94SR1060011]: DONELSON CREEK 221 2 11.900 SCHOOL MOORE ELEMENTARY RT. 915 12.080

09/27/2007

ROUTE FEATURE DESCRIPTION LISTING WILLIAMSON County - SR106

Page 2 of 2

COUNTY: WILLIAMSON

COUNTY NO. 94

ROUTE: SR106 SPECIAL CASE: None CTY SEQ: 1

LOG MILE	ITEM CODE	ROUTE FEATURE	DESC CODE
12.080	5	B406 DALLAS BLVD. LT.	530
12.190	0	C462 SPRING CABIN LN. RT.	999
12.250	9	END 15 MPH SCHOOL ZONE	934
12.290	5	B049 HUNTERS CHASE DR. LT.	530
12.350	5	A516 GARDNER DR. RT. 12.36 TURN LANE	520
12.460	9	TRAFFIC SIGNAL	905
12.460	3	SR-397 MACK HATCHER MEMORIAL PKWY. RT. & LT.	310

TENNESSEE DEPARTMENT OF TRANSPORTATION

COUNTY =	Williamson				Date:	9/27/2007
Route =	SR 106					
Location =	From just sout	h of Goose Cre	ek ByPass to Gard	dner Dr		
Highway Type =	Urban two lane)				
FUNCTIONAL CLAS	Urban minor	arterial				
DATA YEARS =	2004 - 2006					
ADT YEARS USED=	2007 Trims					
COMMENTS =						
ANALYZED BY =	dh					
SECTION = MORE	The same of the sa	THE RESERVE OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN	S THAN 0.10 MILE			
BLM	ELM	Length	Average AADT	VMT		
9.60	9.73	0.13	7,560	983		
9.73	12.35	2.62	10,720	28,086		
0.00		0.00		0		
0.00	0.00	0.00	0	0		
0.00	0.00	0.00	0	0		
0.00	0.00	0.00	0	0		
0.00	0.00	0.00	0	0		
		2.75	10,571	29,069		
INTERSECTION				Leg	Traffic AADT	
Log Mile =	0			North =	0	
				East =	0	
				South =	0	
				West =	0	
				Entering AADT =	0	
				2007 Trims		
			Urban Two Lane			
			2004 - 2006			
		Total	Fatal	Incap. Injury	*Severe Crashes	Other Injury
No. of Crashes		43	0	0	0	12
No. of Years	_	3				
SW avg. rate	-	2.341	0.017	0.083	0.099	0.599
03-05 S/W Rates						
Exposure (E)	_	31.8308				
Crash Rate (A)		1.351	0.000	0.000	0.000	0.377
Critical Rate (C)	=	2.987	0.000	0.000	3.330	
Severity Index (SI)	=	0.2791				
Actual Rate/SW Aver	rage =	0.58	0.00	0.00	0.00	0.63
Ratio of A/C	=	0.45	0.00	0.00	0.00	0.00
* Severe Crashes a						
COTOLO CIGOLICO d	re ure sulli Ol	iatai aliu IIICa	ipacitating injur	y Grabiles		
					R	evised 4/3/2007

Crash Summary Report Date: 09/27/2007

County: WILLIAMSON

Route: SR106

SpcI Cse: 0-NONE

Cnty Seq: 1

Begin LogMile: 9.6

End LogMile: 12.35

Begin Date: 01/01/2004

End Date: 12/31/2006

Statistics	
Fatal Crashes:	0
Total Killed:	0
Incap Injury Crashes:	0
Total Incap Injuries:	0
Other Injury Crashes:	12
Total Other Injuries:	17
Prop Damage Crashes:	31
Total Crashes:	43

Weather Conditions			
No Adverse Conditions:	38	Sleet and Fog:	0
Rain:	4	Smog, Smoke:	0
Sleet and Hail:	0	Severe Crosswind:	0
Snow:	0	Other:	0
Foggy:	0	Unknown:	0
Rain and Fog:	1	Blowing Sand, Soil, Dirt, or Snow:	0

Crashes Involving	
Pedestrians:	0
Hazardous Cargo:	1
Construction Zones:	0
Fixed Objects:	5
Heavy Trucks:	0
Bicycles:	0

Manner of Collision	
Rear End:	25
Head On:	2
Rear-to-Rear:	0
Angle:	11
Sideswipe Same Dir:	0
Sideswipe Opp. Dir:	2
Unknown:	0

Road Conditions	
lce:	0
Snow or Slush:	0
Sand, Mud, Dirt or Oil:	0
Wet:	1
Dry:	14
Other:	0
Unknown:	0

Cusal Lagation	
Crash Location	
Along Roadway:	13
At Intersection:	30
Railroad Crossing:	0
Bridge:	0
Underpass:	0
Ramp:	0
Private Property:	0
Other:	0

First Harmful Event	
Pedestrian:	0
Pedalcycle:	0
Railway Train:	0
Deer (Animal):	0
Other Animal:	0
Motor Vehicle in Transport:	23
Motor Vehicle in Transport in Other Rdway:	0
Parked Motor Vehicle:	0
Other Type Non-Motorist:	0
Fixed Object:	5
Other Object (not fixed):	0
Non Collision:	0

Lighting Conditions	
Dawn:	0
Daylight:	34
Dusk:	1
Dark/Lighted:	2
Dark/Not Lighted:	6
Not Indicated:	0

TENNESSEE DEPARTMENT OF TRANSPORTATION

COUNTY = Willi	amson				Date:	9/27/2007
Route = SR 1	06					
	From Gardner to just north of Mack Hatcher Parkway					
		-	ocated at Mack Ha			
	lane urban w			•		
FUNCTIONAL CLAS Urba	an other pri	ncipal arteri	al			
	- 2006					
ADT YEARS USED= 2007						
COMMENTS =						
ANALYZED BY = dh						
SECTION = MORE THAN	N 0.10 MILE /	SPOT = LES	S THAN 0.10 MILE			
BLM	ELM	Length	Average AADT	VMT		
12.36	12.46	0.10	10,720	1,072		
12.46	12.50	0.04	6,610	264		
0.00		0.00		0		
0.00	0.00	0.00	0	0		
0.00	0.00	0.00	0	0		
0.00	0.00	0.00	0	0		
0.00	0.00	0.00	0	0		
		0.14	9,546	1,336		
INTERSECTION				Lon Tu	affic AADT	
	0				allic AAD I	
Log Mile =	U			North =	0	
				East =	0	
				South = West =	0	
			-	west =	0	
				007 Trims	0	
			Two Lane Urban			
			2004 - 2006	With Full Lane		
			2004 - 2000		tCauses.	Other
		Tatal	Fatal	Incom Intoms	*Severe Crashes	Other
le of Creebee		Total		Incap. Injury		Injury
No. of Crashes	=	5	0	0	0	
No. of Years	=	2.652	0.040	0.081	0.000	0.59
SW avg. rate	=	2.052	0.012	0.081	0.093	0.08
03-05 S/W Rates						
Exposure (E)	=	1.4634				
Crash Rate (A)	_	3.417	0.000	0.000	0.000	0.00
Critical Rate (C)		6.127	3,000	0.000	0.000	
Severity Index (SI)	=	0.0000				
or only made (oi)		0.0000				
Actual Rate/SW Average	-	1.29	0.00	0.00	0.00	0.0
Ratio of A/C	=	0.56				
		0.00				
Severe Crashes are ti	ne sum of fa	ital and ince	nacitating injusy	craehes		
OUTOIO OIGGIICO GIC LI	io odini di la	tai airu iire	ipavitating injury	VI 001163		
					Re	

Dh

T.D.O.T. PROJECT PLANNING DIVISION (SAFETY PLANNING SECTION)

Crash Summary Report

Date: 09/27/2007

County: WILLIAMSON Route: SR106 SpcI Cse: 0-NONE Cnty Seq: 1 Begin Date: 01/01/2004 End Date: 12/31/2006 Begin LogMile: 12.36 End LogMile: 12.45 **Weather Conditions** Statistics **Fatal Crashes:** 0 No Adverse Conditions: 5 Sleet and Fog: 0 0 **Total Killed:** Smog, Smoke: Rain: 0 0 Incap Injury Crashes: 0 0 Severe Crosswind: Total Incap Injuries: Sleet and Hail: 0 0 0 Other Injury Crashes: Other: 0 Snow: 0 **Total Other Injuries:** 0 Unknown: 0 Foggy: 0 **Prop Damage Crashes:** 5 Rain and Fog: Blowing Sand, Soil, Dirt, or Snow: 0 **Total Crashes:** 5 Manner of Collision Road Conditions Crashes Involving Ice: 0 0 Pedestrians: Rear End: 5 0 Head On: 0 Snow or Slush: 0 **Hazardous Cargo:** Rear-to-Rear: 0 Sand, Mud, Dirt or Oil: 0 0 **Construction Zones:** 0 Angle: 0 Wet: 0 Fixed Objects: 0 Sideswipe Same Dir: 0 Dry: 3 **Heavy Trucks:** 0 Sideswipe Opp. Dir: 0 Other: Bicycles: 0 Unknown: 0 Unknown: 0 Crash Location First Harmful Event Lighting Conditions Dawn: 0 5 0 Along Roadway: Pedestrian: Daylight: 4 0 At Intersection: Pedalcycle: 0 Dusk: 0 0 Railroad Crossing: Railway Train: 0 Dark/Lighted: 0 Bridge: 0 Deer (Animal): 0 Dark/Not Lighted: 1 Underpass: 0 0 Other Animal: Not Indicated: 0 0 Ramp: Motor Vehicle in Transport: 2 0 **Motor Vehicle in Transport Private Property:** 0 in Other Rdway: Other: 0 0 Parked Motor Vehicle: Other Type Non-Motorist: 0 **Fixed Object:** 0

Other Object (not fixed):

Non Collision:

0

0

TENNESSEE DEPARTMENT OF TRANSPORTATION

COUNTY = Williamson Date: 9/27/2007 = SR 106 Route Location Intersection with SR 397 Mack Hatcher Memorial Parkway Two lane urban with turn lane **Highway Type** FUNCTIONAL CLAS Urban other principal arterial DATA YEARS = 2004 - 2006 ADT YEARS USED= 2007 trims COMMENTS = ANALYZED BY = dh SECTION = MORE THAN 0.10 MILE / SPOT = LESS THAN 0.10 MILE BLM **VMT** ELM Length **Average AADT** 0.00 0.00 0 0.00 0.00 0 0.00 0.00 0 0.00 0.00 0.00 0 0 0.00 0.00 0.00 0 0 0.00 0.00 0.00 0 0 0.00 0.00 0.00 0 0 0.00 INTERSECTION Leg **Traffic AADT** 12.46 Log Mile 6,610 North 25,590 East South = 10,720 19,210 West Entering AADT = 31.065 **2007 Trims** Two Lane Urban With Turn Lane 2004 - 2006 *Severe Other Crashes Injury Total **Fatal** Incap. Injury No. of Crashes 32 0 1 11 No. of Years 3 SW avg. rate 0.002 0.015 0.218 0.890 0.017 03-05 S/W Rates Exposure (E) 34.0162 Crash Rate (A) 0.941 0.000 0.029 0.029 0.323 Critical Rate (C) 1.281 Severity Index (SI) 0.4063 Actual Rate/SW Average 1.06 0.00 1.96 1.73 1.48 Ratio of A/C 0.73 * Severe Crashes are the sum of fatal and incapacitating injury crashes Revised 4/3/2007

(SAFETY PLANNING SECTION)

Dh

T.D.O.T. PROJECT PLANNING DIVISION

Crash Summary Report Date: 09/27/2007

Route: SR106 SpcI Cse: 0-NONE Cnty Seq: 1 County: WILLIAMSON

End Date: 12/31/2006 End LogMile: 12.46 **Begin Date:** 01/01/2004 Begin LogMile: 12.46

Statistics	
Fatal Crashes:	0
Total Killed:	0
Incap Injury Crashes:	1
Total Incap Injuries:	1
Other Injury Crashes:	11
Total Other Injuries:	14
Prop Damage Crashes:	20
Total Crashes:	32

-Weather Conditions-			
No Adverse Conditions:	26	Sleet and Fog:	0
Rain:	6	Smog, Smoke:	0
Sleet and Hail:	0	Severe Crosswind:	0
Snow:	0	Other:	0
Foggy:	0	Unknown:	0
Rain and Fog:	0	Blowing Sand, Soil, Dirt, or Snow:	0

Crashes Involving	
Pedestrians:	0
Hazardous Cargo:	1
Construction Zones:	0
Fixed Objects:	0
Heavy Trucks:	3
Bicycles:	0

Manner of Collision		
Rear End:	16	
Head On:	0	
Rear-to-Rear:	0	
Angle:	12	
Sideswipe Same Dir:	3	
Sideswipe Opp. Dir:	1	
Unknown:	0	

Road Conditions	
lce:	0
Snow or Slush:	0
Sand, Mud, Dirt or Oil:	0
Wet:	4
Dry:	11
Other:	0
Unknown:	0

-Crash Location-	
Olasii Eddalloli	
Along Roadway:	0
At Intersection:	32
Railroad Crossing:	0
Bridge:	0
Underpass:	0
Ramp:	0
Private Property:	0
Other:	0

First Harmful Event———	
Pedestrian:	0
Pedalcycle:	0
Railway Train:	0
Deer (Animal):	0
Other Animal:	0
Motor Vehicle in Transport:	17
Motor Vehicle in Transport in Other Rdway:	0
Parked Motor Vehicle:	0
Other Type Non-Motorist:	0
Fixed Object:	0
Other Object (not fixed):	0
Non Collision:	0
 	

-Lighting Conditions	
Dawn:	0
Daylight:	25
Dusk:	0
Dark/Lighted:	7
Dark/Not Lighted:	0
Not Indicated:	0

	. 9	()	, ,	. \				, ,				,1,			\ -										\			_	100				15,	Į.		
Case	7938857	7938862	8376549 1	7916416	7938626	7939897	8214442~	8259781	8916786	7916699 1	9653957	7916682	9680010	8919652	8916787	8937503	9712141-	7916523	8214207	8214460	7939939	8373520	9095620	9680151	7939740	7938527	8936084	7904707	7938551	8214219	9283782	7899948	9741152	9741237	9741465 1	7997996
AVEZUIE! COITU	No Adverse Cond.	Rain	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	Rain	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	Rain and Fog	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	Rain	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.
Manner or FIISt Comsion	Angle	Head-On	Angle	Rear-End	Rear-End	Rear-End	Rear-End	Angle	Rear-End	Head-On	Rear-End	Rear-End	Rear-End	Angle	Rear-End	No Collision w/ Vehicle	Angle	Angle	Rear-End	Angle	Rear-End	Rear-End	No Collision w/ Vehicle	No Collision w/ Vehicle	Angle	Angle	Rear-End	Rear-End	Rear-End	Sideswipe, Opposite Dir	Angle	Sideswipe, Opposite Dir	Rear-End	Rear-End	Rear-End	Angle
Wost narmiul Event	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	Fence	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	Culvert	Wall	VEHICLE IN TRANSPORT	Ditch	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	Utility Pole
Uriver Actions	No Contributing Actions	No Contributing Actions	No Contributing Actions	No Contributing Actions	Following Improperly	No Contributing Actions	Following Improperly	No Contributing Actions	No Contributing Actions	Driving Left of Center	No Contributing Actions	No Contributing Actions	No Contributing Actions	No Contributing Actions	No Contributing Actions	Other (Narrative)	Failure to Yield Right of Way	No Contributing Actions	No Contributing Actions	Careless or Erratic Driving	No Contributing Actions	Following Improperly	LANE DEPARTURE	LANE DEPARTURE	Failure to Yield Right of Way VEHICLE IN TRANSPORT	LANE DEPARTURE	No Contributing Actions	No Contributing Actions	No Contributing Actions	Driving Left of Center	No Contributing Actions	Improper Turn	Following Improperly	No Contributing Actions	Failure to Yield Right of Way	LANE DEPARTURE
l otal Veh	2	7	7	2	2	2	2	2	2	2	2	7	2	7	2	-	7	2	2	2	7	ဇာ	~	_	7	-	7	2	ю	7	2	2	7	7	2	-
Location	ALONG ROADWAY	ALONG ROADWAY	AT AN INTERSECTION	Prop Damage (over) AT AN INTERSECTION	Prop Damage (over) AT AN INTERSECTION	Prop Damage (over) AT AN INTERSECTION	Prop Damage (over) AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	ALONG ROADWAY	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	ALONG ROADWAY	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	ALONG ROADWAY	ALONG ROADWAY	ALONG ROADWAY	AT AN INTERSECTION	ALONG ROADWAY	ALONG ROADWAY	ALONG ROADWAY	AT AN INTERSECTION	AT AN INTERSECTION	ALONG ROADWAY	AT AN INTERSECTION	Prop Damage (over) AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	ALONG ROADWAY
lype of Crash	Prop Damage (over)	Prop Damage (over)	Non-Incap Injury	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Non-Incap Injury	Prop Damage (over)	Prop Damage (over)	Non-Incap Injury	Prop Damage (over)	Non-Incap Injury	Prop Damage (over)	Prop Damage (over)	Non-Incap Injury	Non-Incap Injury	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Non-Incap Injury	Non-Incap Injury	Non-Incap Injury	Prop Damage (over)	Non-Incap Injury	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)
lota! Inj	0	0	2	0	0	0	0	2	0	0	7	0	-	0	0	2	_	0	0	0	0	-	_	_	7	0	-	0	0	0	0	0	0	0	0	0
l otal Killed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
IIme	735	200	1620	940	1830	1520	950	1625	720	1715	1600	800	1715	1500	731	σ	750	200	810	745	1604	1557	909	254	1453	2125	735	1110	745	1443	1656	715	1530	649	1450	2040
Date of Crash	10/25/2004	11/30/2004	09/01/2004	05/10/2004	03/03/2004	10/26/2004	04/27/2004	04/21/2004	12/05/2006	02/08/2005	01/27/2005	12/27/2004	11/01/2004	12/08/2006	12/14/2006	08/26/2005	01/27/2006	10/22/2004	07/24/2004	06/04/2005	12/06/2005	04/19/2005	03/18/2006	08/11/2005	10/23/2005	05/19/2004	05/18/2005	03/14/2004	05/17/2004	12/26/2004	11/03/2005	08/17/2005	09/20/2006	12/20/2005	02/16/2006	05/13/2004
Log Mile	9,630	9,630	9,630	9,730	9,730	9.730	9,730	9.730	9,730	9,770	9.830	10,020	10,020	10.030	10,220	10,220	10,220	10,450	10,450	10,450	10.460	10,550	10.550	10,550	10,770	10.850	11,090	11,350	11.360	11,360	11,490	11,680	11,680	11,680	11.680	11,700
Koute	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106
County	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON

															72		-	- 140					_													
Case	7999592 🗸	8915825	7916464	7998846	7999281	7999645	9740151	0987667	8916465	8916966	9741430	7904915	7903997	7904266	7904719	7904923	7905247	9862662	788288	7998374	7998697	7998930	7998940	7999164	2986506	7999222	7999299	7999459	7999622	9066664	8915450 4	8916158	8916404	8916538	8916654	8916695 *
wearner cond	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond,	No Adverse Cond.	Rain	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	Rain	No Adverse Cond.	Rain	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	Rain	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	Rain	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond.	No Adverse Cond
Manner or First comsion	Rear-End	Rear-End	Rear-End	Rear-End	Rear-End	Rear-End	Rear-End	Rear-End	Rear-End	Rear-End	Rear-End	Rear-End	Rear-End	Angle	Angle	Angle	Angle	Angle	Rear-End	Angle	Angle	Rear-End	Angle	Rear-End	Rear-End	Rear-End	Rear-End	Sideswipe, Same Dir	Angle	Angle	Sideswipe, Opposite Dir	Rear-End	Rear-End	Rear-End	Rear-End	Rear-End
Most Harmful Event	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	IS VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	9 VEHICLE IN TRANSPORT	g VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	or VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT
Driver Actions	Following Improperly	No Contributing Actions	No Contributing Actions	Following Improperly	No Contributing Actions	No Contributing Actions	No Contributing Actions	Following Improperly	Failure to Yield Right of Way	No Contributing Actions	Following Improperly	Other (Narrative)	No Contributing Actions	No Contributing Actions	Improper Turn	No Contributing Actions	No Contributing Actions	No Contributing Actions	No Contributing Actions	*ailure to Obey Traffic Controls VEHICLE IN TRANSPORT	No Contributing Actions	Operator Inexperience	ntive (Eating, Reading, Talking VEHICLE IN TRANSPORT	ntive (Eating, Reading, Talking VEHICLE IN TRANSPORT	No Contributing Actions	Following Improperly	No Contributing Actions	Improper Passing	LANE DEPARTURE	No Contributing Actions	No Contributing Actions	Following Improperly	rating Without Required Equipr VEHICLE IN TRANSPORT	Improper Backing	No Contributing Actions	Following Improperly
lotal Veh	2	7	2	2	2	2	2	2	2	7	2	2	2	2	2	2	2	2	7	က	7	2	2	2	2	2	က	2	2	2	2	2	2	7	4	7
Location	AT AN INTERSECTION	AT AN INTERSECTION	ALONG ROADWAY	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	ALONG ROADWAY	ALONG ROADWAY	ALONG ROADWAY	ALONG ROADWAY	ALONG ROADWAY	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION
lype of Crash	Prop Damage (over)	Non-Incap Injury	Non-Incap Injury	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Prop Damage (over)	Non-Incap Injury	Prop Damage (over)	Non-Incap Injury	Non-Incap Injury	Non-Incap Injury	Non-Incap Injury	Non-Incap Injury	Non-Incap Injury	Non-Incap Injury	Prop Damage (over)	Prop Damage (over) AT AN	Prop Damage (over) AT AN	Prop Damage (over) AT AN	Prop Damage (over) AT AN	Prop Damage (over) AT AN	Prop Damage (over) AT AN	Prop Damage (over) AT AN	Prop Damage (over) AT AN	Prop Damage (over) AT AN	Non-Incap Injury	Non-Incap Injury
lotal Inj	0	_	~	0	0	0	0	0	0	0	0	0	0	0	0	~	0	2		~	-	~	~	~	0	0	0	0	0	0	0	0	0	0	2	←
l otal Killed	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
of of	725	840	1739	1350	1821	1240	815	1517	1041	1543	1651	2123	1700	1324	1220	1655	1447	1705	1643	1343	1645	1807	1625	820	1825	1640	1546	2316	855	1910	1349	1550	1625	1318	1710	2030
Date of Crash	03/29/2005	12/20/2006	08/17/2004	06/04/2005	11/17/2004	02/02/2005	04/20/2005	08/17/2004	11/17/2006	08/18/2006	04/04/2006	01/13/2004	11/06/2006	01/11/2005	07/10/2004	06/20/2004	02/06/2006	04/20/2004	04/29/2004	08/27/2006	09/14/2004	08/22/2004	01/10/2005	04/01/2005	11/13/2004	04/25/2005	03/30/2005	12/22/2004	03/05/2005	02/24/2005	08/02/2006	10/08/2006	02/27/2006	06/06/2006	06/16/2006	05/20/2006
Log Mile	12,080	12,080	12,260	12.290	12,290	12,350	12,350	12,360	12,380	12,420	12,420	12,450	12,460	12.460	12,460	12,460	12.460	12.460	12,460	12.460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12,460	12.460	12,460	12,460	12,460
Koute	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106
County	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON	WILLIAMSON

St Comision weather Conu case Number	ile No Adverse Cond. 8916696 V		No Adverse Cond.	Rain	No Adverse Cond	No Adverse Cond.	No Adverse Cond.
Manner of First Collision	Angle	Sideswipe, Same Dir		Anale	Sideswi		
MOST HARMTUI EVENT	VEHICLE IN TRANSPORT	Improper Lane Changing VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	Improper Lane Changing VEHICLE IN TRANSPORT	VEHICLE IN TRANSPORT	g VEHICLE IN TRANSPORT
URIVER ACTIONS	Failure to Yield Right of Way VEHICLE IN TRANSPORT	Improper Lane Changing	No Contributing Actions	Unknown Action	Improper Lane Changing	Following Improperly	ntive (Eating, Reading, Talking VEHICLE IN TRANSPORT
Veh	2	2	2	2	2	2	2
Location	Prop Damage (over) AT AN INTERSECTION	Prop Damage (over) AT AN INTERSECTION	AT AN INTERSECTION	AT AN INTERSECTION	Prop Damage (over) AT AN INTERSECTION	Prop Damage (over) AT AN INTERSECTION	Prop Damage (over) AT AN INTERSECTION
lype of crasn		Prop Damage (ove	Non-Incap Injury	Incap Injury	Prop Damage (ove	Prop Damage (ove	Prop Damage (ove
ota Inj	0	0	τ-	2	0	0	0
Killed	0	0	0	0	0	0	0
of Killed Inj	1948	902	1750	1935	1320	650	738
Late or Crash	05/21/2006 1948 0	11/15/2006 902 0	07/03/2005 1750	03/05/2006 1935	10/24/2005 1320	11/14/2005	07/10/2006 738
Log Wile	12,460	12.460	12,460	12,460	12,460	12,460	12,460
Aoute	VILLIAMSON SR106	N SR106	N SR106	VILLIAMSON SR106	VILLIAMSON SR106	N SR106	N SR106
County	WILLIAMSO	WILLIAMSON SR106	WILLIAMSON SR106	WILLIAMSO	WILLIAMSO	WILLIAMSON SR106	WILLIAMSON SR106

TRIMS ROAD SEGMENT REPORT WILLIAMSON County - SR106

COUNTY: WILLIAMSON

09/27/2007

COUNTY NO: 94

HPMS SEC_ID	9401S1060188											9401S1061865					
ROAD	LEWISBURG PK LEWISBURG PK	LEWISBURG PK	LEWISBURG PK	LEWISBURG AV	5TH AV S	5TH AV N	HILLSBORO RD	HILLSBORO RD	HILLSBORO RD	HILLSBORO RD	HILLSBORO RD	HILLSBORO RD	HILLSBORO RD	HILLSBORO RD	HILLSBORO RD	HILLSBORO RD	HILLSBORO RD
IC GOV REA CON	STATE HWAY	STATE HWAY	STATE HWAY	103 STATE HWAY	103 STATE HWAY	103 STATE HWAY	103 STATE HWAY	103 STATE HWAY	STATE HWAY	STATE HWAY	STATE HWAY	STATE HWAY	STATE HWAY	STATE HWAY	STATE HWAY	STATE HWAY	32 STATE HWAY
URB INC AREA AREA			210	210 10	210 10	210 10	210 10	210 10	210		210			210		210	210 3
ADM SYS	STP STATE RURAL STP STATE RURAL	STP STATE RURAL	STP STATE URBAN	STP STATE URBAN	STP STATE URBAN	STP STATE URBAN	STP STATE URBAN	U OTH PRIN ART STP STATE URBAN	U OTH PRIN ART STP STATE URBAN	STP STATE RURAL	I STP STATE URBAN	STP STATE RURAL	STP STATE RURAL	I STP STATE URBAN	STP STATE RURAL	JOTH PRIN ART STP STATE URBAN	JOTH PRIN ART STP STATE URBAN
FUNCTIONAL	R / MAJ COL R / MAJ COL	R / MAJ COL	U / MIN ART	U / MIN ART	U / MIN ART	U / MIN ART	U / MIN ART	U OTH PRIN AR	U OTH PRIN AR	R / MIN ART	U OTH PRIN ART	R / MIN ART	R / MIN ART	U OTH PRIN ART	R / MIN ART	U OTH PRIN AR	U OTH PRIN AR
US RTE2																	
US 3 RTE	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431	431
END LOG SP SP SP MILE SY SY2 SY3	1.880 23 4.570 40 23	9.040 23	11.390 23	14.610 23	14.850 23	15,290 01	16.270 01	17.700 01	17.800 01	18.360 01	18.790 01	19.990 40	20,270 01	21.610 01	23.300 01	23.370 01	23.810 01
BEG LOG MILE	0.000	4.570	9.040	11.390	14.610	14.850	15.290	16.270	17.700	17.800	18.360	18.790	19.990	20.270	21.610	23.300	23.370
CTY SEQ			Ψ.	•	~	-	-	-	-		-	-	<u>-</u>	-	-	-	S
SPEC	00	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
ROUTE SPEC NBR CASE	SR106 SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106	SR106

	-1
CLASS COUNTS IS STATION CLASS NRB COUNTY COUNTY	
SOUNTS	26 28 28
CLASS COUR STATION	0880 1340 0840
STNUO NOI VENIO	26 26 26
% MULTI CYCLE COUNTS CLASS COUNTS UNIT STATION STATION TRICKS NRB COUNTY NRB COUNTY	83
MULTI UNIT	0 0 0
% % % SINGLE MULTI PASS UNIT UNIT CARS TRICKSTRICKS	60
PASS	95 97 98
DIRECT DIST	88
DESIGN DIRECT % HOUR DIST PASS	t 12
PEAK HOUR	13
AVERAGE DAILY TRAFFIC	7560 10720 6610
AVERAGE YR OF DAILY TRAFFIC TRAFFIC	2007
END LOG	9.730 12.460 13.870
BEG LOG MILE	4.570
os oo	
ROUTE SC CO SQ	SR106 SR106 SR106

09/27/2007

ROUTE FEATURE DESCRIPTION LISTING WILLIAMSON County - SR397

Page 1 of 1

COUNTY: WILLIAMSON

COUNTY NO. 94

ROUTE: SR397

R397 SPECIAL CASE:

None

CTY SEQ:

1

LOG MILE	ITEM CODE	ROUTE FEATURE	DESC CODE
1.450	1	B642 POLK PLACE DR. LT.	199
1.820	9	TRAFFIC SIGNAL	905
1.820	3	SR-106 LEWISBURG AVE. RT. & LT.	310
2.000	2	BRIDGE [94SR3970003]: HARPETH RIVER	251

COUNTY: WILLIAMSON

	<u>s</u>	CLASS	COUNT?		
	OUNTS	NO	SOUNTY	94	94
	CYCLE COUNTS CLASS COUNTS IS	STATION	NBR COUNTY NBR COUNTY COUNT?	142C	144C
	SOUNTS	NOI	COUNTY	94	94
	CYCLE	STATION		142	144
%	MULTI	LIND	TRUCKS	4	က
%	SINGLE MULTI	LIND	CARS TRUCKS TRUCKS	2	က
	%	PASS	CARS	91	94
	DIRECT	DIST	%	99	65
	PEAK DESIGN DIRECT %	HOUR HOUR	VOLUME %	10	9
	PEAK	HOUR	^ %	8	
	AVERAGE	DAILY	TRAFFIC	19210	25590
		YR OF	TRAFFIC TRAFFIC	2007	
	END	FOG	MILE	1.820	3.200
	BEG	POOT	MILE	0.000	
			ROUTE SC CO SQ	-	_
			ا ا		
			ROUTE	SR397	SR397

09/27/2007

WILLIAMSON County - SR106

County Sequence 1

•		

(94) Route No. SR106 Special Case 0-NONE

County: WILLIAMSON

	sition	I	ONCRETE	ONCRETE	NCRETE	I	I	ONCRETE	NCRETE	ONCRETE	I	I	ONCRETE	ONCRETE	ONCRETE	ī	ī	ONCRETE	ONCRETE	ED	
Feature Information	Width Composition	DITCH	4.0 ASPHALT CONCRETE	22.0 ASPHALT CONCRETE	4.0 ASPHALT CONCRETE	DITCH	DITCH	10.0 ASPHALT CONCRETE	24.0 ASPHALT CONCRETE	10.0 ASPHALT CONCRETE	DITCH	DITCH	4,0 ASPHALT CONCRETE	22.0 ASPHALT CONCRETE	4.0 ASPHALT CONCRETE	DITCH	DITCH	8.0 .ASPHALT CONCRETE	12.0 ASPHALT CONCRETE	12.0 PAINTED	
Feature In	Type Wi	DRAINAGE	SHOULDER 4 (OUTSIDE)		SHOULDER 4 (OUTSIDE)	DRAINAGE	DRAINAGE	SHOULDER 10		SHOULDER 10	DRAINAGE	DRAINAGE	SHOULDER 4		SHOULDER 4	DRAINAGE	DRAINAGE	SHOULDER 8		MEDIAN 12	
	* Sed. #	_	2	က	4 =	c)	-	7	ь	4	2	-	2	e	4	S	+	2	e	4	
N	Lanes Lanes	2	2	2	2	2	2	2	2	2	8	2	8	2	2	2	2	2	73	2	
THE	Lane	2	2	2	2	2	7	2	8	2	2	2	7	2	2	2	2	7	2	2	
	Land Use	0-RURAL					4-FRINGE (MIX RES.					0-RURAL					0-RURAL				
	Terrain	2-ROLLING					2-ROLLING					2-ROLLING					2-ROLLING				
School Truck Spd Spd Spd	Lmt Lmt	45					45					45					45				
Ė	ination	ON O					8					8					ON.				
, EDIII	Operation	2-TWO WAY					2-TWO					2-TWO					2-TWO				
Access	Control	0-NONE					0-NONE					0-NONE					0-NONE				
End	ile ROW	9.620 60	90	09	09	09	9,810 120	120	120	120	120	380 60	09	09	09	09	410 60	09	09	09	
Beg Er Log Lo	- 1	9.500 9.6					9.620 9.8					9,810 10.380					10.380 10,410				

Page 2 of 6

Special Case 0-NONE

(94) Route No. SR106

County: WILLIAMSON

County Sequence 1

WILLIAMSON County - SR106

22.0 ASPHALT CONCRETE 8.0 ASPHALT CONCRETE 8.0 ASPHALT CONCRETE 12,0 ASPHALT CONCRETE 12.0 ASPHALT CONCRETE 8.0 ASPHALT CONCRETE 4.0 ASPHALT CONCRETE 22.0 ASPHALT CONCRETE 4.0 ASPHALT CONCRETE 4.0 ASPHALT CONCRETE 4.0 ASPHALT CONCRETE CURB AND GUTTER CURB AND GUTTER Composition PAINTED DITCH DITCH DITCH DITCH DITCH DITCH Feature Information Width 12.0 SHOULDER (OUTSIDE) PAVEMENT SHOULDER (OUTSIDE) PAVEMENT SHOULDER (OUTSIDE) SHOULDER (OUTSIDE) SHOULDER (OUTSIDE) SHOULDER (OUTSIDE) SHOULDER (OUTSIDE) PAVEMENT **PAVEMENT** DRAINAGE DRAINAGE DRAINAGE DRAINAGE MEDIAN DRAINAGE DRAINAGE DRAINAGE DRAINAGE Thru Nbr Lanes Seq. # = 5 5 17 5 Land Use 0-RURAL 0-RURAL 0-RURAL 0-RURAL 0-RURAL 2-ROLLING 2-ROLLING 2-ROLLING 2-ROLLING 2-ROLLING Terrain School Truck Illum- Spd Spd Spd Operation ination Lmt Lmt Lmt 45 45 40 40 9 9 9 2 9 2-TWO WAY 2-TWO WAY 2-TWO WAY 2-TWO WAY Access Control 0-NONE 0-NONE 0-NONE 0-NONE 0-NONE ROW 11.830 11.880 100 10.380 10.410 60 90 9 9 90 9 9 9 9 9 90 60 9 9 10,410 10.520 10,520 11,630 11,630 11,830 End Log Mile Beg Log Mile

09/27/2007

WILLIAMSON County - SR106

(94) Route No. SR106 Special Case 0-NONE

County: WILLIAMSON

County Sequence 1

Feature Information	Width Composition	7.0 ASPHALT CONCRETE	22.0 ASPHALT CONCRETE	7.0 ASPHALT CONCRETE	ОІТСН	ртсн	7.0 ASPHALT CONCRETE	22.0 ASPHALT CONCRETE	7.0 ASPHALT CONCRETE	рітсн	ртсн	7.0 ASPHALT CONCRETE	11.0 ASPHALT CONCRETE	11.0 PAINTED	11.0 ASPHALT CONCRETE	7.0 ASPHALT CONCRETE	DITCH	SIDEWALK ONLY	4,0 GRAVEL	12.0 ASPHALT CONCRETE	12.0 PAINTED
Feat	Type	SHOULDER (OUTSIDE)	PAVEMENT	SHOULDER (OUTSIDE)	DRAINAGE	DRAINAGE	SHOULDER (OUTSIDE)	PAVEMENT	SHOULDER (OUTSIDE)	DRAINAGE	DRAINAGE	SHOULDER (OUTSIDE)	PAVEMENT	MEDIAN	PAVEMENT	SHOULDER (OUTSIDE)	DRAINAGE	DRAINAGE	SHOULDER (OUTSIDE)	PAVEMENT	MEDIAN
	Seq. #	2	60	4	c)	-	7	က	4	co	φ	-5	4	ę,	-7	7	0		64	(7)	4
1	anes (2	7	8	2	8	2	2	8	7	8	2	73	7	2	24	2	7	7	2	2
Ä	Lanes Lanes	2	7	8	7	7	2	7	2	7	2	7	2	2	23	8	2	7	2	8	2
	Land Use	0-RURAL				4-FRINGE (MIX RES. COMM.)					4-FRINGE (MIX RES. COMM.)							4-FRINGE (MIX RES.			
	Terrain	2-ROLLING				2-ROLLING					2-ROLLING							2-ROLLING			
School Truck	ΞĘ	40				15 40					15 40							15 40			
ģ	nation	2				8					8							S S			
	Operation ination	2-TWO WAY				2-TWO WAY					2-TWO WAY							2-TWO			
Access	Control	0-NONE				0-NONE					0-NONE							0-NONE			
	ROW	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	80	80	80	80
End		11,880				11.930												2,170			
Beg	Mile	11.830 1				11,880 1					11 930 11 990							11.990 12.170			

Page 4 of 6

WILLIAMSON County - SR106

Š	unty:	County: WILLIAMSON	MSON	(94)	Route	No.	Route No. SR106	Special Case 0-NONE	0-NONE			County	County Sequence 1	
Beg	End		00000		, 1	School	Truck			Å	1		Featu	Feature Information
Mile		ROW	Control	Operation	ination	ξĘ	Lmt Lmt	Terrain	Land Use	Lanes	Lanes Lanes Seq.#	Seq. #	Type	Width Composition
11.990	12,170	80	0-NONE	2-TWO WAY	ON.	15	40	2-ROLLING	4-FRINGE (MIX RES. COMM.)	2	2	c)	PAVEMENT	12.0 ASPHALT CONCRETE
		80								2	2	9	SHOULDER (OUTSIDE)	4.0 ASPHALT CONCRETE
		80								2	2	7	DRAINAGE	SIDEWALK ONLY
12.170 12.250	12.250	80	0-NONE	2-TWO WAY	0	15	40	2-ROLLING	4-FRINGE (MIX RES. COMM.)	2	2		DRAINAGE	SIDEWALK ONLY
		80							VII	2	2	2	SHOULDER (OUTSIDE)	2.0 GRAVEL
		80								2	2	60	PAVEMENT	12.0 ASPHALT CONCRETE
		80								2	2	4	MEDIAN	12.0 PAINTED
		80								2	2	2	PAVEMENT	12.0 ASPHALT CONCRETE
		80								2	2	9	SHOULDER (OUTSIDE)	2.0 ASPHALT CONCRETE
		80								2	8	7	DRAINAGE	SIDEWALK ONLY
12,250 12.280	12.280	40	0-NONE	2-TWO WAY	N N		40	2-ROLLING	7-RESIDENTIAL	2	2	-	DRAINAGE	SIDEWALK ONLY
		40								2	2	2	SHOULDER (OUTSIDE)	2.0 GRAVEL
		40								2	2	ဗ	PAVEMENT	12.0 ASPHALT CONCRETE
		40								2	2	4	MEDIAN	12.0 PAINTED
		40								2	7	S	PAVEMENT	12.0 ASPHALT CONCRETE
		40								2	2	9	SHOULDER (OUTSIDE)	2.0 ASPHALT CONCRETE
		40								2	2	7	DRAINAGE	SIDEWALK ONLY
12.280 12.360	12,360	40	0-NONE	2-TWO	Q.		40	2-ROLLING	7-RESIDENTIAL	2	2	ę.	DRAINAGE	ртсн
		40								2	2	0	SHOULDER (OUTSIDE)	2.0 ASPHALT CONCRETE
		40								2	01	സ	PAVEMENT	22,0 ASPHALT CONCRETE

Page 5 of 6

WILLIAMSON County - SR106

County Sequence 1	
Special Case 0-NONE	
(94) Route No. SR106	
County: WILLIAMSON	

Feature Information	Composition	2.0 ASPHALT CONCRETE	рітсн	CURB AND GUTTER	2.0 ASPHALT CONCRETE	12.0 ASPHALT CONCRETE	12.0 ASPHALT CONCRETE	12,0 ASPHALT CONCRETE	2.0 ASPHALT CONCRETE	CURB AND GUTTER	CURB AND GUTTER	рітсн	2.0 ASPHALT CONCRETE	2.0 ASPHALT CONCRETE	24,0 ASPHALT CONCRETE	12.0 ASPHALT CONCRETE	12.0 ASPHALT CONCRETE	2.0 ASPHALT CONCRETE	ытсн	12.0 ASPHALT CONCRETE	2.0 ASPHALT CONCRETE
	Width	2.0			2.0	12.0	12,0	12,0	2.0				2.0	2.0	24.0	12.0	12.0	2.0		12.0	2.0
	Type	SHOULDER (OUTSIDE)	DRAINAGE	DRAINAGE	SHOULDER (OUTSIDE)	PAVEMENT	LEFT TURN LANE	PAVEMENT	SHOULDER (OUTSIDE)	DRAINAGE	DRAINAGE	DRAINAGE	SHOULDER (OUTSIDE)	SHOULDER (OUTSIDE)	PAVEMENT	PAVEMENT	LEFT TURN LANE	SHOULDER (OUTSIDE)	DRAINAGE	PAVEMENT	SHOULDER (OUTSIDE)
	Seq. #	4	2	+	2	က	4	S	9	~	-	÷	2	7	က	က	ч	4	2	2	9
Ä	Lanes	2	2	7	7	2	2	2	2	2	2	8	7	2	2	2	2	2	7	2	2
Ē	Lanes Lanes Seq. #	2	2	2	8	2	2	2	2	2	2	8	2	2	2	2	2	2	2	2	7
	Land Use	7-RESIDENTIAL		7-RESIDENTIAL							7-RESIDENTIAL										
School Truck Spd Spd Spd	Terrain	2-ROLLING		2-ROLLING							2-ROLLING										
	Ĕ.	40		40							40										
Ė	ination	S S		NO NO							8										
	Operation ination	2-TWO WAY		2-TWO WAY							2-TWO WAY										
Access	Control	0-NONE		0-NONE							0-NONE										
	ROW	40	40	09	09	09	09	09	09	09	09	09	09	09	09	09	09	09	09	09	09
End		12.360		12.600																	
Beg Log	Mile	12.280 12.360		12,360 12,600							12,600										

WILLIAMSON County - SR106

	Feature Information	Width Composition	CURB AND GUTTER		
County Sequence 1	Featu	Type	DRAINAGE		
County	Thru Nbr	Lanes Lanes Seq. #	2 2 7		
Route No. SR106 Special Case 0-NONE		Terrain Land Use	2-ROLLING 7-RESIDENTIAL		
(94) Route No. SR106	School Truck Illum- Spd Spd Spd	Operation ination Lmt Lmt Lmt	2-TWO NO 40 WAY		
County: WILLIAMSON	Beg End Log Log Access	Mille ROW	12.600 12.600 60 0-NONE		

HISTORICAL PROPERTY INFORMATION (PROVIDED BY TDOT)

Dr. Hezekiah Oden House Common Name: Walnut Winds Lewisburg Pike Franklin, Tennessee

Property #289

Hezekiah Oden House: unusual recessed central entrance on Greek Revival residence

The Dr. Hezekiah Oden House, also known as Walnut Winds, is a one-story frame Greek Revival influenced residence constructed ca. 1850. The home was built in a simple central-passage plan with a recessed central entrance. This design is unusual in the county, with most Greek Revival-style homes displaying a projecting portico on the main facade.

In 1813, Solomon Oden moved to Williamson Lounty from Virginia and settled near Thompson Station. One of the Oden children, Hezekiah, became a prominent physician and constructed this house around 1850. His home was built with both Greek Revival and Italianate designs and featured an ornate central recessed entrance.

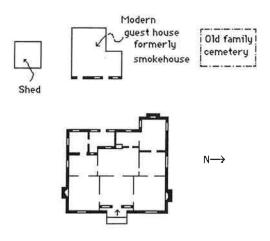
Both Dr. Oden and his wife died on the property during the Civil War. Mrs. Oden's sister, Mary Susan Reams, moved here to look after the Oden children. Several skirmishes during the war took place near the house and Miss Reams nursed several wounded soldiers back to health in 1864. The Oden family continued to own the house during the late 19th and early 20th centuries. In 1949 the home was purchased and restored by Edward Stalcup.

The recessed entrance on the main facade of the Oden House consists of original double doors with raised rectangular panels in the surround and two-light sidelights. Over the sidelights are small single lights and over the door is a two-

ght transom. Dividing the door and sidelights are Doric-motif pilasters. At the cornice are paired Italianate brackets with drop pendants.

At the rear of the house are three original ell additions of which two retain their original brick chimneys. The interior of the house has not been altered and retains original architrave molding around the doors and windows and Greek Revival influenced mantles with similar molding. Interior doors have two-light transoms.

The Dr. Hezekiah Oden House has not been significantly altered since its construction and displays its original form, detailing and setting. The home was placed on the National Register of Historic Places in 1988.





MORDECAI PURYEAR HOUSE Lewisburg Pike Franklin, Tennessee

Property #287

Mordecai Puryear House: early Federal plantation home

The Mordecai Puryear House is a one-story Federal influenced brick residence constructed ca. 1830. The residence was typical of the period with its central-hall plan, exterior brick chimneys and central doorway.

Mordecai Puryear was born in 1806 and was the son of Major Hezekiah Puryear, an early settler who moved to the county from Virginia. The family owned a large amount of land along the Lewisburg Pike in the area known as the Douglas community. Around 1830 Mordecai Puryear constructed his brick home plus a detached kitchen that has since been razed.

The Puryear farm was one of the first self-supporting plantations of the early 19th century. On the property was a cotton gin, mill and other buildings. In 1860, Puryear was listed as owning several hundred acres valued at \$17,000 and personal estate valued at \$26,000. During the Civil War many of the outbuildings were destroyed, but the main house was not significantly damaged.

Puryear owned the house until his death in 1883, and it remained in the family until 1907, when it was bought by Louis Dedman. The Dedman family made several changes at the rear of the house, including the addition of a brick wing and porch. The house continued to be owned by the Dedman family until 1942. Since then the home has had several owners.

On the main facade of the Puryear House is a one-story frame gable roof porch added ca. 1907. The porch has plain detailing and square Doricmotif columns. The main entrance has an original

door and four-light transom. Flanking the door are Doric-motif pilasters. Windows on this facade have brick jack arching and wood sills.

At the rear of the house is a one-story brick addition ca. 1907. This ell has a one-story frame porch with square Doric-motif columns and balusters on the railing. The interior of the Puryear House features Federal influenced fluted mantles, chair railing and a staircase with a simple newel post and square balusters. Adjacent to the house is a ca. 1850 one-story brick carriage house which has been converted into a garage.

The Mordecai Puryear House is a fine example of the early Federal influenced homes built in Williamson County and has not been significantly altered since the 1907 additions. This property was placed on the National Register of Historic Places in 1988.

