SEPI
ENGINEERING & CONSTRUCTION

TRAFFIC ANALYSIS

Town of Davidson Parking Study

Prepared by
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Prepared for
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January 2011

Town of Davidson Parking Study
Davidson, North Carolina

Traffic Capacity Analysis

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EXECUTIVE SUMMARY

I. Introduction

The Town of Davidson is currently conducting a parking study examining the existing parking layout and usage throughout the Town as well as the future parking needs and strategies to service the Town. This report examines the existing and future traffic flows that access the Town's parking. **Figure ES-1** shows the general site location of the Town and the intersections analyzed as part of the study. The analysis area is bound by SR 2158 (Griffith Street) to the north, SR 2733 (Jackson Street) to the west, NC 115 (Main Street) to the south and east, and includes the intersection of SR 2158 (Griffith Street) / Sloan Street. This report analyzes the 2011 existing year traffic conditions, the no-build condition for 2020, 2020 traffic with the construction of the Potts Street / Sloan Street connection, 2020 traffic with the construction of a potential 300 space parking deck accessing Jackson Street, 2020 traffic with a potential 300 space parking deck accessing Depot Street, and 2020 traffic with a potential 300 space parking deck accessing Griffith Street.

Each of the proposed parking deck sites are currently developed. There are two potential parking deck sites on Jackson Street; one is currently a surface parking lot behind the existing post office and the second site is the two Town lots adjacent to the Fire Hall. The third potential site is the Depot Street parking deck location and is currently the Metrolina development or undeveloped land across the street from the Metrolina site. The fourth potential site is currently the parking lot for the Saddlers Square development off of Griffith Street. **Figure ES-2** shows the location of the four proposed sites for potential parking decks as well as the potential Potts-Sloan connection.

This report analyzes and presents the traffic impacts that alternate parking strategies will have on the existing intersections:

- SR 2158 (Griffith Street) / Sloan Street
- SR 2733 (Jackson Street) / SR 2158 (Griffith Street)
- NC 115 (Main Street) / SR 2158 (Griffith Street)
- SR 2733 (Jackson Street) / Depot Street
- NC 115 (Main Street) / SR 2693 (Concord Road)
- NC 115 (Main Street) / South Street / Chairman Blake Lane
- NC 115 (Main Street) / SR 2733 (Jackson Street)

II. Base Conditions

Currently there are four signalized intersections and three unsignalized intersections in the project study area. The intersections of SR 2158 (Griffith Street) / Sloan Street, NC 115 (Main Street) / SR 2158 (Griffith Street), NC 115

(Main Street) / SR 2693 (Concord Road), and NC-115 (Main Street) / Chairman Blake Lane / South Street are currently signalized. The intersections of SR 2733 (Jackson Street) / SR 2158 (Griffith Street), SR 2733 (Jackson Street) / Depot Street, and NC-115 (Main Street) / SR 2733 (Jackson St) are currently unsignalized.

Currently, there are two Charlotte Area Transit (CATS) bus routes located in the vicinity of this project (77X and 97). Bus stops are in various locations along Griffith Street and NC 115 (Main Street). Sidewalk exists along many of the study area corridors and many area intersections include both crosswalks and pedestrian actuation. There are on-street provisions for area bicyclists along Griffith Street with a number of area bicyclists. In order to provide a more conservative future vehicle estimate, no adjustments were made to anticipated traffic volumes to account for alternative modes of transportation or transit use. However, due to the nature of downtown Davidson, the proximity of Davidson College, and availability of area on-street parking, it is anticipated that a large percentage of trips within the downtown region are due to non-motorized activity or transit.

Supplemented by traffic data provided by the Town of Davidson, traffic counts were conducted by SEPI Engineering & Construction during the AM and PM peak hours of a typical weekday. These counts were used to analyze existing conditions as well as projecting future conditions.

Accident data for the past four year period (2007-2010) was provided by the NCDOT. An accident summary has been included for the seven existing study area intersections. Each of the studied intersections had a low number of reported accidents over the past four years with the most occurring at NC-115 (Main Street) / SR 2693 (Concord Road) (15 accidents). All of the other intersections had a total of 5 accidents or less reported over the past four years. Though it would be ideal if an intersection were accident free, the small number of accidents (and overall low occurrence of injuries) at each of these intersections reveals that each intersection is operating relatively safely. No recommendations are proposed based upon the number of reported intersection accidents.

The signalized intersection of NC 115 (Main Street) / South Street / Chairman Blake Lane is currently operating at LOS F during both peak hours of Condition 1. Additionally, the northbound shared movement at the intersection of SR 2733 (Jackson Street) / SR 2158 (Griffith Street) is operating at a LOS E during the PM peak hour. All other intersections (signalized) and intersection movements (unsignalized) are currently operating at acceptable levels of service during the 2011 AM and PM peak hours. Each analysis was conducted using the existing geometric configuration, existing traffic volumes, and existing signal timings.

III. Background Conditions

There are currently no approved future developments in the project study area that will generate additional background traffic. To account for area-wide 2020 ambient traffic growth, an annual growth rate percentage of 2.5 percent per year was applied to the existing volumes. This growth rate was calculated using area 1998-2008 AADT values. It should be noted that, due to the long range forecast of traffic growth, it was assumed that 2020 future peak hour factors would equal 0.90.

There are currently no TIP projects scheduled for completion in the project study area. Because of this, no changes will be made to the existing lane configuration prior to the 2020 build-out year; therefore, analyses for Conditions 1 – 6 will use the existing lane configuration.

The signalized intersection of NC 115 (Main Street) / South Street / Chairman Blake Lane is projected to operate at LOS F during both peak hours of Condition 2 and the intersection of SR 2158 (Griffith Street) / Sloan Street is projected to operate at a LOS F during the Condition 2 PM peak hour. Additionally, the northbound shared movement at the intersection of SR 2733 (Jackson Street) / SR 2158 (Griffith Street) is projected to operate at a LOS F during the AM and PM peak hours and the southbound shared movement at intersection of NC 115 (Main Street) / SR 2733 (Jackson Street) is projected to operate at a LOS F during the Condition 2 PM peak hour. All other intersections (signalized) and intersection movements (unsignalized) are projected to operate at acceptable levels of service during the 2020 Condition 2 AM and PM peak hours. Each analysis was conducted using the existing geometric configuration and future 2020 without site traffic volumes.

IV. Project Conditions

Four future build conditions were analyzed for this project. The first condition examined the potential connection between Potts Street and Sloan Street or the Potts / Sloan connector. The Connector will provide an alternate route for traffic wishing to travel north or south of the Town of Davidson. The Connector will run parallel to existing NC 115 (Main Street) and offer a “relief valve” for those vehicles wishing to bypass the peak hour delays and congestions. The second, third, and fourth conditions involve the potential construction of a 300 space parking deck that could potentially be located on one of four sites on SR 2733 (Jackson Street), Depot Street, and SR 2158 (Griffith Street) respectively. Either of the sites located along SR 2733 (Jackson Street) will add additional parking for downtown businesses helping to ease the projected future parking deficit where the Depot Street and SR 2158 (Griffith Street) parking decks will provide additional parking for commuter traffic wishing to use area transit.

Trip generation for the Potts / Sloan Connector was determined using data from the CMAQ Funds application completed for the Town of Davidson. Synchro 7 data from the CMAQ Funds application revealed that approximately 10% of traffic was re-routed from NC 115 (Main Street) onto the Potts / Sloan connector at the intersections of NC 115 (Main Street) / Sloan Street and Potts Street / NC 115 (Main Street) (the northern and southern terminus intersections). For the sake of analysis it was assumed that 10% of the 2010 traffic (AM and PM peak hours) would be re-routed from NC-115 (Main Street) onto the Potts / Sloan Connector. The 2010 re-routed vehicles were grown at an exponential growth rate of 2.5% for 10 years to determine 2020 re-routed volumes. As previously discussed, the 2.5% growth rate was based on historic AADT values for the Davidson County. The 2020 re-routed vehicles were subtracted from each of the study area intersections along NC 115 (Main Street) to account for the decrease in traffic due to the Potts / Sloan Connector. These subtracted volumes were added to the north and southbound approaches at the intersection of SR 2158 (Griffith Street) / Sloan Street. The re-routed northbound traffic volume was split between the left-turn and through movements to account for vehicles wishing to access I-77 or bypass the Town (respectively). The re-routed southbound traffic was added solely to through movement as any traffic wishing to perform a left (towards Davidson) or right-turning (towards I-77) movement can currently perform either movement with or without the construction of the Connector.

The trip generation for each potential parking deck scenario was determined using the *ITE Trip Generation Manual* (Institute of Transportation Engineers, 8th Edition, 2008). Due to the location of the two potential sites for a parking deck, Land Use Code 090 (Park-and-Ride Lot with Bus Service) and the number of parking spaces (300) was used to estimate the total peak hour and average daily traffic volumes for the Depot Street and SR 2158 (Griffith Street) parking decks. Following the NCDOT procedures for use of the *ITE Trip Generation Manual*, trip generation results were determined using the provided equation for each office land use type. Trips generated by the Depot Street and SR 2158 (Griffith Street) potential parking site locations totaled 167 and 39 in-coming and out-going AM peak hour trips (respectively) and 42 and 141 in-coming and out-going PM peak hour trips (respectively).

The trip generation for the two SR 2733 (Jackson Street) potential parking site locations was determined using the *ITE Trip Generation Manual* (Institute of Transportation Engineers, 8th Edition, 2008). Due to the locations of these two potential deck sites and surrounding land uses, Land Use Codes 710 (General Office Building) and 820 (Shopping Center) were used to estimate the total peak hour and average daily traffic volumes. SEPI used the 2020 parking deficiency of 231 vehicles to calculate the trip generation for the proposed parking deck (Rich and Associates). For the sake of calculation, it was assumed that traffic accessing the parking deck during the AM peak hour would function similarly to traffic accessing an office development. Using the 231 vehicle deficiency as the entering volume and the 88% entering directional distribution from Land Use

Code 710, a total AM peak hour volume and AM peak hour exiting volume was calculated. It was assumed that traffic accessing either of the potential sites for the parking deck during the PM peak hour would function similarly to traffic accessing a shopping center development. Using the 231 vehicle deficiency as the entering volume and the 49% entering directional distribution from Land Use Code 820, a total PM peak hour volume and PM peak hour exiting volume was calculated. Trips generated by either of the SR 2733 (Jackson Street) parking deck options totaled 231 and 32 in-coming and out-going AM peak hour trips (respectively) and 231 and 240 in-coming and out-going PM peak hour trips (respectively).

The directional traffic patterns, or trip distribution, of the site-generated traffic for the Potts / Sloan connector was determined using Davidson CMAQ Funds Application. It was assumed, for the purpose of this study, that traffic re-routed from NC 115 (Main Street) was applied to the intersection of SR 2158 (Griffith Street) / Sloan Street. All re-routed northbound traffic was split between the northbound left-turn / through movements of the SR 2158 (Griffith Street) / Sloan Street intersection where all re-routed southbound traffic was added solely to the southbound through movement.

Area trip distribution for the four potential parking deck locations or options is based on traffic counts performed by SEPI in December 2010 and traffic volumes provided by the CMAQ study (collected in 2010). Total trips into and out of the study area using SR 2158 (Griffith Street), SR 2733 (Jackson Street), Beatty Street / Sloan Street, Depot Street, NC 115 (Main Street), SR 2693 (Concord Road), South Street, and Chairman Blake Lane form the basis for the percentage distribution. Distribution percentages into and out of the study area are calculated using the existing traffic volumes entering and exiting the study area. This distribution percentage is then applied to the generated trips to predict routes and project traffic volumes for the three 2020 parking deck scenarios.

V. Conclusions and Recommendations

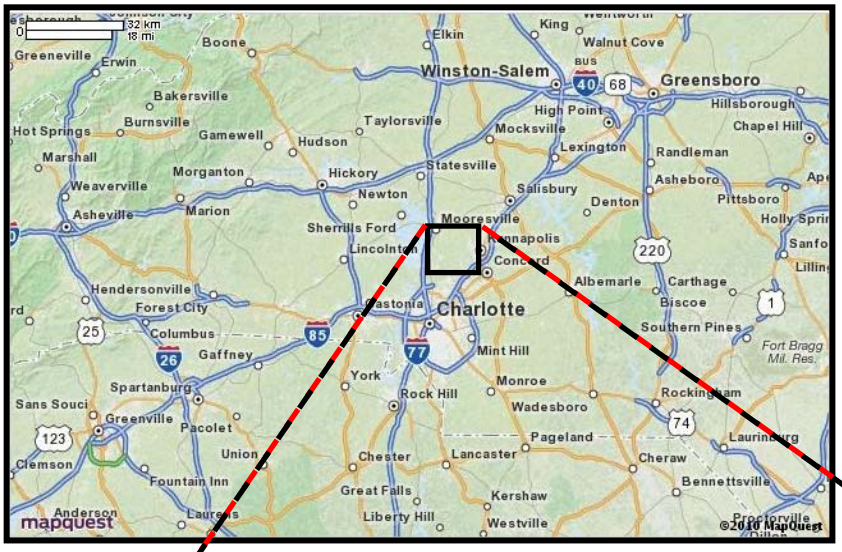
In conclusion, SEPI analyzed the existing and five future conditions for the Davidson Parking Study:

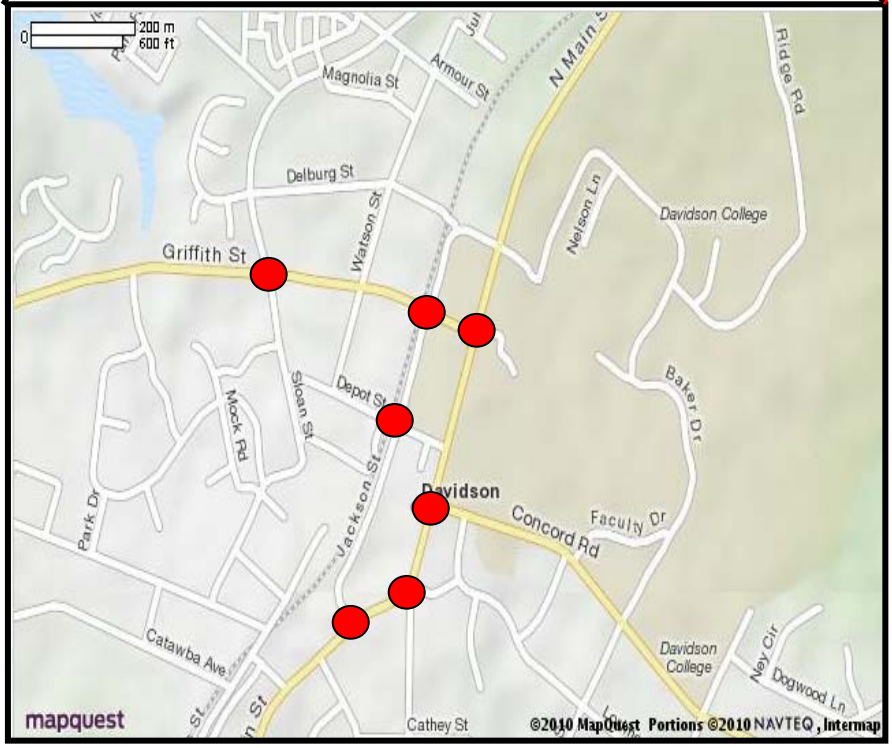
Condition 2: 2020 Without Site Traffic
Condition 3: 2020 With Site Traffic Potts-Sloan Connection
Condition 4: 2020 With Site Traffic Jackson Street 300 Space Parking Deck
Condition 5: 2020 With Site Traffic Depot Street 300 Space Parking Deck
Condition 6: 2020 With Site Traffic Griffith Street 300 Space Parking Deck

Based on the analyses conducted, **three intersections will require improvements** due to future 2020 traffic projections. Improvements are required at the intersections of SR 2158 (Griffith Street) / Sloan Street, SR 2733 (Jackson Street) / SR 2158 (Griffith Street), and NC 115 (Main Street) / SR 2733 (Jackson

Street) to allow each intersection to operate acceptably during the 2020 future year. Using Condition 4 traffic volumes as a "worst-case" traffic scenario, the intersection of SR 2158 (Griffith Street) / Sloan Street will require the addition of second westbound through lane as well as modification to the intersection phasing. Signalization will be required at the intersections of SR 2733 (Jackson Street) / SR 2158 (Griffith Street) and NC 115 (Main Street) / SR 2733 (Jackson Street) in order for both to operate acceptably during both 2020 peak hours. All other intersections (signalized) and intersection movements (unsignalized) are projected to operate acceptable during both 2020 peak hours.

Not To Scale





Legend

= Study Area Intersection

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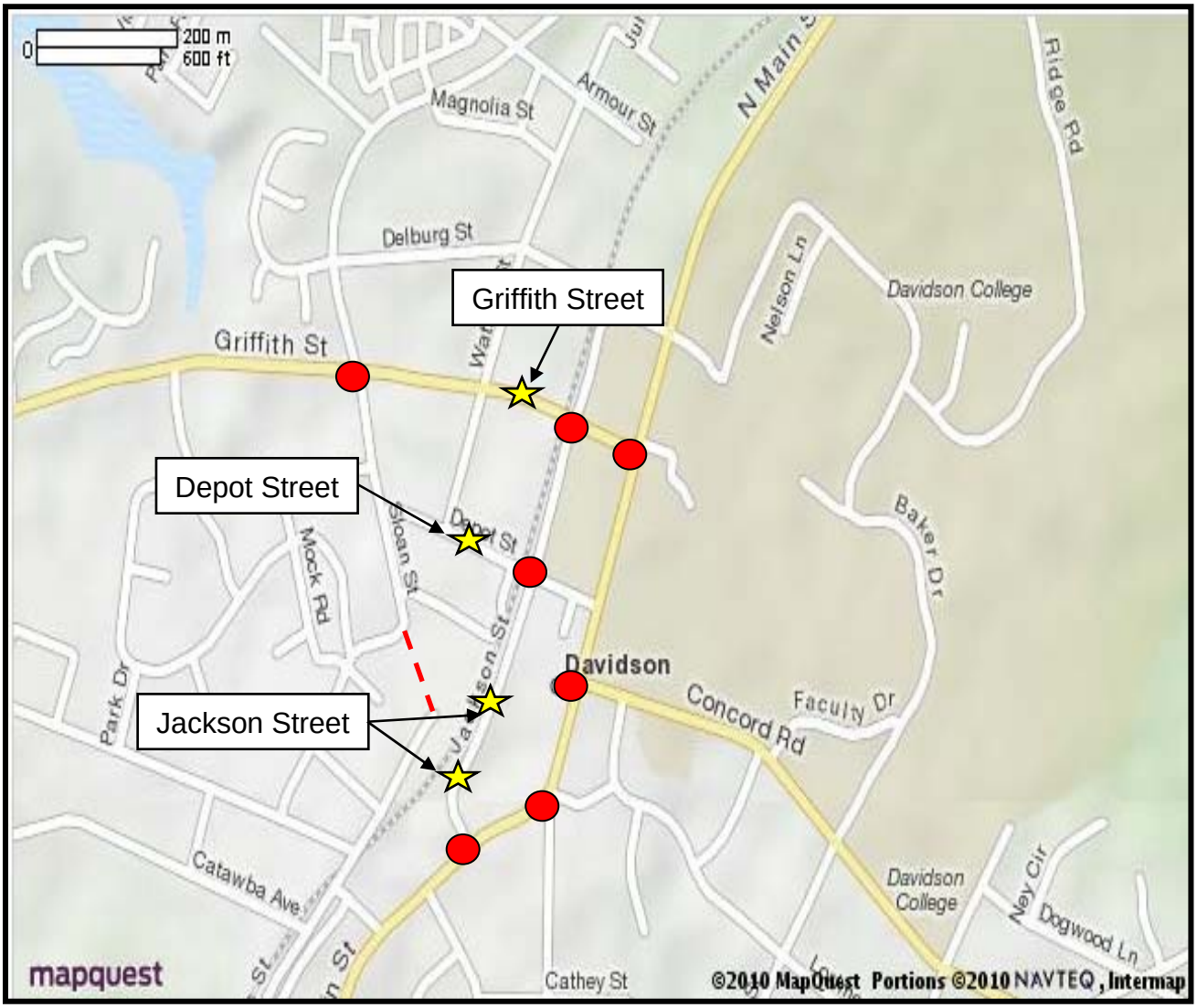
Town of Davidson Parking Study

Site Location Map | Figure ES-1

Not To Scale



Legend

- = Study Area Intersection
- = Potential Deck Location
- = Potts / Sloan Connector

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A. Project Explanation

The Town of Davidson is currently conducting a parking study examining the existing parking layout and usage throughout the Town as well as the future parking needs and strategies to service the Town. This report examines the existing and future traffic flows that access the Town's parking. **Figure 1** (located in **Appendix A**) shows the general site location of the Town and the intersections analyzed as part of the study. The analysis area is bound by SR 2158 (Griffith Street) to the north, SR 2733 (Jackson Street) to the west, NC 115 (Main Street) to the south and east, and includes the intersection of SR 2158 (Griffith Street) / Sloan Street. This report analyzes the 2011 existing year traffic conditions, the no-build condition for 2020, 2020 traffic with the construction of the Potts Street / Sloan Street connection, 2020 traffic with the construction of a potential 300 space parking deck accessing Jackson Street, 2020 traffic with a potential 300 space parking deck accessing Depot Street, and 2020 traffic with a potential 300 space parking deck accessing Griffith Street.

Each of the proposed parking deck sites are currently developed. There are two potential parking deck sites on Jackson Street; one is currently a surface parking lot behind the existing post office and the second site is the two Town lots adjacent to the Fire Hall. The third potential site is the Depot Street parking deck location and is currently the Metrolina development or undeveloped land across the street from the Metrolina site. The fourth potential site is currently the parking lot for the Saddlers Square development off of Griffith Street. **Figure 2** shows the location of the four proposed sites for potential parking decks as well as the potential Potts-Sloan connection.

B. Project Description

This report analyzes and presents the traffic impacts that alternate parking strategies will have on the existing intersections:

- SR 2158 (Griffith Street) / Sloan Street
- SR 2733 (Jackson Street) / SR 2158 (Griffith Street)
- NC 115 (Main Street) / SR 2158 (Griffith Street)
- SR 2733 (Jackson Street) / Depot Street
- NC 115 (Main Street) / SR 2693 (Concord Road)
- NC 115 (Main Street) / South Street / Chairman Blake Lane
- NC 115 (Main Street) / SR 2733 (Jackson Street)

The impacts of the proposed parking alternatives at these intersections will be evaluated during the AM and PM peak hours of an average weekday. The following analysis is based on the 2010 existing year traffic, the 2020 traffic with the addition of ambient growth, the 2020 total traffic with the construction of the

Potts-Sloan connection, the 2020 total traffic with the addition of the estimated site-generated traffic produced by the parking alternatives, and the future year 2020 total traffic with the addition of recommended roadway improvements. Currently there are no approved developments in the study area that will generate additional background traffic. To account for area-wide 2020 ambient traffic growth, an annual growth rate percentage of 2.5 percent per year was applied to the existing volumes. This growth rate was calculated using area 1998 – 2008 AADT values provided by the NCDOT.

The capacity analysis methodology is provided by the 2000 Highway Capacity Manual (HCM 2000). Using these methods, a level of service (LOS) is determined. Level of service is the measure that rates traffic conditions qualitatively based on the observed and collected data for the given transportation facility. The traffic operations optimization and evaluation software Synchro Version 7.0 was used to evaluate the existing and proposed unsignalized and signalized intersections.

II. Base Conditions

A. Geometrics and Traffic Control

Roadways

NC 115 (Main Street) is a North Carolina highway that runs approximately northeast – southwest along the eastern edge of the project study area. In the project study area NC 115 (Main Street) is a two-lane facility, with additional turn-lanes at major intersections, and includes signalized intersections with SR 2158 (Griffith Street), SR 2693 (Concord Road), and Chairman Blake lane / South Street. Additionally, NC 115 (Main Street) has an unsignalized intersection with SR 2733 (Jackson Street). The facility primarily services commercial and office developments in the project study area and includes on-street parking in several locations. This facility has a posted 25-mph speed limit north of SR 2158 (Griffith Street), a 20-mph speed limit south of SR 2158 (Griffith Street), and a 25-mph speed limit west of SR 2733 (Jackson Street). Parallel and angled on-street parking lines both sides of the facility from SR 2158 (Griffith Street) to SR 2733 (Jackson Street).

Due to its location, NC 115 (Main Street) often serves as both a relief valve and an alternate route to I-77 when the facility is over-congested or has experienced lane closures. When these scenarios occur, this additional traffic has gridlocked the Town. Not only has this gridlock hampered parking and hurt area businesses, but it severely hinders emergency vehicle mobility and access.

SR 2733 (Jackson Street) is a moderately travelled facility that runs approximately northeast – southwest along the western edge of the project study

area paralleling NC 115 (Main Street). In the project study area SR 2733 (Jackson Street) is a two-lane facility that includes unsignalized intersections with SR 2158 (Griffith Street), Depot Street, and NC 115 (Main Street). The facility primarily services commercial and office developments in the project study area and includes on-street parking in several locations. This facility has a posted speed limit of 25 mph.

Sloan Street (Beaty Street) is a minor facility that runs approximately northwest – southeast along the western edge of the project study area. In the project study area Sloan street is a two-lane facility that runs from NC 115 (Main Street) southward to Eden Street and includes a signalized intersection with SR 2158 (Griffith Street). The facility primarily services residential developments in the project study area and acts as a pseudo bypass of NC 115 (Main Street). Plans have been completed to connect this facility to Potts Street creating a full bypass of downtown Davidson. This facility has a posted 25-mph speed limit.

Depot Street is a minor facility that runs approximately east-west through the middle of the project study area. Depot Street is a two-lane facility that stretches from Sloan Street eastward to NC 115 (Main Street) and includes an unsignalized intersection with SR 2733 (Jackson Street). The facility primarily services commercial and office developments in the project study area and includes on-street parking in several locations. Future plans include the construction of a CATS light-rail station along Depot Street. This facility has a posted 25-mph speed limit.

SR 2158 (Griffith Street) is a moderately travelled facility that runs approximately east-west along the northern edge of the project study area. In the project study area SR 2158 (Griffith Street) is a two-lane facility with additional bicycle lanes. The facility stretches from I-77 Exit 30 eastward to NC 115 (Main Street). SR 2158 (Griffith Street) includes signalized intersections with Sloan Street and NC-115 (Main Street) as well as an unsignalized intersection with SR 2733 (Jackson Street). The facility primarily services commercial and office developments in the project study area and includes on-street parking in several locations. This facility has a posted 25-mph speed limit.

SR 2693 (Concord Road) is a moderately travelled facility that runs northwest – southeast east of the project study area. SR 2693 (Concord Road) is a two-lane that stretches from NC 115 (Main Street) southeastward to Hwy 73 (Davidson-Concord Road). In the project study area SR 2693 (Concord Road) has a signalized intersection with NC 115 (Main Street). The facility services Davidson College Campus in the project study area and includes on-street parking in several locations. This facility has a posted 25-mph speed limit.

Chairman Blake Lane is a minor facility two-lane facility that stretches from NC 115 (Main Street) to Lorimer Road and includes a signalized intersection with South Street and NC 115 (Main Street). The facility services commercial, office,

and residential developments and includes on-street parking in several locations. The facility has an assumed 20-mph speed limit.

South Street is a minor facility that runs north-south along south of the project study area. South Street is a two-lane facility and has a signalized intersection with NC 115 (Main Street) and Chairman Blake Lane in the project study area. The facility services commercial, office, and residential developments and includes on-street parking in several locations. The facility has a posted 25-mph speed limit.

Intersections

Currently there are four signalized intersections and three unsignalized intersections in the project study area. The intersections of SR 2158 (Griffith Street) / Sloan Street, NC 115 (Main Street) / SR 2158 (Griffith Street), NC 115 (Main Street) / SR 2693 (Concord Road), and NC-115 (Main Street) / Chairman Blake Lane / South Street are currently signalized. The intersections of SR 2733 (Jackson Street) / SR 2158 (Griffith Street), SR 2733 (Jackson Street) / Depot Street, and NC-115 (Main Street) / SR 2733 (Jackson St) are currently unsignalized. **Figure 3** shows the existing lane configurations and traffic control for each intersection.

The intersection of SR 2158 (Griffith Street) / Sloan Street is a signalized intersection with a two-phase traffic signal. The north and southbound lane configurations include a single shared left / through / right-turn lane. The east and westbound lane configurations consist of an exclusive left-turn lane and a shared through / right-turn lane. A bike lane parallels SR 2158 (Griffith Street), but no specific signal timing or phasing is including for bicyclists. The intersection includes pedestrian crosswalks (and actuation) for the southern and western intersections legs. On-street parking lines SR 2158 (Griffith Street) to the south. **Figure 3** shows the existing lane configuration at this intersection.

The intersection of NC 115 (Main Street) / SR 2158 (Griffith Street) is a signalized intersection with a four-phase traffic signal including split side street phasing and a protected / permitted northbound left-turn phase. The northbound lane configuration consists of an exclusive left-turn lane and a through lane. The southbound lane configuration includes a single shared through / right-turn lane. The east and westbound side street approaches consist of exclusive left right-turn lanes. The intersection includes pedestrian crosswalks for the southern and western intersections legs. On-street parking lines SR 2158 (Griffith Street) and NC 115 (Main Street). **Figure 3** shows the existing lane configuration at this intersection.

The intersection of NC 115 (Main Street) / SR 2693 (Concord Road) is a signalized intersection with a three-phase traffic signal including a protected / permitted southbound left-turn phase. The northbound lane configuration

consists of an exclusive through lane as well as an exclusive right-turn lane. The southbound lane configuration consists of a single shared through / left-turn lane. The westbound lane configuration consists of exclusive left and right-turn lanes. The intersection includes pedestrian crosswalks (and actuation) crossing all three intersections legs. On-street parallel parking lines both facilities with on-street angled parking spaces in the southeast intersection quadrant. **Figure 3** shows the existing lane configuration at this intersection.

The intersection of NC 115 (Main Street) / South Street / Chairman Blake Lane is controlled by a four-phase traffic signal with split side street phases for South Street and Chairman Blake Lane. The southbound NC 115 (Main Street) lane configuration consists of an exclusive left-turn lane and a shared through / right-turn lane. The north, east, and westbound lane configurations each consist of a single shared left / through / right-turn lane. The intersection includes pedestrian crosswalks (and actuation) crossing all four intersection legs. On-street parallel parking lines each facility. **Figure 3** shows the existing lane configuration at this intersection.

The unsignalized intersection SR 2733 (Jackson Street) / SR 2158 (Griffith Street) is a two-way stop-controlled intersection with the Jackson Street approaches encountering the stopped condition. Each of the four approaches include a single shared left / through / right-turn lane. Parallel on-street parking is permitted along both SR 2733 (Jackson Street) and SR 2158 (Griffith Street). The intersection includes a striped pedestrian crosswalk crossing the eastern intersection leg. **Figure 3** shows the existing lane configuration at this intersection.

The unsignalized intersection SR 2733 (Jackson Street) / Depot Street is a four-way stop-controlled intersection. Each of the four approaches include a single shared left / through / right-turn lane. On-street parking is permitted along the southern side of Depot Street as well as along both sides of SR 2733 (Jackson Street). The intersection does not include pedestrian crosswalks. **Figure 3** shows the existing lane configuration at this intersection.

The unsignalized intersection of NC 115 (Main Street) / SR 2733 (Jackson Street) is a stop-controlled intersection with the Jackson Street approach encountering the stopped condition. The southbound lane configuration consists of a single shared left / right-turn lane. The eastbound lane configuration consists of a shared through / left-turn lane. The westbound lane configuration consists of a shared though / right-turn lane. The intersection does not include pedestrian crosswalks. Parallel parking lines SR 2733 (Jackson Street) and the north side of NC 115 (Main Street). **Figure 3** shows the existing lane configuration at this intersection.

B. Alternate Modes of Transportation / Transit Impacts

Currently, there are two Charlotte Area Transit (CATS) bus routes located in the vicinity of this project (77X and 97). Bus stops are in various locations along Griffith Street and NC 115 (Main Street). Sidewalk exists along many of the study area corridors and many area intersections include both crosswalks and pedestrian actuation. There are on-street provisions for area bicyclists along Griffith Street with a number of area bicyclists. In order to provide a more conservative future vehicle estimate, no adjustments were made to anticipated traffic volumes to account for alternative modes of transportation or transit use. However, due to the nature of downtown Davidson, the proximity of Davidson College, and availability of area on-street parking, it is anticipated that a large percentage of trips within the downtown region are due to non-motorized activity or transit.

C. Existing Traffic Volumes

Figure 4 shows the existing AM and PM peak hour traffic volumes for the study area intersections. The counts used to determine these volumes (see **Appendix B**) were conducted by SEPI Engineering & Construction for the following intersections during the respective times listed in **Table 1** below:

Table 1 – Traffic Count Information

Traffic Count Location	Period Counted	Date of Count
SR 2158 (Griffith Street) / Sloan Street	AM Peak PM Peak	2010*
SR 2733 (Jackson Street) / SR 2158 (Griffith Street)	AM Peak PM Peak	12/14/10 12/14/10
NC 115 (Main Street) / SR 2158 (Griffith Street)	AM Peak PM Peak	2010*
SR 2733 (Jackson Street) / Depot Street	AM Peak PM Peak	12/16/10 12/13/10
NC 115 (Main Street) / SR 2693 (Concord Road)	AM Peak PM Peak	2010*
NC 115 (Main Street) / South Street / Chairman Blake Lane	AM Peak PM Peak	2010*
NC 115 (Main Street) / SR 2733 (Jackson Street)	AM Peak PM Peak	12/15/10 12/15/10

*Traffic count information provided by Town of Davidson

D. Existing Signal Phasing / Timing Information

Signal phasing and timing information for each of the signalized intersections is located in **Appendix C**. Existing signal plans for the traffic signals were obtained from the NCDOT Signals Design Section. Information from the plans related to signal timing minimums and phasing sequences were used for all conditions in this analysis. Currently all four signals are fully actuated.

E. Area Safety Review

Accident data for the past four year period (2007-2010) was provided by the NCDOT. An accident summary (provided in **Appendix D**) has been included for the seven existing study area intersections. **Table 2** below summarizes the number of accidents, type of accident (injury or property damage), and year of occurrence for each intersection. As shown in **Table 2**, each of the studied intersections had a low number of reported accidents over the past four years with the most occurring at NC-115 (Main Street) / SR 2693 (Concord Road) (15 accidents). All of the other intersections had a total of 5 accidents or less reported over the past four years. Though it would be ideal if an intersection were accident free, the small number of accidents (and overall low occurrence of injuries) at each of these intersections reveals that each intersection is operating relatively safely. No recommendations are proposed based upon the number of reported intersection accidents.

Table 2 – Traffic Accident Information

Intersection	2007	2008	2009	2010	Injury	Property Damage
SR 2158 (Griffith Street) / Sloan Street	1	3	0	0	1	3
SR 2733 (Jackson Street) / SR 2158 (Griffith Street)	1	0	1	0	0	2
NC 115 (Main Street) / SR 2158 (Griffith Street)	1	3	0	1	2	3
SR 2733 (Jackson Street) / Depot Street	0	0	1	0	0	1
NC 115 (Main Street) / SR 2693 (Concord Road)	4	3	3	5	1	14
NC 115 (Main Street) / Chairman Blake Lane / South Street	0	1	1	2	0	4
NC 115 (Main Street) / SR 2733 (Jackson Street)	1	1	1	1	3	1

F. Traffic Capacity Analysis

The capacity of a roadway is measured by the "level of service" it provides, as described in the Highway Capacity Manual (Transportation Research Board, 2000). Level of service (LOS) is a measure used to describe the operating conditions of traffic on a roadway based on characteristics such as speed, traffic volumes, geometric configuration, delays, and freedom to maneuver. Levels of service range from "A" to "F," with "A" describing smooth free flow conditions, and "F" describing congested, over-saturated and forced flow conditions, where stop-and-go waves are common. Other factors, such as a high percentage of trucks or buses within the traffic stream can affect level of service. The roadway setting, whether it is urban, suburban, or rural, can also affect level of service. For signalized intersections in urban areas, LOS D is generally considered acceptable, while in rural areas, LOS C is considered acceptable.

At unsignalized intersections, a LOS E is generally considered acceptable if only the side street encounters delay. Nevertheless, side streets typically function at a LOS F during peak traffic periods, because the traffic volumes often do not warrant a traffic signal to assist side street traffic. **Table 3** below provides a general description of the various levels of service categories and delay ranges:

Table 3 – Level of Service Descriptions for Intersections

Level of Service	Description	Signalized Intersections	Unsignalized Intersections
A	Little or no delay	≤ 10 seconds	≤ 10 seconds
B	Short traffic delay	10-20 seconds	10-15 seconds
C	Average traffic delay	20-35 seconds	15-25 seconds
D	Long traffic delay	35-55 seconds	25-35 seconds
E	Very long traffic delay	55-80 seconds	35-50 seconds
F	Unacceptable delay	> 80 seconds	> 50 seconds

The following four conditions were evaluated for this analysis:

Condition 1: 2011 Existing Traffic
Condition 2: 2020 Without Site Traffic
Condition 3: 2020 With Site Traffic Potts-Sloan Connection
Condition 4: 2020 With Site Traffic Jackson Street 300 Space Parking Deck
Condition 5: 2020 With Site Traffic Depot Street 300 Space Parking Deck
Condition 6: 2020 With Site Traffic Griffith Street 300 Space Parking Deck

The analysis results for unsignalized intersections were found using Synchro Version 7.0 through the use of procedures described in the HCM 2000. To obtain optimized signal timings and analysis results for the signalized intersections at SR 2158 (Griffith Street) / Sloan Street, NC 115 (Main Street) / SR 2158 (Griffith Street), NC 115 (Main Street) / SR 2693 (Concord Road), and

NC-115 (Main Street) / Chairman Blake Lane / South Street, the timing optimization software Synchro Version 7.0 was used.

Synchro was used to analyze all unsignalized intersections. Because overall intersection levels of service are not provided for one or two-way stop controlled unsignalized intersections (overall intersection levels of service are provided for four-way stop controlled intersections), the results were evaluated on a per-movement basis. Thus, intersection improvements may need to be considered should one or more of the intersection movements experience a failing level of service. This methodology differs from signalized intersections, where one or more movement at an intersection may be deficient, but no intersection improvements would be deemed necessary as long as the overall intersection level of service does not fall below LOS D.

For Condition 1 the existing cycle lengths and split timings of the individual signalized intersection were used initially and LOS and delay values from Synchro 7.0 (using HCM delay formulas) were reported. If necessary, green split timings were adjusted to allow the overall intersection to operate at LOS D, or better.

Appendix E contains the Synchro output for this analysis. **Table 4** below shows the results of the intersection analyses for the 2011 Existing Conditions.

Table 4 – Condition 1 – 2011 Existing Traffic
Level of Service and Delay (sec/veh) Results – Study Area Intersections

Intersection	2011 Condition 1 – Existing Traffic Volumes	
	AM	PM
SR 2158 (Griffith Street) / Sloan Street	B (15.7)	C (32.1)
NB LTR	B (12.6)	B (19.0)
SB LTR	C (22.2)	D (54.8)
EB LT	B (19.6)	***F (84.9)***
EB THRT	B (13.1)	B (13.2)
WB LT	A (8.3)	A (8.2)
WB THRT	B (10.7)	B (18.7)
SR 2733 (Jackson Street) / SR 2158 (Griffith Street)	N/A	N/A
NB LTR	C (20.6)	***E (37.4)***
SB LTR	C (15.9)	C (16.8)
EB LTR	A (0.7)	A (0.7)
WB LTR	A (0.9)	A (1.4)
NC 115 (Main Street) / SR 2158 (Griffith Street)	B (18.5)	C (20.1)
NB LT	A (10.0)	B (12.2)
NB THRT	A (7.2)	A (8.9)
SB LTR	C (26.1)	C (28.8)
EB LT	C (23.5)	C (21.6)
EB RT	C (31.3)	C (30.5)
SR 2733 (Jackson Street) / Depot Street	N/A	N/A
NB LTR	A (7.3)	A (8.8)
SB LTR	A (7.6)	A (8.9)
EB LTR	A (7.1)	A (8.1)
WB LTR	A (7.4)	A (8.6)
NC 115 (Main Street) / SR 2693 (Concord Road)	B (12.6)	B (14.0)
NB TH	B (19.4)	C (20.7)
NB RT	B (18.2)	B (19.9)
SB LTTH	A (8.6)	A (8.9)
EB LT	C (23.9)	C (26.5)
EB RT	A (8.8)	A (9.4)
NC 115 (Main Street) / South Street / Chairman Blake Lane	***F (154.1)***	***F (356.9)***
NB LTR	C (33.4)	C (33.8)
SB LT	B (10.7)	A (9.5)
SB THRT	B (14.0)	B (11.2)
EB LTR	***F (456.3)***	***F (711.3)***
WB LTR	C (33.1)	C (33.5)
NC 115 (Main Street) / SR 2733 (Jackson Street)	N/A	N/A
SB LTRT	B (13.1)	C (19.8)
EB LTTH	A (1.6)	A (1.6)
WB THRT	A (0.0)	A (0.0)

N/A => Overall intersection delay is not calculable for unsignalized intersections

Table 4 above reveals that the signalized intersection of NC 115 (Main Street) / South Street / Chairman Blake Lane is currently operating at LOS F during both peak hours of Condition 1. Additionally, the northbound shared movement at the intersection of SR 2733 (Jackson Street) / SR 2158 (Griffith Street) is operating at a LOS E during the PM peak hour. All other intersections (signalized) and intersection movements (unsignalized) are currently operating at acceptable

levels of service during the 2011 AM and PM peak hours. Each analysis was conducted using the existing geometric configuration, existing traffic volumes (see **Figure 4**), and existing signal timings.

It should be noted, although Synchro projects that the intersection of NC 115 (Main Street) / South Street / Chairman Blake Lane is currently operating at LOS F during both peak hours, SimTraffic simulations reveal otherwise (see Section IV D below). It is believed that limitations in the Synchro program provide incorrect delays and levels of service in this case. Synchro requires the southbound through movement to be coded as a right-turning movement and the northbound through movement to be coded as a left-turning movement. With a single northbound through lane and volumes of 189 during the AM peak hour and 356 during the PM peak hour, Synchro programming will require additional left-turn capacity and storage prior to calculating an acceptable level of service or delay value.

III. Background Conditions

A. Background Traffic / Approved Developments

There are currently no approved future developments in the project study area that will generate additional background traffic. To account for area-wide 2020 ambient traffic growth, an annual growth rate percentage of 2.5 percent per year was applied to the existing volumes. This growth rate was calculated using area 1998-2008 AADT values. **Appendix F** shows the calculations for the area growth factor. **Figure 5** includes the 2020 Condition 2 traffic volumes. It should be noted that, due to the long range forecast of traffic growth, it was assumed that 2020 future peak hour factors would equal 0.90.

B. TIP Projects

There are currently no TIP projects scheduled for completion in the project study area. Because of this, no changes will be made to the existing lane configuration prior to the 2020 build-out year; therefore, analyses for Conditions 1 – 6 will use the existing lane configuration.

C. Traffic Capacity Analysis

As previously mentioned, unsignalized intersections and signalized intersections were analyzed using Synchro Version 7.0. Unsignalized results were evaluated on a per-movement basis, since Synchro does not produce an overall intersection level of service for unsignalized intersection. However, for signalized intersections, a single LOS is obtained. For Condition 2, the cycle lengths and splits of the signalized intersection are optimized in Synchro to allow the overall intersection to operate at LOS D, or better, if possible. The Condition 1 cycle

lengths and green splits were reused if the analyzed intersection is projected to operate acceptably.

A summary of the resulting LOS and delay values for the unsignalized (individual movements) and signalized intersections (overall and individual movements) of Condition 2 (Without Site Traffic Volumes) are shown in **Table 5** below. The outputs for each intersection obtained from Synchro Version 7.0 are located in **Appendix E**.

Table 5 – Condition 2 – 2020 Without Site Traffic
Level of Service and Delay (sec/veh) Results – Study Area Intersections

Intersection	2020 Condition 2 – Without Site Traffic Volumes	
	AM	PM
SR 2158 (Griffith Street) / Sloan Street	C (26.4)	***F (97.5)***
NB LTR	B (19.4)	***E (68.7)***
SB LTR	D (45.0)	***F (224.4)***
EB LT	D (41.5)	***F (283.3)***
EB THRT	B (15.8)	B (17.9)
WB LT	A (8.5)	B (10.5)
WB THRT	B (12.1)	C (26.0)
SR 2733 (Jackson Street) / SR 2158 (Griffith Street)	N/A	N/A
NB LTR	***E (37.5)***	***F (278.8)***
SB LTR	C (22.5)	D (28.8)
EB LTR	A (0.9)	A (0.8)
WB LTR	A (1.1)	A (1.7)
NC 115 (Main Street) / SR 2158 (Griffith Street)	C (28.9)	C (32.2)
NB LT	C (30.6)	C (33.2)
NB THRT	A (8.5)	B (10.9)
SB LTR	C (34.9)	D (40.8)
EB LT	C (28.4)	C (25.9)
EB RT	D (46.7)	D (47.3)
SR 2733 (Jackson Street) / Depot Street	N/A	N/A
NB LTR	A (7.4)	A (9.7)
SB LTR	A (7.9)	A (9.9)
EB LTR	A (7.3)	A (8.7)
WB LTR	A (7.5)	A (9.2)
NC 115 (Main Street) / SR 2693 (Concord Road)	C (20.7)	C (23.3)
NB TH	C (31.7)	C (32.3)
NB RT	C (28.5)	C (29.2)
SB LTTH	B (15.9)	B (18.8)
WB LT	D (41.0)	D (44.6)
WB RT	B (11.1)	B (12.4)
NC 115 (Main Street) / South Street / Chairman Blake Lane	***F (249.9)***	***F (437.7)***
NB LTR	***F (95.0)***	***E (75.7)***
SB LT	A (9.8)	A (7.8)
SB THRT	B (13.7)	B (11.2)
EB LTR	***F (726.8)***	***F (861.2)***
WB LTR	***F (80.4)***	***F (94.8)***
NC 115 (Main Street) / SR 2733 (Jackson Street)	N/A	N/A
SB LTRT	C (16.4)	***F (51.1)***
EB LTTH	A (1.9)	A (2.1)
WB THRT	A (0.0)	A (0.0)

N/A => Overall intersection delay is not calculable for unsignalized intersections

Table 5 above reveals that the signalized intersection of NC 115 (Main Street) / South Street / Chairman Blake Lane is projected to operate at LOS F during both peak hours of Condition 2 and the intersection of SR 2158 (Griffith Street) / Sloan Street is projected to operate at a LOS F during the Condition 2 PM peak hour. Additionally, the northbound shared movement at the intersection of SR 2733 (Jackson Street) / SR 2158 (Griffith Street) is projected to operate at a LOS F

during the AM and PM peak hours and the southbound shared movement at intersection of NC 115 (Main Street) / SR 2733 (Jackson Street) is projected to operate at a LOS F during the Condition 2 PM peak hour. All other intersections (signalized) and intersection movements (unsignalized) are projected to operate at acceptable levels of service during the 2020 Condition 2 AM and PM peak hours. Each analysis was conducted using the existing geometric configuration and future 2020 without site traffic volumes (see **Figure 5**).

IV. Project Conditions

A. Trip Generation

Four future build conditions were analyzed for this project. The first condition examined the potential connection between Potts Street and Sloan Street or the Potts / Sloan connector. The Connector will provide an alternate route for traffic wishing to travel north or south of the Town of Davidson. The Connector will run parallel to existing NC 115 (Main Street) and offer a "relief valve" for those vehicles wishing to bypass the peak hour delays and congestions. The second, third, and fourth conditions involve the potential construction of a 300 space parking deck that could potentially be located on one of four sites, on SR 2733 (Jackson Street), Depot Street, and SR 2158 (Griffith Street) respectively (see **Figure 2**). Either of the sites located along SR 2733 (Jackson Street) will add additional parking for downtown businesses helping to ease the projected future parking deficit where the Depot Street and SR 2158 (Griffith Street) parking decks will provide additional parking for commuter traffic wishing to use area transit.

Trip generation for the Potts / Sloan Connector was determined using data from the CMAQ Funds application completed for the Town of Davidson. Synchro 7 data from the CMAQ Funds application revealed that approximately 10% of traffic was re-routed from NC 115 (Main Street) onto the Potts / Sloan connector at the intersections of NC 115 (Main Street) / Sloan Street and Potts Street / NC 115 (Main Street) (the northern and southern terminus intersections). For the sake of analysis it was assumed that 10% of the 2010 traffic (AM and PM peak hours) would be re-routed from NC-115 (Main Street) onto the Potts / Sloan Connector. The 2010 re-routed vehicles were grown at an exponential growth rate of 2.5% for 10 years to determine 2020 re-routed volumes. As previously discussed, the 2.5% growth rate was based on historic AADT values for the Davidson County. The 2020 re-routed vehicles were subtracted from each of the study area intersections along NC 115 (Main Street) to account for the decrease in traffic due to the Potts / Sloan Connector. These subtracted volumes were added to the north and southbound approaches at the intersection of SR 2158 (Griffith Street) / Sloan Street. The re-routed northbound traffic volume was split between the left-turn and through movements to account for vehicles wishing to access I-77 or bypass the Town (respectively). The re-routed southbound traffic was

added solely to through movement as any traffic wishing to perform a left (towards Davidson) or right-turning (towards I-77) movement can currently perform either movement with or without the construction of the Connector.

The trip generation for each potential parking deck scenario was determined using the *ITE Trip Generation Manual* (Institute of Transportation Engineers, 8th Edition, 2008). Due to the location of the two potential sites for a parking deck, Land Use Code 090 (Park-and-Ride Lot with Bus Service) and the number of parking spaces (300) was used to estimate the total peak hour and average daily traffic volumes for the Depot Street and SR 2158 (Griffith Street) parking decks. Following the NCDOT procedures for use of the *ITE Trip Generation Manual*, trip generation results were determined using the provided equation for each office land use type. Trips generated by the Depot Street and SR 2158 (Griffith Street) potential parking site locations totaled 167 and 39 in-coming and out-going AM peak hour trips (respectively) and 42 and 141 in-coming and out-going PM peak hour trips (respectively).

The trip generation for either of the SR 2733 (Jackson Street) potential parking site locations was determined using the *ITE Trip Generation Manual* (Institute of Transportation Engineers, 8th Edition, 2008). Due to the location of the proposed deck and surrounding land uses, Land Use Codes 710 (General Office Building) and 820 (Shopping Center) were used to estimate the total peak hour and average daily traffic volumes. SEPI used the 2020 parking deficiency of 231 vehicles to calculate the trip generation for the proposed parking deck (Rich and Associates – See **Appendix G**). For the sake of calculation, it was assumed that traffic accessing the parking deck during the AM peak hour would function similarly to traffic accessing an office development. Using the 231 vehicle deficiency as the entering volume and the 88% entering directional distribution from Land Use Code 710, a total AM peak hour volume and AM peak hour exiting volume was calculated. It was assumed that traffic accessing the parking deck during the PM peak hour would function similarly to traffic accessing a shopping center development. Using the 231 vehicle deficiency as the entering volume and the 49% entering directional distribution from Land Use Code 820, a total PM peak hour volume and PM peak hour exiting volume was calculated. Trips generated by the SR 2733 (Jackson Street) parking deck totaled 231 and 32 in-coming and out-going AM peak hour trips (respectively) and 231 and 240 in-coming and out-going PM peak hour trips (respectively).

Table 6 summarizes the estimated traffic generation for the 2020 Conditions 4 – 6 during the AM and PM peak hours as well as during an average weekday. Due to the land use type, no attempt was made to reduce the number of trips by a pass-by or internal capture factor. Additionally no attempt was made to reduce the number of trips by a transit factor (due to the lengthy bus routes headways) or other alternate form of transportation. A truck percentage of two percent was used for all site-generated traffic.

Table 6 – Trip Generation Summary (Vehicles / Hour)

Proposed Deck	Indep. Variable	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Jackson Street Deck	300 Spaces	231	32	263	231	240	471
Depot Street Deck	300 Spaces	167	39	206	42	141	183
Griffith Street Deck	231 Space Deficiency	167	39	206	42	141	183

B. Trip Distribution

The directional traffic patterns, or trip distribution, of the site-generated traffic for the Potts / Sloan connector was determined using Davidson CMAQ Funds Application. It was assumed, for the purpose of this study, that traffic re-routed from NC 115 (Main Street) was applied to the intersection of SR 2158 (Griffith Street) / Sloan Street. All re-routed northbound traffic was split between the northbound left-turn / through movements of the SR 2158 (Griffith Street) / Sloan Street intersection where all re-routed southbound traffic was added solely to the southbound through movement. Site trip volumes for the Potts / Sloan Connector can be found in **Figure 6**.

Area trip distribution for the four potential parking deck sites is based on traffic counts performed by SEPI in December 2010 and traffic volumes provided by the CMAQ study (collected in 2010). Total trips into and out of the study area using SR 2158 (Griffith Street), SR 2733 (Jackson Street), Beatty Street / Sloan Street, Depot Street, NC 115 (Main Street), SR 2693 (Concord Road), South Street, and Chairman Blake Lane form the basis for the percentage distribution. Distribution percentages into and out of the study area are calculated using the existing traffic volumes entering and exiting the study area. This distribution percentage is then applied to the generated trips to predict routes and project traffic volumes for the four 2020 parking deck scenarios. **Figures 7, 8,** and **9** show the distributional percentages and parking deck trip distribution respectively. 2020 Condition 4 – 5 traffic (see **Figures 10 – 13,** respectively) is then determined by applying the site trip distribution volumes from the potential parking location to the existing and background traffic volumes found in Condition 2.

C. Traffic Capacity Analysis

Potts-Sloan Connection

For Condition 3, the cycle lengths and green splits of the signalized intersection are optimized in Synchro. As in Conditions 1 and 2, split timings were adjusted to allow the overall intersection to operate at LOS D, or better, if possible. If an intersection operates acceptably with the addition of background traffic growth and site traffic to the existing cycle lengths, the same cycle lengths and green

splits were used for Condition 3 for that intersection. A summary of the resulting LOS and delay values for both the unsignalized (individual movements) and signalized intersections (overall and individual movements) of the 2020 Condition 3 With Site Traffic – Potts / Sloan Connection is shown in **Table 7** below. The outputs for each intersection obtained from Synchro Version 7.0 are located in **Appendix E**.

Table 7 – Condition 3 – 2020 With Site Traffic – Potts / Sloan Connection Level of Service and Delay (sec/veh) Results – Study Area Intersections

Intersection	2020 Condition 3 – With Site Traffic – Potts / Sloan Connection Volumes	
	AM	PM
SR 2158 (Griffith Street) / Sloan Street	C (30.2)	***F (113.1)***
NB LTR	C (24.0)	***C (34.2)***
SB LTR	D (52.1)	***F (143.5)***
EB LT	D (45.1)	***F (503.6)***
EB THRT	B (17.4)	C (22.5)
WB LT	A (9.5)	B (10.4)
WB THRT	B (13.7)	***E (73.7)***
SR 2733 (Jackson Street) / SR 2158 (Griffith Street)	N/A	N/A
NB LTR	***E (37.8)***	***F (304.7)***
SB LTR	C (22.7)	D (30.0)
EB LTR	A (0.9)	A (0.8)
WB LTR	A (1.1)	A (1.7)
NC 115 (Main Street) / SR 2158 (Griffith Street)	C (26.4)	C (29.8)
NB LT	C (24.2)	C (27.2)
NB THRT	A (8.9)	B (10.6)
SB LTR	C (33.6)	D (38.5)
EB LT	C (26.6)	C (24.8)
EB RT	D (41.1)	D (43.3)
SR 2733 (Jackson Street) / Depot Street	N/A	N/A
NB LTR	A (7.4)	A (9.7)
SB LTR	A (7.9)	A (9.9)
EB LTR	A (7.3)	A (8.7)
WB LTR	A (7.5)	A (9.2)
NC 115 (Main Street) / SR 2693 (Concord Road)	B (18.7)	C (20.2)
NB TH	C (29.1)	C (29.6)
NB RT	C (28.0)	C (30.1)
SB LTTH	B (14.1)	B (14.8)
WB LT	D (36.2)	D (38.6)
WB RT	B (10.1)	B (10.7)
NC 115 (Main Street) / South Street / Chairman Blake Lane	***F (186.6)***	***F (350.7)***
NB LTR	***F (95.0)***	***E (75.7)***
SB LT	A (9.8)	A (7.8)
SB THRT	B (12.5)	B (10.4)
EB LTR	***F (539.1)***	***F (694.5)***
WB LTR	***F (80.4)***	***F (94.8)***
NC 115 (Main Street) / SR 2733 (Jackson Street)	N/A	N/A
SB LTRT	B (15.0)	***E (36.1)***
EB LTTH	A (1.9)	A (2.0)
WB THRT	A (0.0)	A (0.0)

N/A => Overall intersection delay is not calculable for unsignalized intersections

Table 7 above reveals that the signalized intersection of NC 115 (Main Street) / South Street / Chairman Blake Lane is projected to operate at LOS F during both peak hours of Condition 3 and the intersection of SR 2158 (Griffith Street) / Sloan Street is projected to operate at a LOS F during the Condition 3 PM peak hour. Additionally, the northbound shared movement at the intersection of SR 2733 (Jackson Street) / SR 2158 (Griffith Street) is projected to operate at a LOS E and LOS F during the Condition 3 AM and PM peak hour respectively and the southbound shared movement at the intersection of NC 115 (Main Street) / SR 2733 (Jackson Street) is projected to operate at a LOS E during the Condition 3 PM peak hour. All other intersection and intersection movements are projected to operate acceptably during the 2020 Condition 3 With Site AM and PM peak hours. Each analysis was conducted using the existing geometric configuration and 2020 Condition 3 - With Site Traffic - Potts / Sloan Connection volumes (see **Figure 7**).

Jackson Street Parking Deck

For Condition 4, the cycle lengths and green splits of the signalized intersection are optimized in Synchro. As in Conditions 1 and 2, split timings were adjusted to allow the overall intersection to operate at LOS D, or better, if possible. If an intersection operates acceptably with the addition of background traffic growth and site traffic to the existing cycle lengths, the same cycle lengths and green splits were used for Condition 4 for that intersection. A summary of the resulting LOS and delay values for both the unsignalized (individual movements) and signalized intersections (overall and individual movements) of the 2020 Condition 4 With Site Traffic - Jackson Street Parking Deck is shown in **Table 8** below. The outputs for each intersection obtained from Synchro Version 7.0 are located in **Appendix E**.

Table 8 – Condition 4 – 2020 With Jackson Street Parking Deck Traffic Level of Service and Delay (sec/veh) Results – Study Area Intersections

Intersection	2020 Condition 4 – With Site Traffic – Jackson Street Parking Deck Volumes	
	AM	PM
SR 2158 (Griffith Street) / Sloan Street	C (29.8)	***F (133.0)***
NB LTR	C (22.8)	*C (21.4)*
SB LTR	D (53.8)	***F (169.7)***
EB LT	D (44.1)	***F (572.0)***
EB THRT	B (18.4)	C (23.5)
WB LT	A (9.4)	B (10.8)
WB THRT	B (13.2)	***F (100.0)***
SR 2733 (Jackson Street) / SR 2158 (Griffith Street)	N/A	N/A
NB LTR	***F (94.0)***	***F (*)***
SB LTR	***E (36.4)***	***F (66.1)***
EB LTR	A (0.9)	A (0.8)
WB LTR	A (2.4)	A (2.8)
NC 115 (Main Street) / SR 2158 (Griffith Street)	C (33.2)	C (35.5)
NB LT	C (34.4)	D (36.2)
NB THRT	A (8.9)	B (11.6)
SB LTR	D (40.6)	D (44.3)
EB LT	C (34.2)	C (31.7)
EB RT	D (53.0)	D (52.1)
SR 2733 (Jackson Street) / Depot Street	N/A	N/A
NB LTR	A (7.8)	B (14.5)
SB LTR	A (9.1)	B (14.0)
EB LTR	A (7.8)	A (10.0)
WB LTR	A (8.0)	B (10.5)
NC 115 (Main Street) / SR 2693 (Concord Road)	C (22.8)	C (25.5)
NB TH	C (33.0)	C (32.9)
NB RT	C (29.8)	C (31.7)
SB LTTH	B (17.6)	C (20.1)
WB LT	D (45.0)	D (49.5)
WB RT	B (10.8)	B (12.5)
NC 115 (Main Street) / South Street / Chairman Blake Lane	***F (273.7)***	***F (527.1)***
NB LTR	***F (104.5)***	***E (76.3)***
SB LT	A (7.8)	A (7.4)
SB THRT	B (14.2)	B (11.5)
EB LTR	***F (838.6)***	***F (*)***
WB LTR	***F (81.8)***	***F (98.6)***
NC 115 (Main Street) / SR 2733 (Jackson Street)	N/A	N/A
SB LTRT	C (19.6)	***F (284.3)***
EB LTTH	A (2.9)	A (3.3)
WB THRT	A (0.0)	A (0.0)

N/A => Overall intersection delay is not calculable for unsignalized intersections
* => Delay incalculable

Table 8 above reveals that the intersection of SR 2158 (Griffith Street) / Sloan Street is projected to operate unacceptably during the 2020 Condition 4 PM peak hour. The north and southbound shared movements at the intersection of SR 2733 (Jackson Street) / SR 2158 (Griffith Street) are projected to operate unacceptably during the both peak hours. The intersection of NC 115 (Main

Street) / South Street / Chairman Blake Lane is projected to operate unacceptably during both peak hours and the southbound shared movement at the intersection of NC 115 (Main Street) / SR 2733 (Jackson Street) is projected to operate unacceptably during the 2020 PM peak hour. All other intersection and intersection movements are projected to operate acceptably during the 2020 Condition 4 With Site AM and PM peak hours. Each analysis was conducted using the existing geometric configuration and 2020 Condition 4 - With Site Traffic – Jackson Street Parking Deck volumes (see **Figure 13**).

Depot Street Parking Deck

For Condition 5, the cycle lengths and green splits of the signalized intersection are optimized in Synchro. As in previous conditions, split timings were adjusted to allow the overall intersection to operate at LOS D, or better, if possible. If an intersection operates acceptably with the addition of background traffic growth and site traffic to the existing cycle lengths, the same cycle lengths and green splits were used for Condition 5 for that intersection. A summary of the resulting LOS and delay values for both the unsignalized (individual movements) and signalized intersections (overall and individual movements) of the 2020 Condition 5 With Site Traffic – Depot St Parking Deck volumes is shown in **Table 9** below. The outputs for each intersection obtained from Synchro Version 7.0 are located in **Appendix E**.

Table 9 – Condition 5 – 2020 With Depot Street Parking Deck Traffic Level of Service and Delay (sec/veh) Results – Study Area Intersections

Intersection	2020 Condition 5 – With Site Traffic – Depot Street Parking Deck Volumes	
	AM	PM
SR 2158 (Griffith Street) / Sloan Street	C (29.0)	***F (117.5)***
NB LTR	C (22.7)	B (18.5)
SB LTR	D (51.9)	***F (116.3)***
EB LT	D (43.5)	***F (503.6)***
EB THRT	B (17.7)	C (23.1)
WB LT	A (9.2)	B (10.4)
WB THRT	B (13.1)	***F (102.5)***
SR 2733 (Jackson Street) / SR 2158 (Griffith Street)	N/A	N/A
NB LTR	***F (71.0)***	***F (769.1)***
SB LTR	D (30.6)	D (33.2)
EB LTR	A (0.9)	A (0.8)
WB LTR	A (2.0)	A (1.9)
NC 115 (Main Street) / SR 2158 (Griffith Street)	C (32.5)	C (34.4)
NB LT	C (33.0)	C (33.1)
NB THRT	A (9.0)	B (12.0)
SB LTR	D (40.1)	D (44.9)
EB LT	C (33.9)	C (30.4)
EB RT	D (52.2)	D (49.9)
SR 2733 (Jackson Street) / Depot Street	N/A	N/A
NB LTR	A (8.1)	B (11.3)
SB LTR	A (8.6)	B (11.5)
EB LTR	A (8.1)	B (11.5)
WB LTR	A (8.4)	B (10.1)
NC 115 (Main Street) / SR 2693 (Concord Road)	C (21.3)	C (24.3)
NB TH	C (32.5)	C (33.6)
NB RT	C (28.6)	C (30.0)
SB LTTH	B (16.3)	C (20.3)
WB LT	D (43.1)	D (46.3)
WB RT	B (11.9)	B (12.3)
NC 115 (Main Street) / South Street / Chairman Blake Lane	***F (269.7)***	***F (442.6)***
NB LTR	***F (101.7)***	***E (75.5)***
SB LT	A (7.8)	A (7.4)
SB THRT	B (13.2)	B (10.8)
EB LTR	***F (799.8)***	***F (878.1)***
WB LTR	***F (81.8)***	***F (95.6)***
NC 115 (Main Street) / SR 2733 (Jackson Street)	N/A	N/A
SB LTRT	C (16.9)	***F (61.3)***
EB LTTH	A (2.6)	A (2.3)
WB THRT	A (0.0)	A (0.0)

N/A => Overall intersection delay is not calculable for unsignalized intersections

Table 9 above reveals that the intersection of SR 2158 (Griffith Street) / Sloan Street is projected to operate unacceptably during the 2020 Condition 5 PM peak hour. The northbound shared movement at the intersection of SR 2733 (Jackson Street) / SR 2158 (Griffith Street) is projected to operate unacceptably during the PM peak hour. The intersection of NC 115 (Main Street) / South Street / Chairman Blake Lane is projected to operate unacceptably during both peak

hours and the southbound shared movement at the intersection of NC 115 (Main Street) / SR 2733 (Jackson Street) is projected to operate unacceptably during the 2020 PM peak hour. All other intersection and intersection movements are projected to operate acceptably during the 2020 Condition 5 With Site AM and PM peak hours. Each analysis was conducted using the existing geometric configuration and 2020 Condition 5 – With Site Traffic – Depot Street Parking Deck volumes (see **Figure 14**).

Griffith Street Parking Deck

For Condition 6, the cycle lengths and green splits of the signalized intersection are optimized in Synchro. As in previous conditions, split timings were adjusted to allow the overall intersection to operate at LOS D, or better, if possible. If an intersection operates acceptably with the addition of background traffic growth and site traffic to the existing cycle lengths, the same cycle lengths and green splits were used for Condition 6 for that intersection. A summary of the resulting LOS and delay values for both the unsignalized (individual movements) and signalized intersections (overall and individual movements) of the 2020 Condition 5 With Site Traffic – Depot Street Parking lot is shown in **Table 10** below. The outputs for each intersection obtained from Synchro Version 7.0 are located in **Appendix E**.

Table 10 – Condition 6 – 2020 With Griffith Street Parking Deck Traffic Level of Service and Delay (sec/veh) Results – Study Area Intersections

Intersection	2020 Condition 6 – With Site Traffic – Griffith Street Parking Deck Volumes	
	AM	PM
SR 2158 (Griffith Street) / Sloan Street	C (29.0)	***F (117.3)***
NB LTR	C (22.8)	B (18.6)
SB LTR	D (52.1)	***F (116.3)***
EB LT	D (43.5)	***F (503.6)***
EB THRT	B (17.7)	C (23.1)
WB LT	A (9.4)	B (10.6)
WB THRT	B (13.1)	***F (102.5)***
SR 2733 (Jackson Street) / SR 2158 (Griffith Street)	N/A	N/A
NB LTR	***F (80.2)***	***F (627.2)***
SB LTR	D (26.3)	***E (40.0)***
EB LTR	A (1.0)	A (0.9)
WB LTR	A (1.0)	A (1.8)
NC 115 (Main Street) / SR 2158 (Griffith Street)	D (36.0)	D (36.9)
NB LT	D (40.4)	D (37.7)
NB THRT	A (8.7)	B (12.6)
SB LTR	D (42.2)	D (46.8)
EB LT	D (35.0)	C (29.8)
EB RT	***E (57.6)***	D (53.0)
SR 2733 (Jackson Street) / Depot Street	N/A	N/A
NB LTR	A (7.6)	A (10.0)
SB LTR	A (8.0)	B (10.4)
EB LTR	A (7.4)	A (8.8)
WB LTR	A (7.6)	A (9.4)
NC 115 (Main Street) / SR 2693 (Concord Road)	C (21.3)	C (24.3)
NB TH	C (32.5)	C (33.6)
NB RT	C (28.6)	C (30.0)
SB LTTH	B (16.3)	C (20.3)
WB LT	D (43.1)	D (46.3)
WB RT	B (11.9)	B (12.3)
NC 115 (Main Street) / South Street / Chairman Blake Lane	***F (269.7)***	***F (442.6)***
NB LTR	***F (101.7)***	***E (75.5)***
SB LT	A (7.8)	A (7.4)
SB THRT	B (13.2)	B (10.8)
EB LTR	***F (799.8)***	***F (878.1)***
WB LTR	***F (81.8)***	***F (95.6)***
NC 115 (Main Street) / SR 2733 (Jackson Street)	N/A	N/A
SB LTRT	C (16.9)	***F (61.8)***
EB LTTH	A (2.6)	A (2.3)
WB THRT	A (0.0)	A (0.0)

N/A => Overall intersection delay is not calculable for unsignalized intersections

Table 10 above reveals that the intersection of SR 2158 (Griffith Street) / Sloan Street is projected to operate unacceptably during the 2020 Condition 6 PM peak hour. The northbound shared movement at the intersection of SR 2733 (Jackson Street) / SR 2158 (Griffith Street) is projected to operate unacceptably during the AM and PM peak hours and the southbound shared movement is projected to operate unacceptably during the PM peak hour. The intersection of NC 115

(Main Street) / South Street / Chairman Blake Lane is projected to operate unacceptably during both peak hours and the southbound shared movement at the intersection of NC 115 (Main Street) / SR 2733 (Jackson Street) is projected to operate unacceptably during the 2020 PM peak hour. All other intersection and intersection movements are projected to operate acceptably during the 2020 Condition 6 With Site AM and PM peak hours. Each analysis was conducted using the existing geometric configuration and 2020 Condition 6 – With Site Traffic – Griffith Street Parking Deck volumes (see **Figure 15**).

D. Intersection Evaluations

SR 2158 (Griffith Street) / Sloan Street

The existing signalized intersection at SR 2158 (Griffith Street) / Sloan Street currently operates at LOS B and LOS C during the 2011 AM and PM peak hours of Condition 1. For 2020 Condition 2 and Condition 3, the addition of background traffic and traffic rerouted due to the construction of the Potts / Sloan connector (respectively), Synchro projects that the intersection will operate at LOS C during 2020 AM Peak hour and at LOS F during 2020 PM Peak hour. For Conditions 4, 5 and 6, the construction of a parking deck accessing Jackson Street, Depot Street, and Griffith Street (respectively), the intersection is projected to operate at a LOS C during the AM peak hour and LOS F during the PM peak hour.

In order to allow this intersection to operate at an acceptable level of service during the future 2020 PM peak hour (for Conditions 2 – 6), westbound SR 2158 (Griffith Street) will need to be widened to two through lanes. Additionally, the eastbound left-turn phasing will need to be modified from permitted to protected / permitted. With these improvements in place, the intersection will operate at a LOS D during the PM peak hour of each 2020 Condition. **Table 11** below shows the level of service and delay values for the intersection with the addition of the recommended improvements (with Condition 4, or worst case, traffic scenario).

SR 2733 (Jackson Street) / SR 2158 (Griffith Street)

The existing unsignalized intersection at SR 2733 (Jackson Street) / SR 2158 (Griffith Street) has a shared northbound movement that currently operates LOS E during the 2011 PM peak hour of Condition 1. For 2020 Condition 2 and Condition 3, the addition of background traffic and Potts / Sloan connector traffic (respectively), Synchro projects that the intersection's shared northbound movement will operate at LOS E during 2020 AM Peak hour and at LOS F during 2020 PM Peak hour for both conditions. For Conditions 4, 5 and 6, the construction of a parking deck accessing Jackson Street, Depot Street, and Griffith Street (respectively), the northbound intersection movement is projected to operate at a LOS F during both peak hours. Additionally, the southbound shared movement is projected to operate unacceptably during the Condition 4 and 6 peak hours.

In order to allow this intersection to operate at an acceptable level of service during the future 2020 PM peak hour (for Conditions 2 – 6) the intersection will need to be signalized. With this improvement in place, the intersection will operate at a LOS B or better during both peak hours of each 2020 Condition. **Table 11** below shows the level of service and delay values for the intersection with the addition of a signal (with Condition 4, or worst case, traffic scenario).

NC 115 (Main Street) / SR 2158 (Griffith Street)

The existing signalized intersection at NC 115 (Main Street) / SR 2158 (Griffith Street) currently operates at LOS C (or better) during 2011 AM and PM Peak hours of Condition 1. For 2020 Condition 2 and Condition 3, the addition of background traffic and Potts / Sloan traffic (respectively), Synchro projects that the intersection will also operate LOS C during the 2020 AM and PM peak hours for both conditions. For Conditions 4 and 5, with the construction of parking decks accessing Jackson Street and Depot Street (respectively), the intersection is projected to operate at a LOS C during each peak hour. For Condition 6, with the construction of a parking deck accessing Griffith Street, the intersection is projected to operate at a LOS D during both peak hours. Because this intersection is projected to operate acceptably during each future condition, no future improvements are required at this intersection.

SR 2733 (Jackson Street) / Depot Street

All movements of the existing unsignalized intersection at SR 2733 (Jackson Street) / Depot Street currently operate at LOS A during the 2011 AM and PM peak hours of Condition 1. For 2020 Condition 2 and Condition 3, the addition of background traffic and Potts / Sloan connector traffic (respectively), all intersection movements are projected to operate at LOS A during 2020 AM and PM peak hours. For Conditions 4, 5 and 6, the construction of a parking deck accessing Jackson Street, Depot Street, and Griffith Street (respectively), all intersection movements are projected to operate at a LOS A during the AM peak hour or LOS B (or better) during the PM peak hour. Because each intersection movement is projected to operate at acceptable levels of service during each future condition, no future improvements are required at this intersection.

NC 115 (Main Street) / SR 2693 (Concord Road)

The existing signalized intersection at NC 115 (Main Street) / SR 2693 (Concord Road) currently operates at LOS B during 2011 AM and PM peak hours of Condition 1. For 2020 Condition 2, with the addition of background traffic, Synchro projects that the intersection will operate at LOS C during the 2020 AM and PM peak hours. For Condition 3, with the addition of Potts / Sloan connector site traffic, Synchro projects that the intersection will operate at LOS B during 2020 AM peak hour and at LOS C during 2020 PM peak hour. For Conditions 4,

5 and 6, the construction of parking decks accessing Jackson Street, Depot Street, and Griffith Street (respectively), the intersection is projected to operate at a LOS C during both peak hours.

Though Synchro projects this intersection to operate at acceptable levels of service, significant southbound queuing has been observed at this intersection (particularly during the PM peak hour), often extending northward to the intersection of NC 115 (Main Street) / Depot Street. 2020 Condition 4 PM peak hour analyses project 95% queue lengths of approximately 285-feet. To help ease this queuing and help with future signal coordination along NC 115 (Main Street), it is recommended that this intersection be restriped to include a 50-foot southbound left-turn lane. The addition of this left-turn lane will reduce the overall (Condition 4) intersection level of service to LOS B and will reduce the overall delay from 25.5 seconds per vehicle to 19.5 seconds per vehicle. Preliminary designs were completed at this location and it was determined that approximately five parking spaces will need to be removed (along the eastern side of Main Street) to accommodate the restriping. No geometric improvements will be required to complete the restriping.

NC 115 (Main Street) / South Street / Chairman Blake Lane

According to Synchro calculations, the existing signalized intersection at NC 115 (Main Street) / South Street / Chairman Blake Lane currently operates at LOS F during 2011 AM and PM peak hours of Condition 1. For 2020 Condition 2 and Condition 3, the addition of background traffic and Potts / Sloan connector traffic (respectively), Synchro projects that the intersection will operate at LOS F during 2020 AM and PM peak hours for both conditions. For Conditions 4, 5 and 6, the construction of parking decks accessing Jackson Street, Depot Street, and Griffith Street (respectively), the intersection is projected to continue to operate at a failing level of service during each peak hour.

SimTraffic runs were created for this intersection to provide a more accurate representation of future levels of service and delay values. Using Condition 4 PM peak hour traffic to represent a worst-case traffic scenario, simulated 10 times, the overall intersection operated at a LOS C (16.5 sec/veh). Because of this (and due to limited space within the downtown region, no improvement recommendation are provided or recommended for this intersection.

NC 115 (Main Street) / SR 2733 (Jackson Street)

All of the movements of the unsignalized intersection NC 115 (Main Street) / SR 2733 (Jackson Street) currently operate at LOS C or better during 2011 AM and PM peak hours for Condition 1. For 2020 Condition 2, the addition of background traffic, Synchro projects that the intersection's shared southbound movement will operate at LOS F during 2020 PM peak hour. For Condition 3, the addition of Potts / Sloan connector traffic, Synchro projects that the intersection's shared

southbound movement will operate at LOS E for PM peak hour. For Conditions 4, 5 and 6, the construction of parking decks accessing Jackson Street, Depot Street, and Griffith Street (respectively), the southbound intersection movement is projected to operate at a LOS F during both peak hours.

In order to allow this intersection to operate at an acceptable level of service during the future 2020 PM peak hour (for Conditions 2 – 6) the intersection will need to be signalized. With this improvement in place, the intersection will operate at a LOS B or better during both peak hours of each 2020 Condition. **Table 11** below shows the level of service and delay values for the intersection with the addition of a signal (with Condition 4, or worst case, traffic scenario).

V. Conclusions and Recommendations

In conclusion, SEPI analyzed the existing and five future conditions for the Davidson Parking Study:

Condition 2: 2020 Without Site Traffic
Condition 3: 2020 With Site Traffic Potts-Sloan Connection
Condition 4: 2020 With Site Traffic Jackson Street 300 Space Parking Deck
Condition 5: 2020 With Site Traffic Depot Street 300 Space Parking Deck
Condition 6: 2020 With Site Traffic Griffith Street 300 Space Parking Deck

Based on the analyses conducted, **four intersections will require improvements** due to future 2020 traffic projections. Improvements are required at the intersections of SR 2158 (Griffith Street) / Sloan Street, SR 2733 (Jackson Street) / SR 2158 (Griffith Street), NC 115 (Main Street) / SR 2693 (Concord Road) and NC 115 (Main Street) / SR 2733 (Jackson Street) to allow each intersection to operate acceptably during the 2020 future year. Using Condition 4 traffic volumes as a "worst-case" traffic scenario, the intersection of SR 2158 (Griffith Street) / Sloan Street will require the addition of second westbound through lane as well as modification to the intersection phasing. Signalization will be required at the intersections of SR 2733 (Jackson Street) / SR 2158 (Griffith Street) and NC 115 (Main Street) / SR 2733 (Jackson Street) in order for both to operate acceptably during both 2020 peak hours. To help with intersection queuing, it is recommended that the intersection of NC 115 (Main Street) / SR 2693 (Concord Road) be restriped to include a southbound left-turn lane. **Table 11** below shows the improved intersection levels of service and delay values. All other intersections (signalized) and intersection movements (unsignalized) are projected to operate acceptable during both 2020 peak hours.

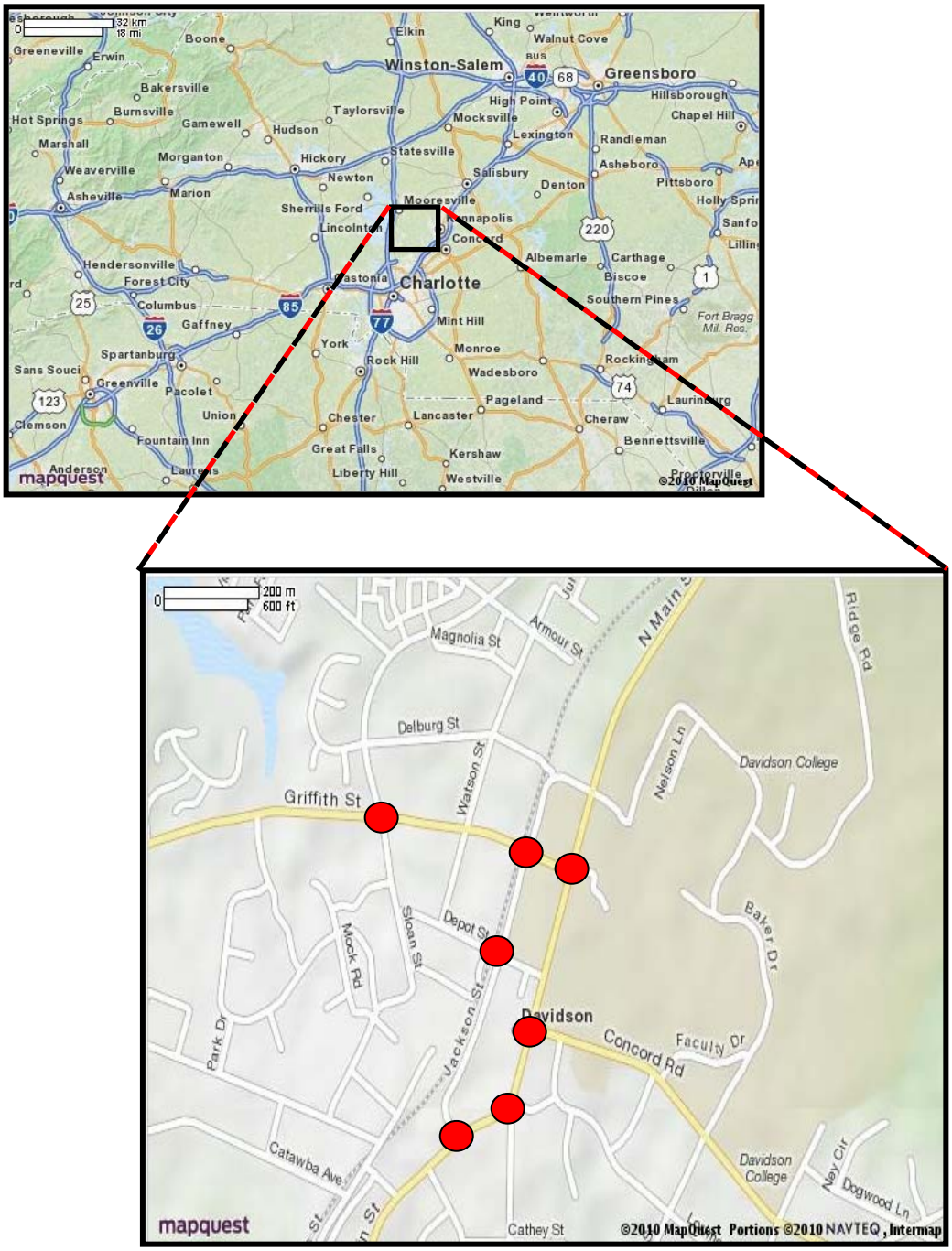
Finally, it is recommended that the signal timings along NC 115 (Main Street) be coordinated to help facilitate traffic flow along the corridor. To accomplish this coordination, the traffic signal cabinet at the intersection of SR 2158 (Griffith Street) / NC 115 (Main Street) will need to be updated to be consistent with the

traffic signal cabinets at the two adjacent intersections. Coordination along this corridor will improve network levels of service and provide for smoother flow through Downtown Davidson.

Table 11 – Condition 4 –
2020 With Jackson Street Parking Deck Traffic & Improvements
Level of Service and Delay (sec/veh) Results – Study Area Intersections

Intersection	2020 Condition 4 – Jackson Street Parking Deck Volumes & Improvements
	PM Peak Hour
SR 2158 (Griffith Street) / Sloan Street	D (50.4)
SR 2733 (Jackson Street) / SR 2158 (Griffith Street)	C (29.6)
NC 115 (Main Street) / SR 2693 (Concord Road)	B (19.5)
NC 115 (Main Street) / SR 2733 (Jackson Street)	D (52.3)

Appendix A – Figures



Legend

= Study Area Intersection

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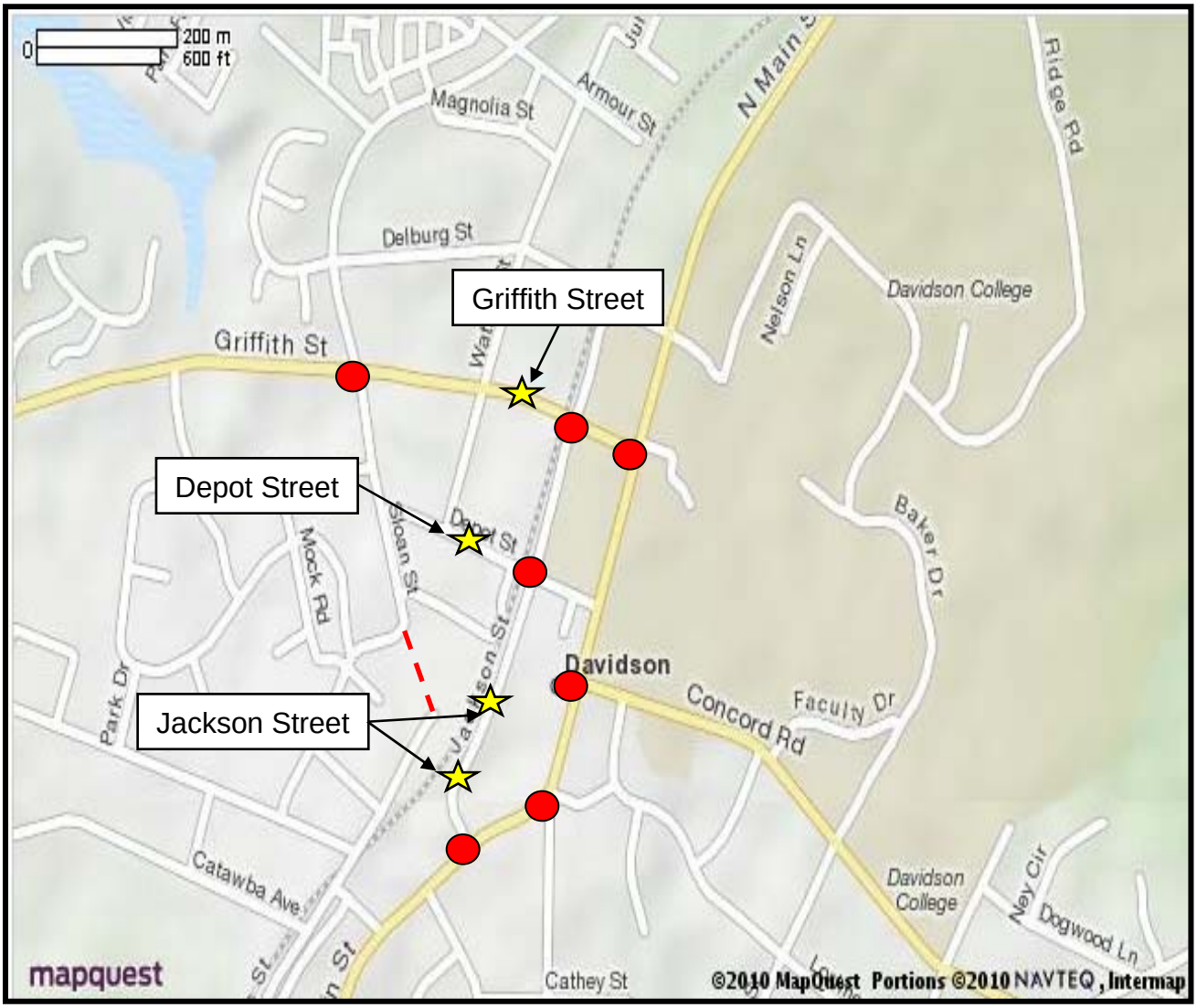
Town of Davidson Parking Study

Site Location Map | Figure 1

Not To Scale



Legend

- = Study Area Intersection
- = Potential Deck Location
- = Potts / Sloan Connector

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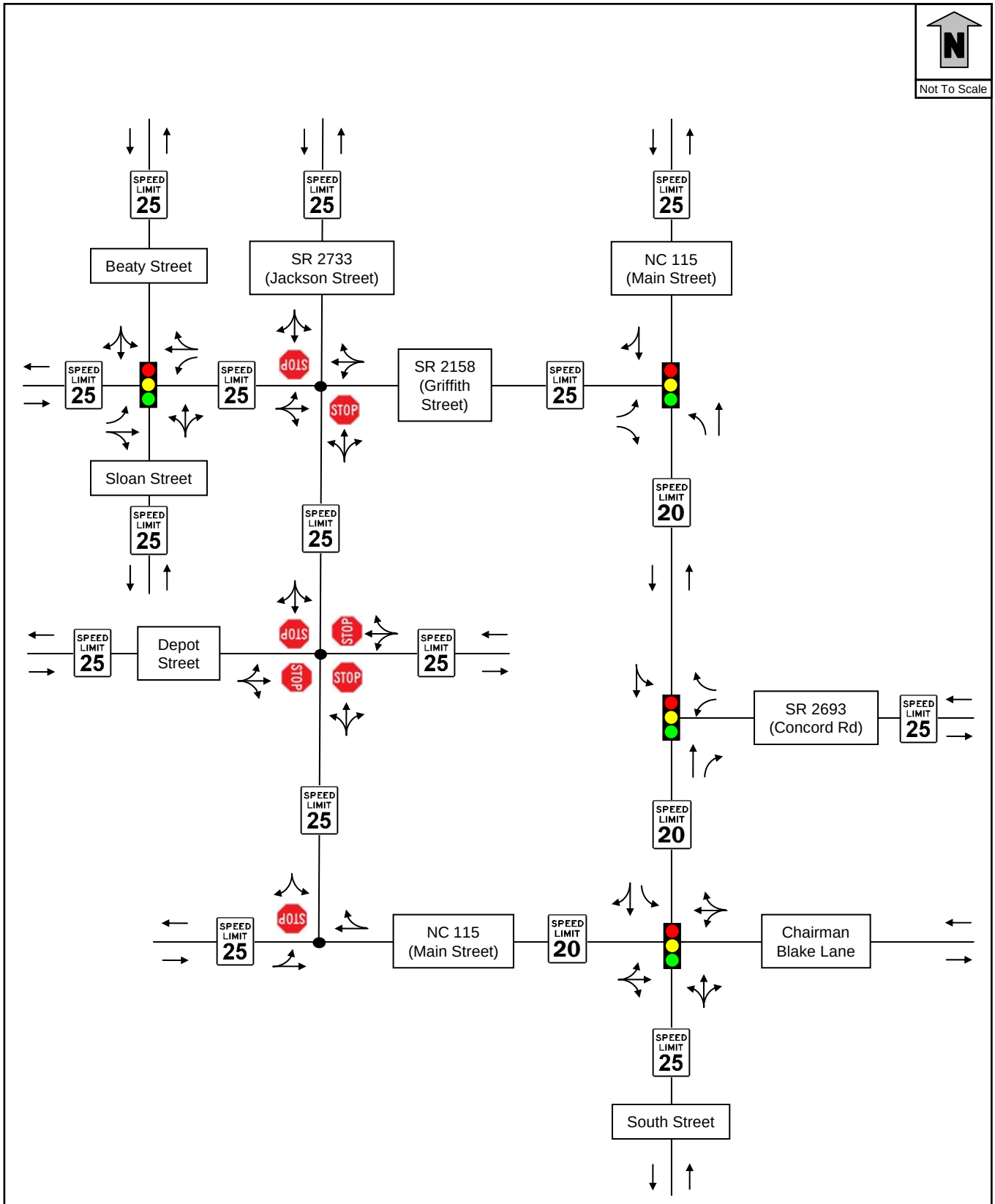
Future Alternatives | Figure 2



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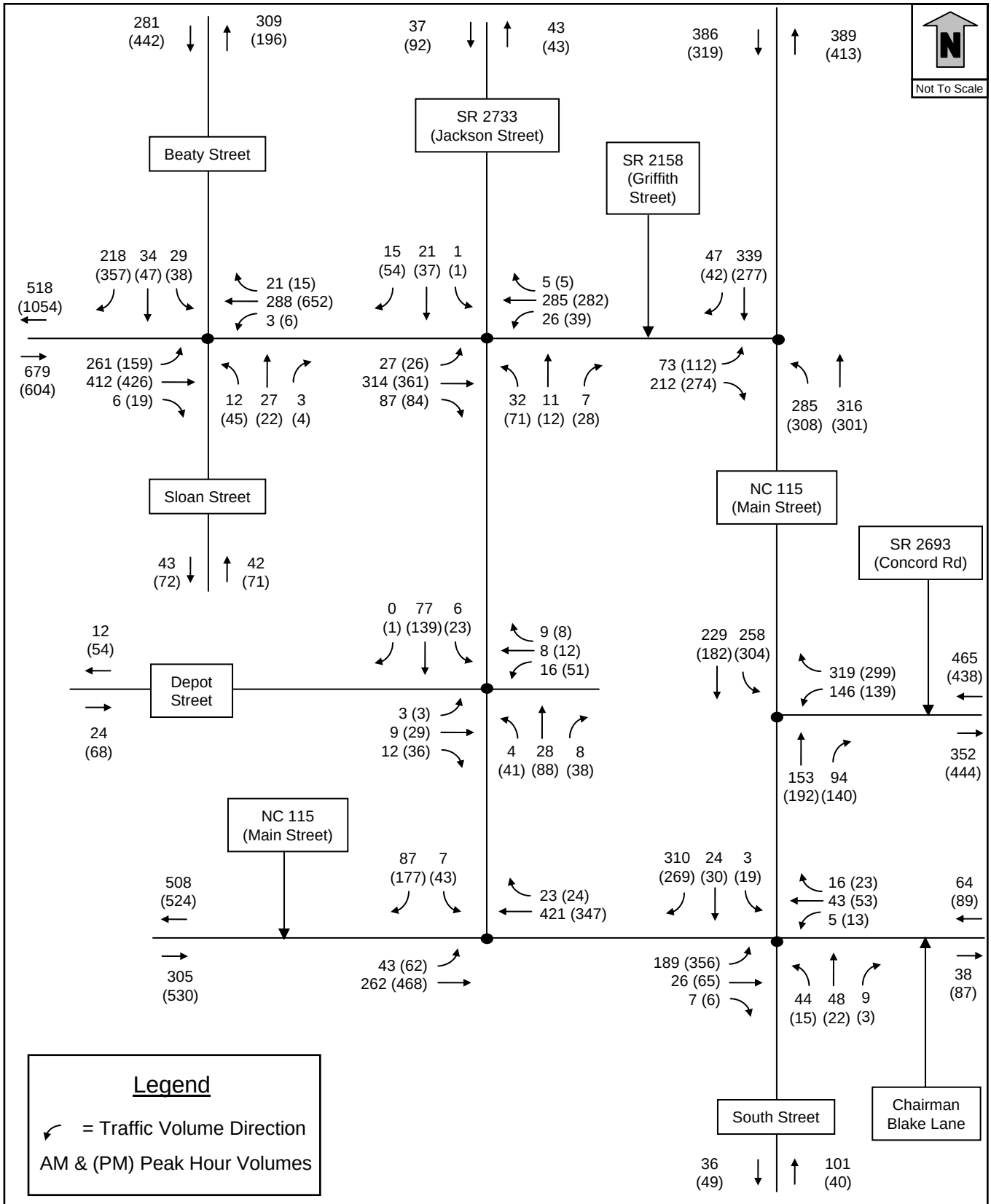
2010 Existing Lane Configuration | Figure 3



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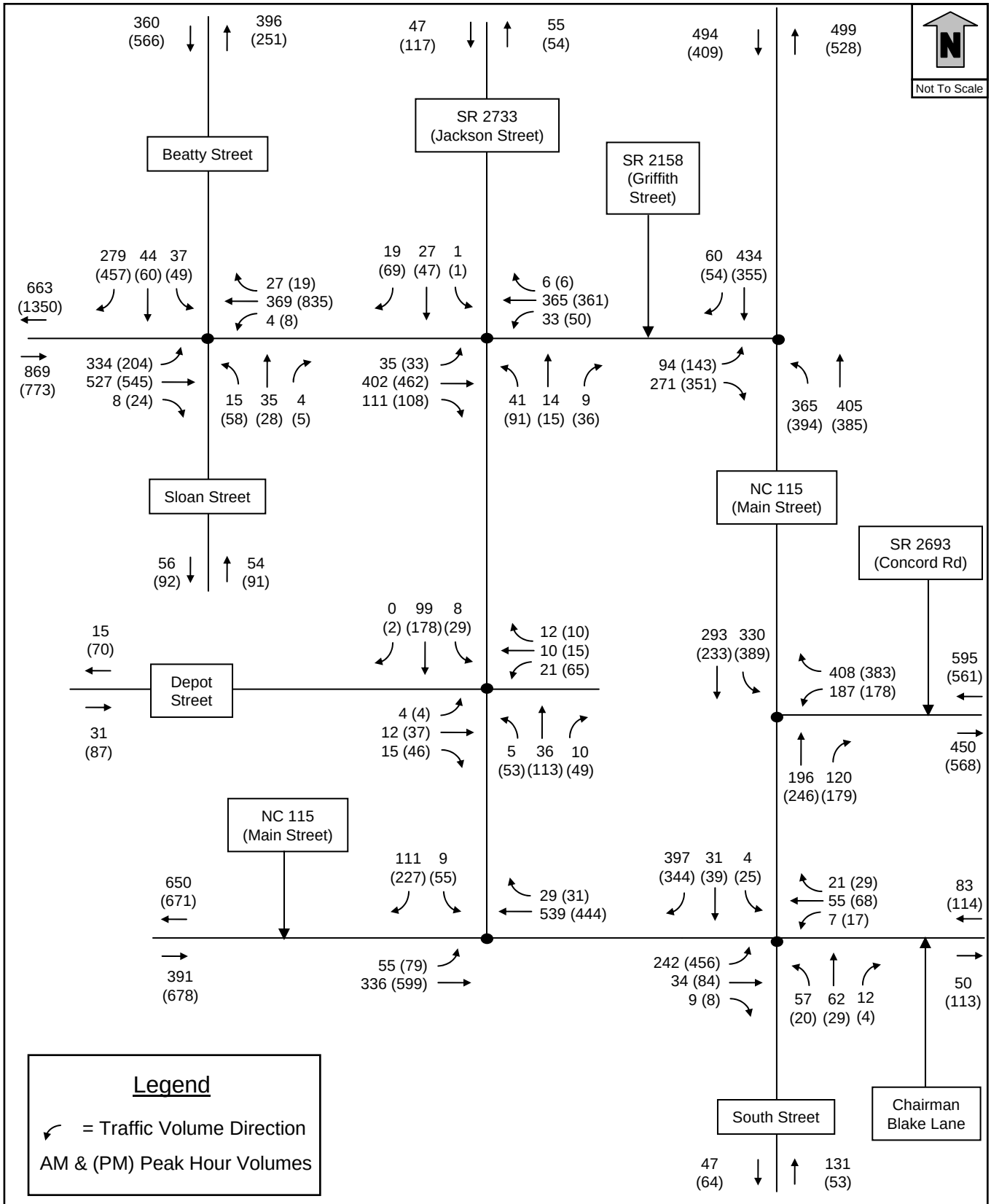
2010 Existing Traffic Volumes | Figure 4



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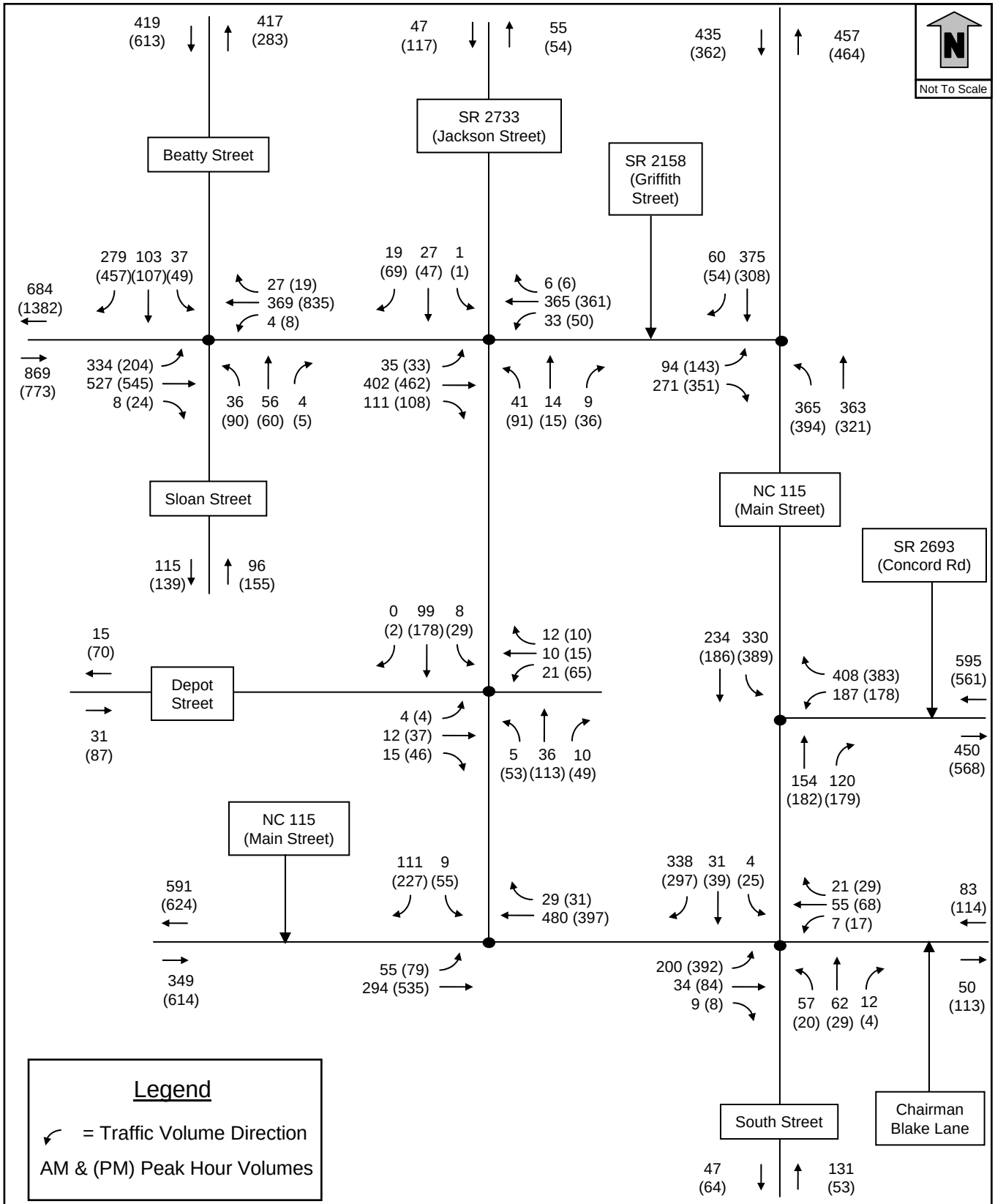
2020 Condition 2 Traffic Volumes
Background Traffic

Figure 5



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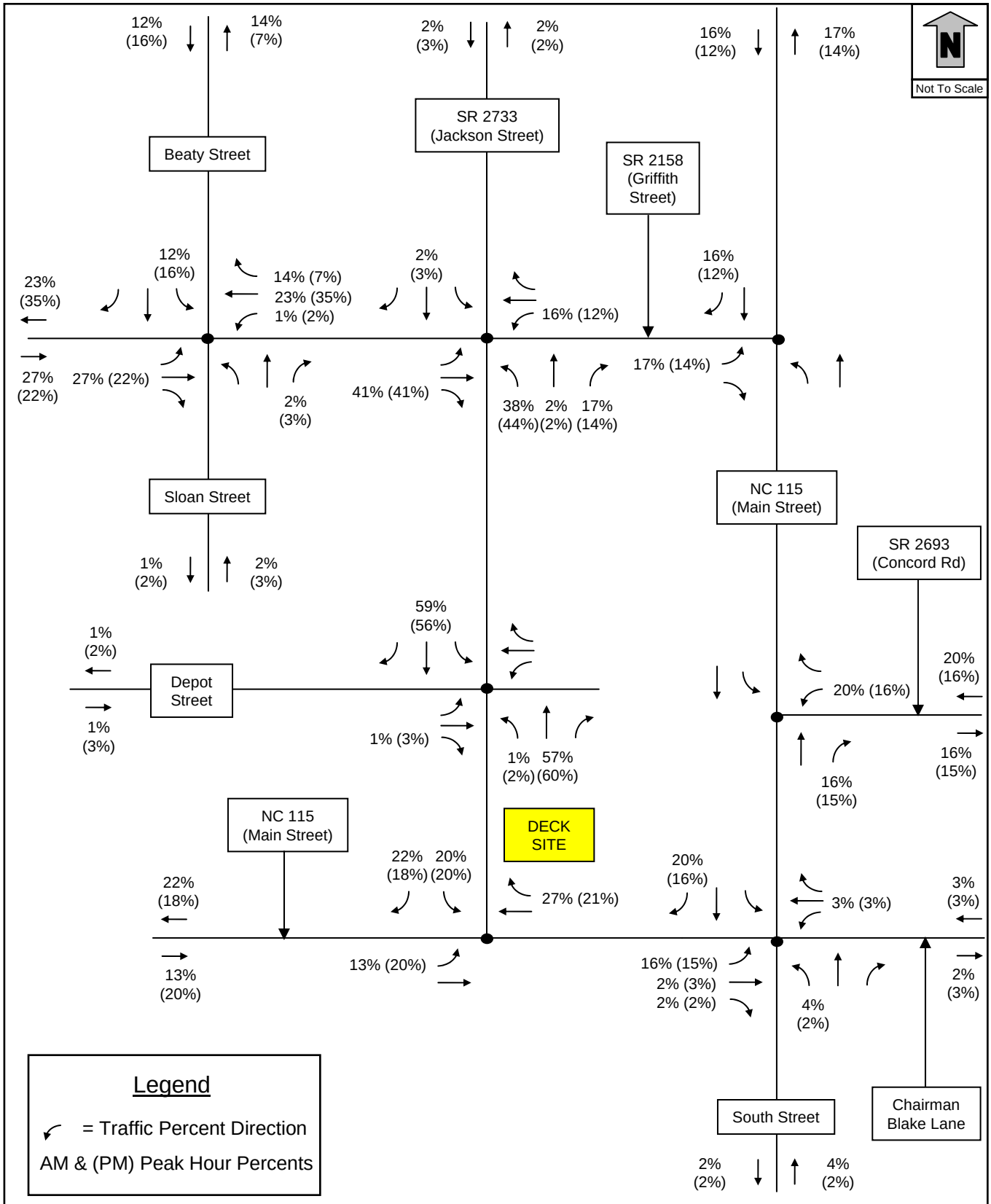
2020 Condition 3 Traffic Volumes
Potts-Sloan Connector

Figure 6



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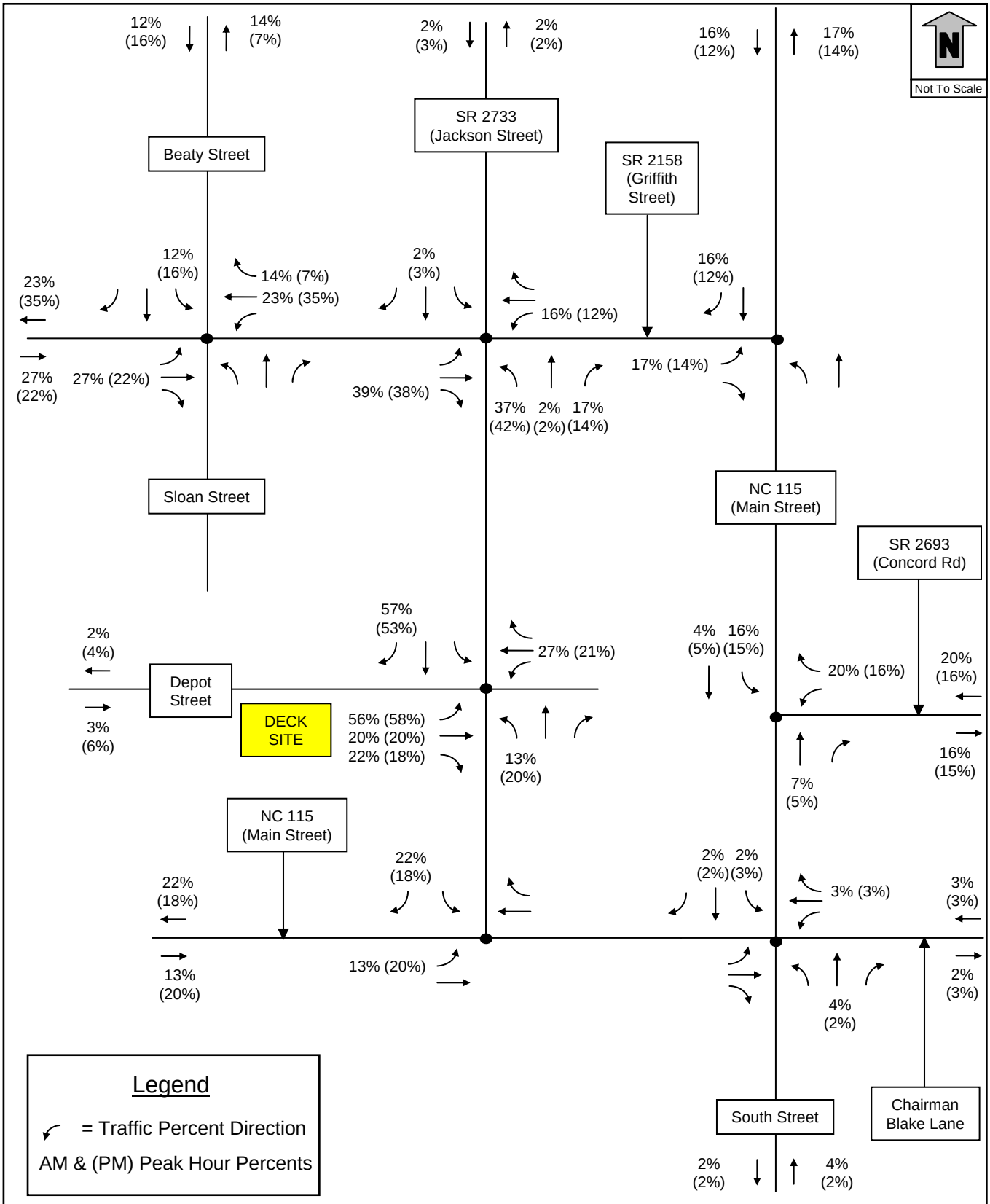
Town of Davidson Parking Study

2020 Trip Distribution Percentages
Jackson Street Parking Deck

Figure 7



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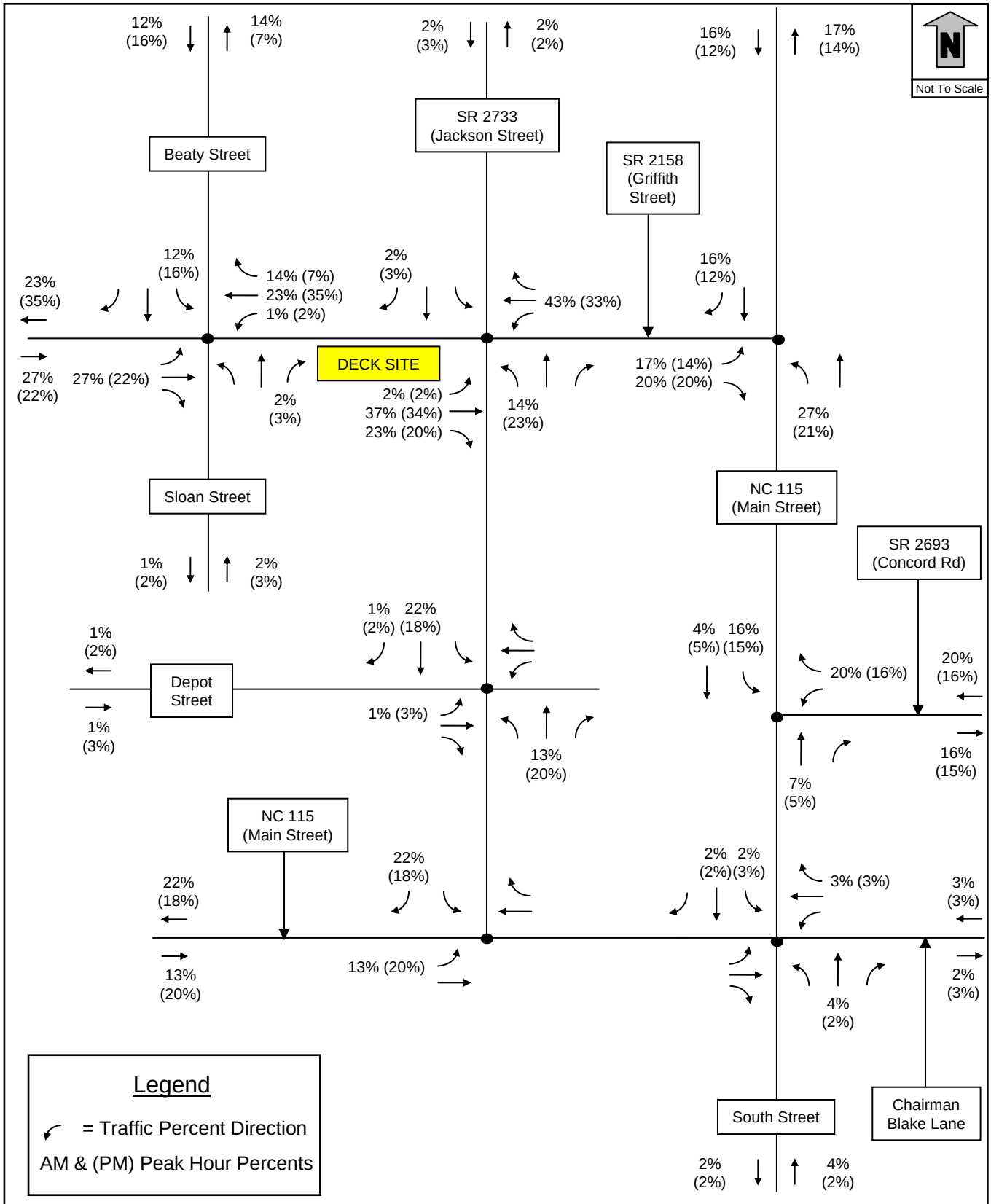
2020 Trip Distribution Percentages
Depot Street Parking Deck

Figure 8



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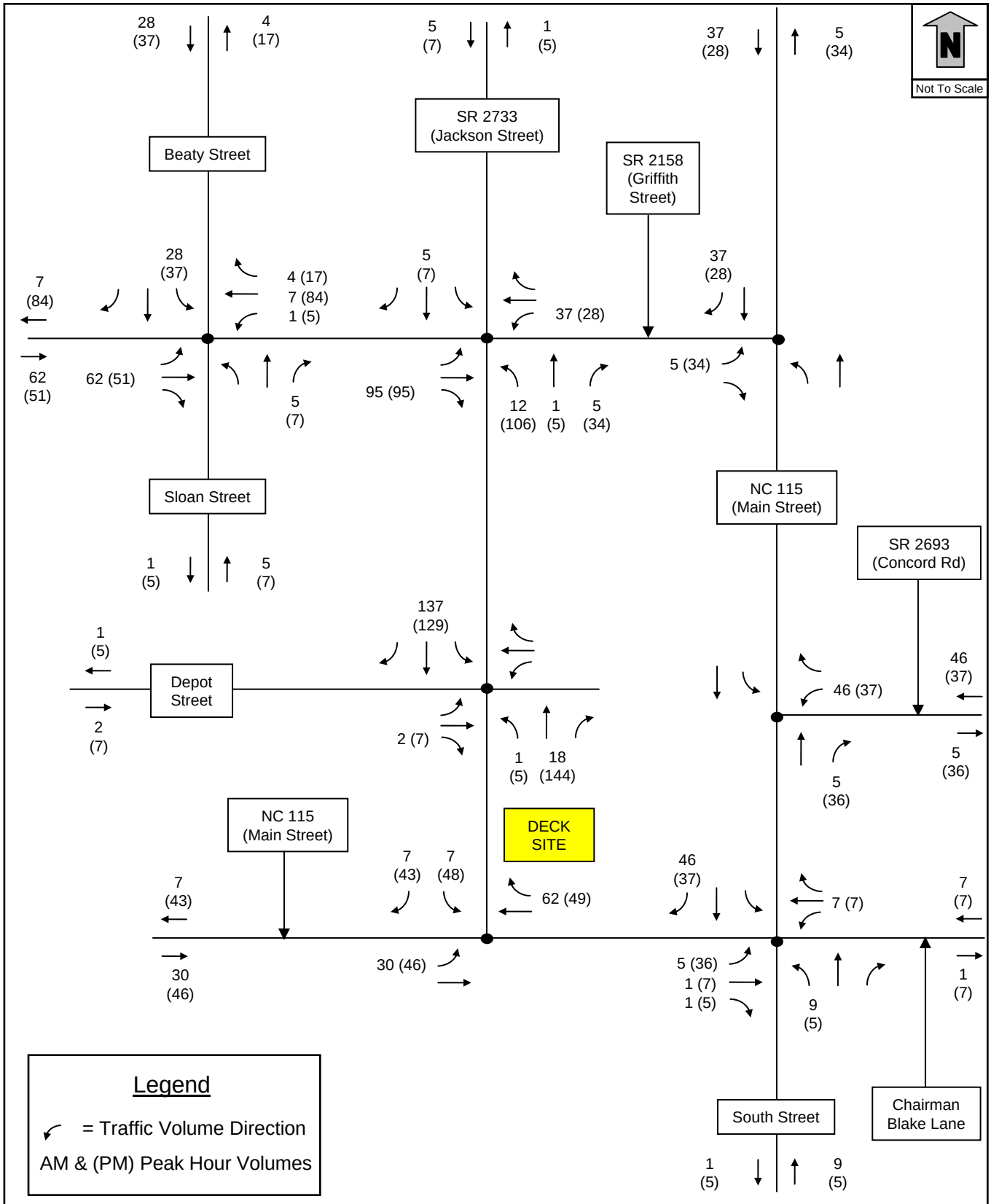
2020 Trip Distribution Percentages
Griffith Street Parking Deck

Figure 9



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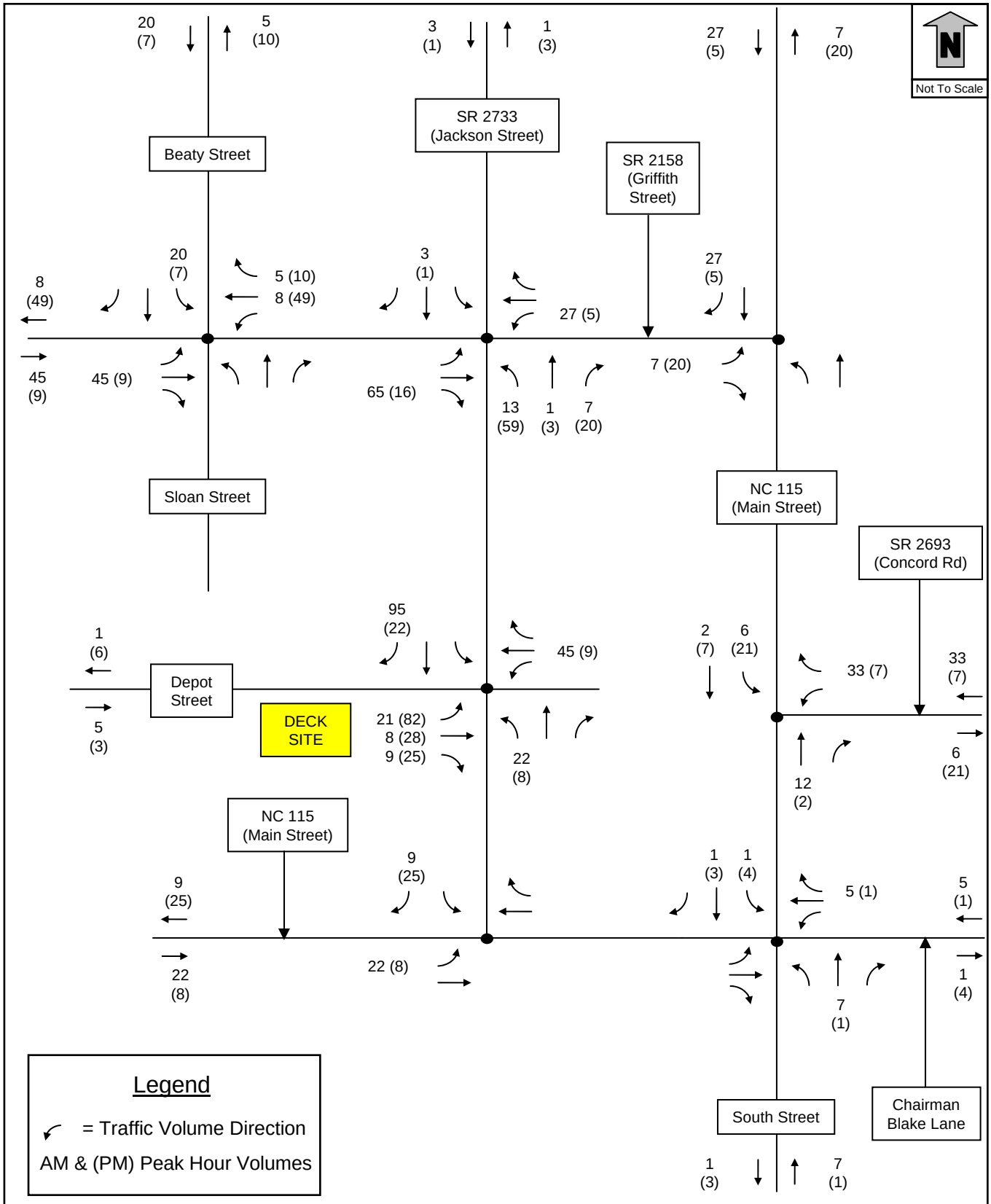
Town of Davidson Parking Study

2020 Trip Distribution Traffic Volumes
Jackson Street Parking Deck

Figure 10



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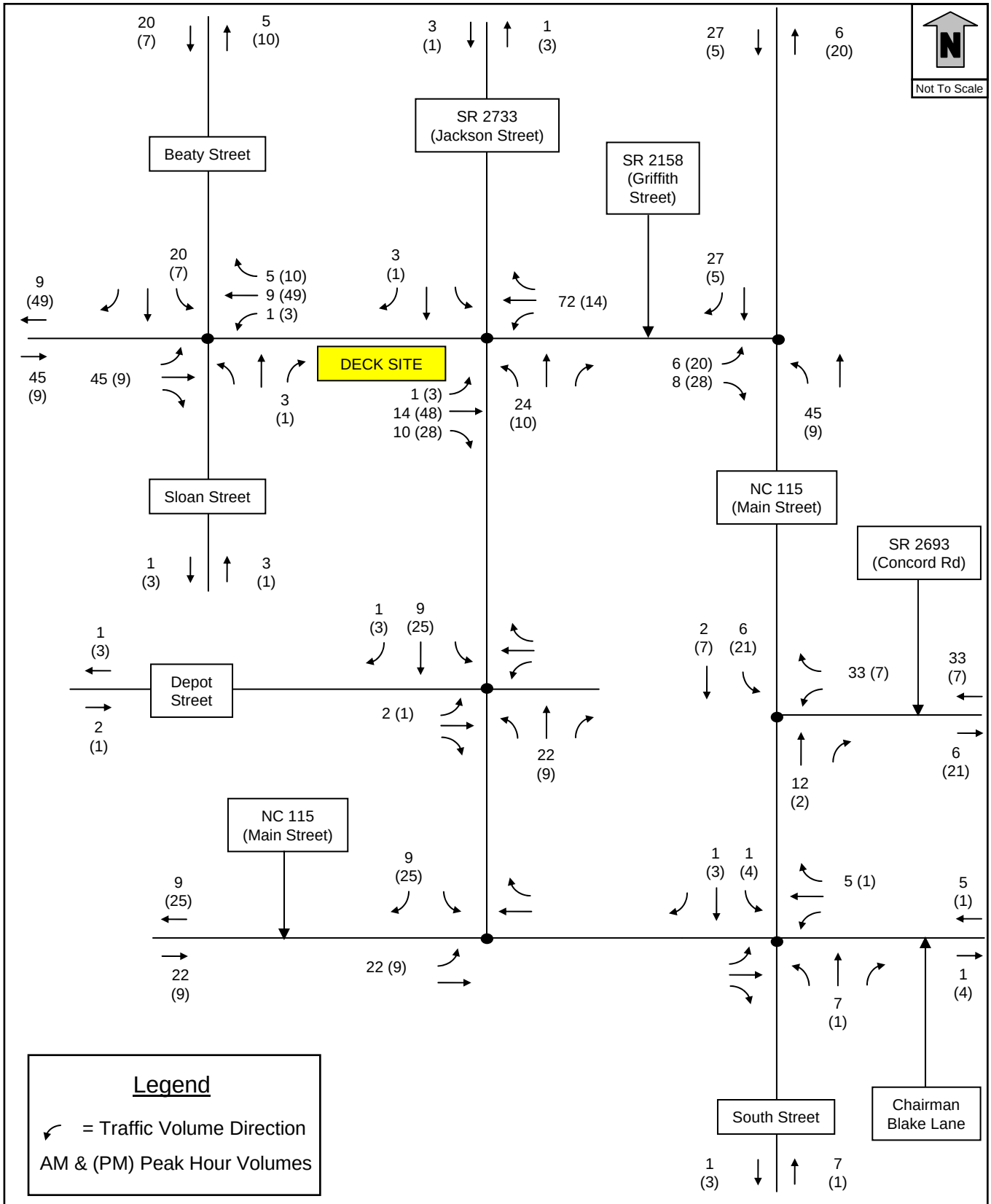
2020 Trip Distribution Traffic Volumes
Depot Street Parking Deck

Figure 11



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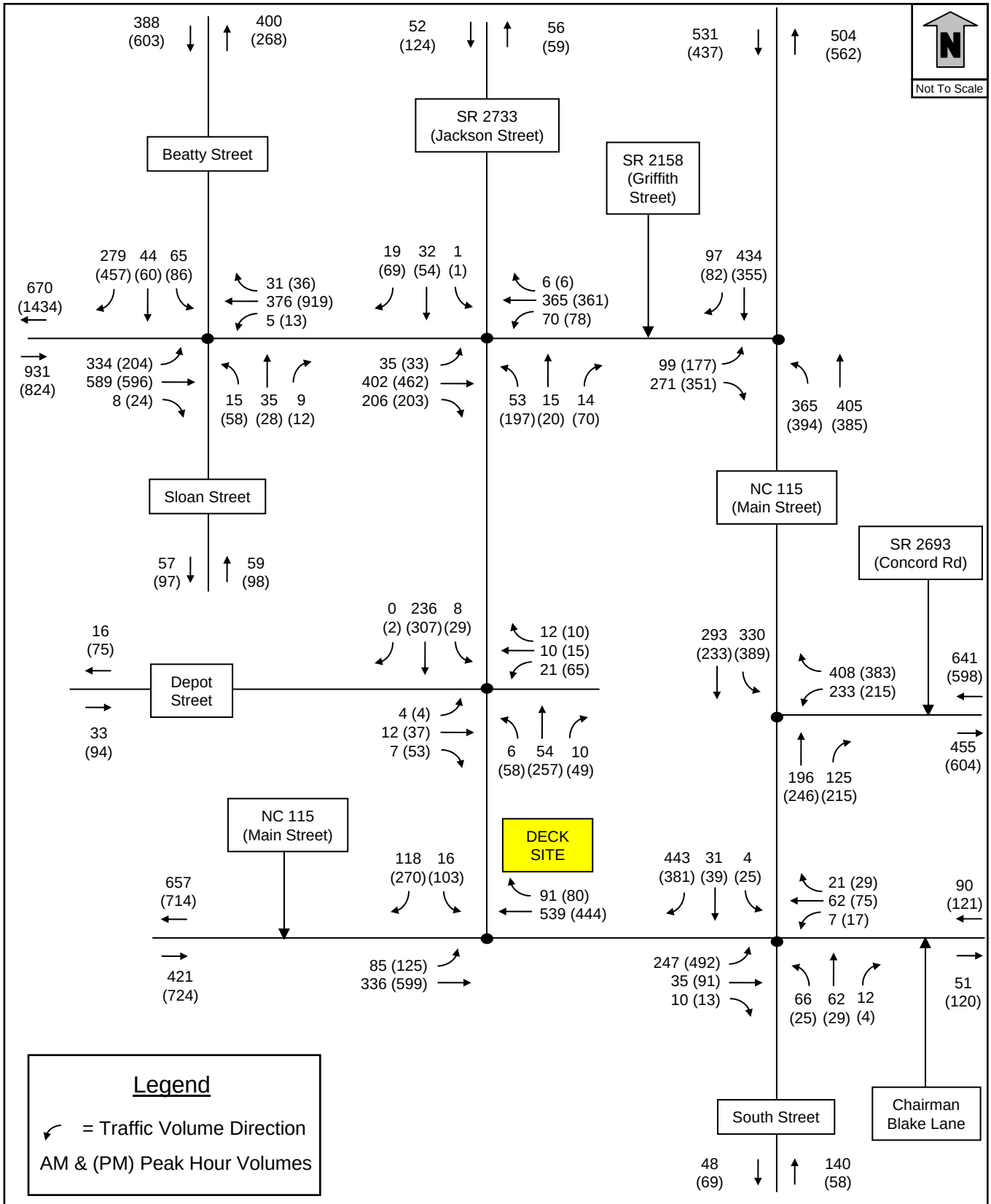
2020 Trip Distribution Traffic Volumes
Griffith Street Parking Deck

Figure 12



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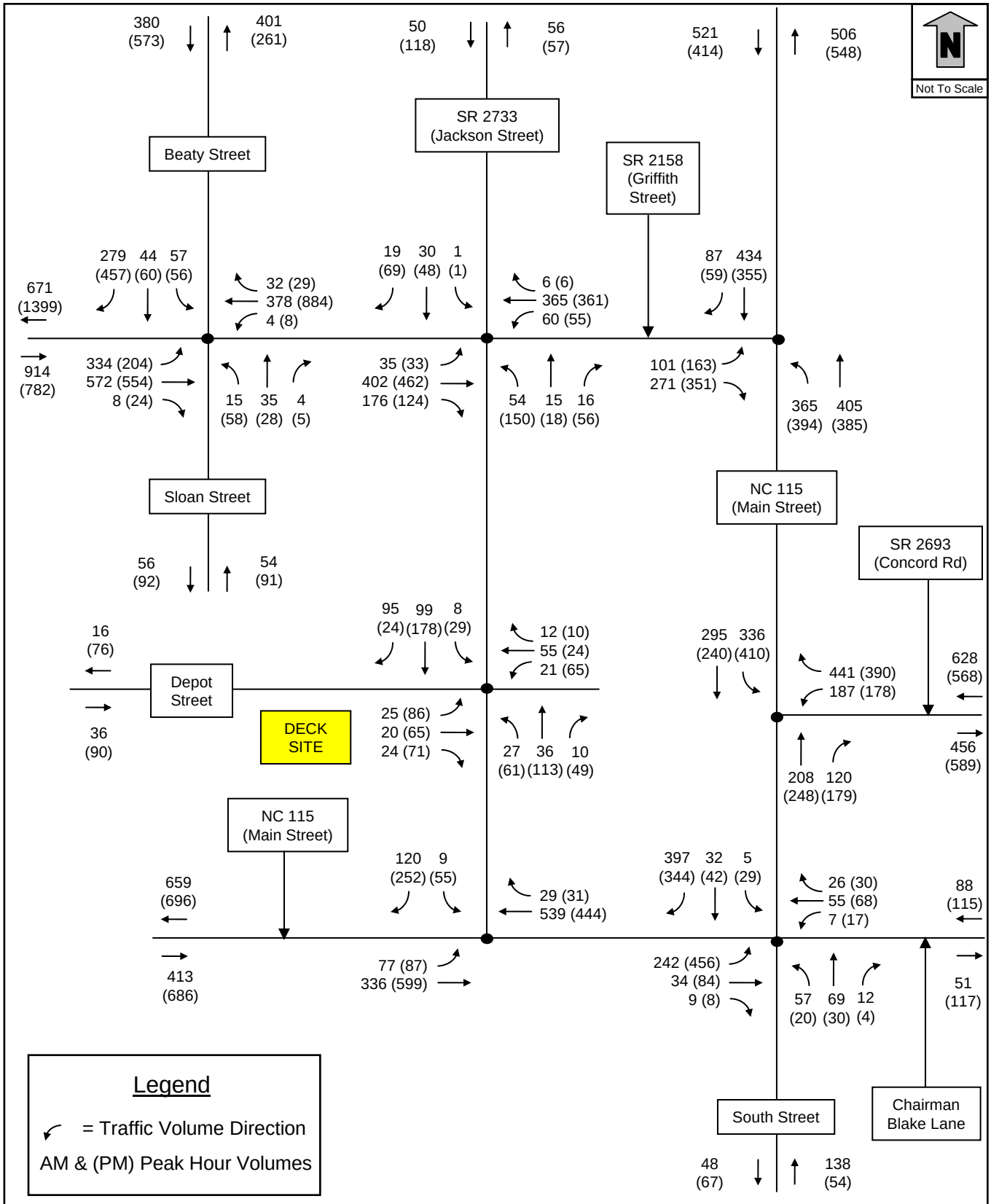
Town of Davidson Parking Study

2020 Condition 4 Traffic Volumes
Jackson Street Parking Deck

Figure 13



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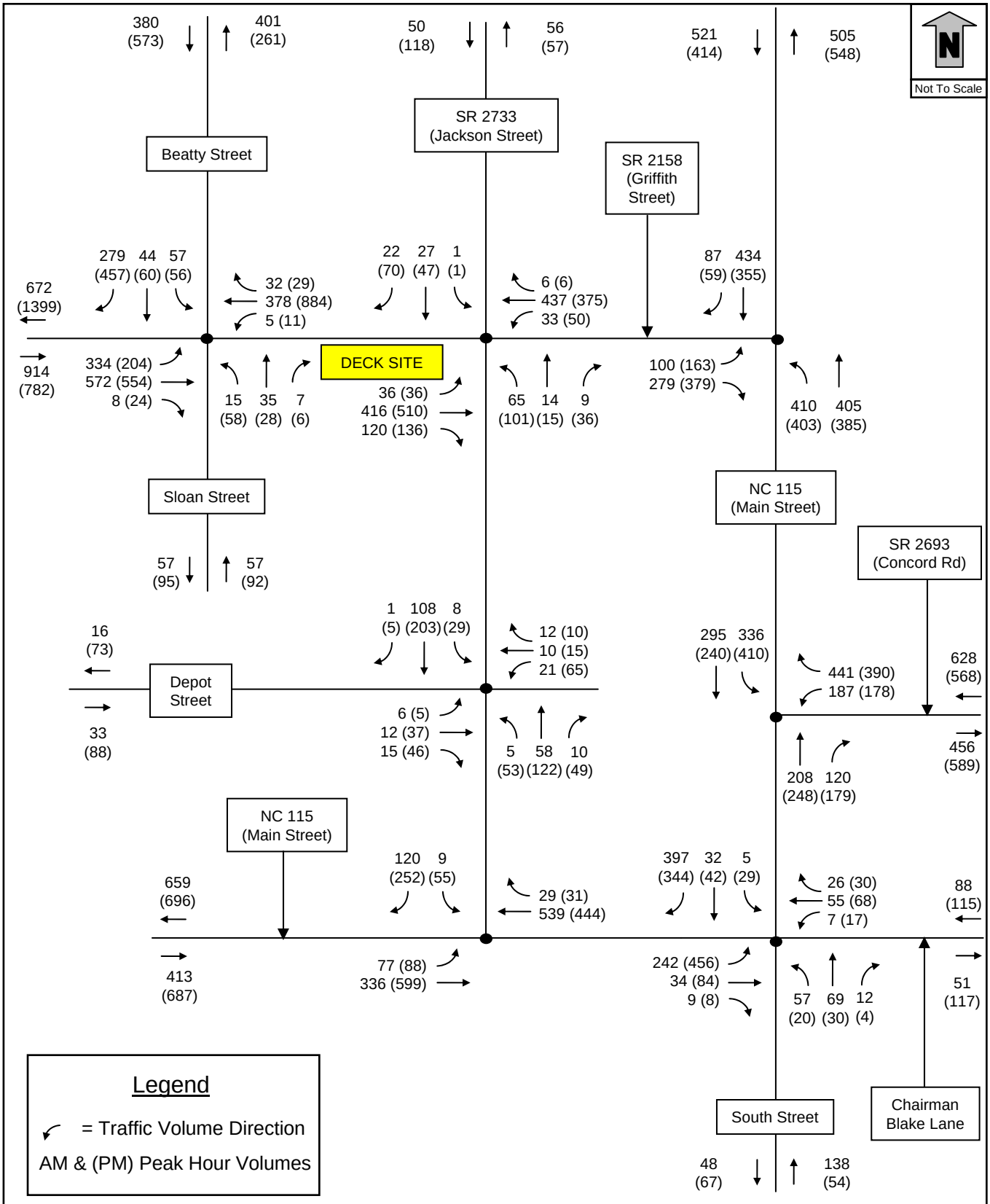
Town of Davidson Parking Study

2020 Condition 5 Traffic Volumes
Depot Street Parking Deck

Figure 14



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Town of Davidson Parking Study

2020 Condition 6 Traffic Volumes
Griffith Street Parking Deck

Figure 15

Appendix B – Traffic Counts

SEPI Engineering & Construction

1025 Wade Avenue
Raleigh, NC 27605
(919) 789-9977

Project: Davidson Parking Study
Date: 12/14/10
Counter: SEPI Engineering & Construction
Weather: Sunny

File Name : JSGS10
Site Code : 10014002
Start Date : 12/14/2010
Page No : 1

Groups Printed- Cars - Trucks - Bikes

	Jackson Street Southbound					Griffith Street Westbound					Jackson Street Northbound					Griffith Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	4	0	4	4	44	0	0	48	0	0	1	1	2	6	47	6	0	59	113
07:15 AM	0	2	5	0	7	1	44	0	0	45	7	3	0	0	10	9	64	2	0	75	137
07:30 AM	0	6	5	0	11	2	56	2	1	61	4	2	1	1	8	2	65	4	0	71	151
07:45 AM	0	10	6	0	16	6	92	0	0	98	7	0	0	0	7	7	88	12	0	107	228
Total	0	18	20	0	38	13	236	2	1	252	18	5	2	2	27	24	264	24	0	312	629
08:00 AM	0	6	2	0	8	5	67	0	1	73	10	2	1	1	14	5	76	18	0	99	194
08:15 AM	1	4	3	0	8	10	65	3	0	78	5	6	6	0	17	3	73	23	0	99	202
08:30 AM	0	1	4	0	5	5	61	2	1	69	10	3	0	4	17	12	77	34	0	123	214
08:45 AM	1	5	3	0	9	4	45	0	0	49	6	2	6	2	16	7	77	16	0	100	174
Total	2	16	12	0	30	24	238	5	2	269	31	13	13	7	64	27	303	91	0	421	784
*** BREAK ***																					
04:00 PM	0	7	15	0	22	6	72	1	0	79	9	4	8	0	21	5	87	17	0	109	231
04:15 PM	0	4	6	0	10	10	64	0	0	74	17	1	4	3	25	11	62	29	0	102	211
04:30 PM	2	2	7	0	11	5	82	2	0	89	14	1	6	3	24	6	75	18	0	99	223
04:45 PM	0	4	12	0	16	4	79	2	0	85	24	6	2	0	32	6	94	18	0	118	251
Total	2	17	40	0	59	25	297	5	0	327	64	12	20	6	102	28	318	82	0	428	916
05:00 PM	0	9	16	0	25	9	59	0	0	68	18	1	16	2	37	5	91	19	0	115	245
05:15 PM	1	10	15	0	26	18	74	3	0	95	17	2	6	2	27	8	92	22	0	122	270
05:30 PM	0	14	11	0	25	8	70	0	0	78	12	3	4	0	19	7	84	25	0	116	238
05:45 PM	0	7	10	0	17	6	70	2	0	78	10	2	3	2	17	10	80	27	1	118	230
Total	1	40	52	0	93	41	273	5	0	319	57	8	29	6	100	30	347	93	1	471	983
Grand Total	5	91	124	0	220	103	1044	17	3	1167	170	38	64	21	293	109	1232	290	1	1632	3312
Apprch %	2.3	41.4	56.4	0		8.8	89.5	1.5	0.3		58	13	21.8	7.2		6.7	75.5	17.8	0.1		
Total %	0.2	2.7	3.7	0	6.6	3.1	31.5	0.5	0.1	35.2	5.1	1.1	1.9	0.6	8.8	3.3	37.2	8.8	0	49.3	
Cars	5	89	124	0	218	103	1040	17	3	1163	170	38	64	21	293	109	1227	290	1	1627	3301
% Cars	100	97.8	100	0	99.1	100	99.6	100	100	99.7	100	100	100	100	100	100	99.6	100	100	99.7	99.7
Trucks	0	0	0	0	0	0	4	0	0	4	0	0	0	0	0	0	5	0	0	5	9
% Trucks	0	0	0	0	0	0	0.4	0	0	0.3	0	0	0	0	0	0	0.4	0	0	0.3	0.3
Bikes	0	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2
% Bikes	0	2.2	0	0	0.9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

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Project: Davidson Parking Study
Date: 12/14/10
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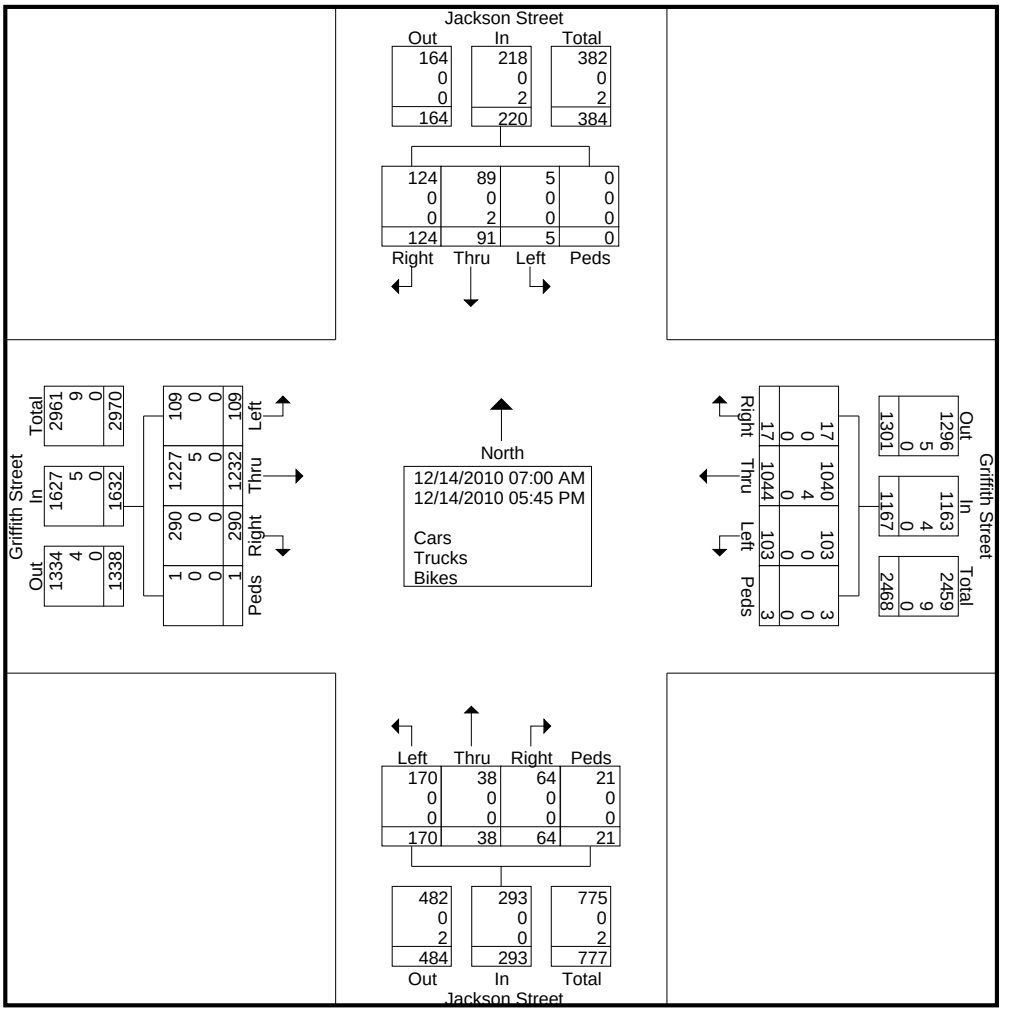
Weather: Sunny

File Name : JSGS10
Site Code : 10014002
Start Date : 12/14/2010
Page No : 2



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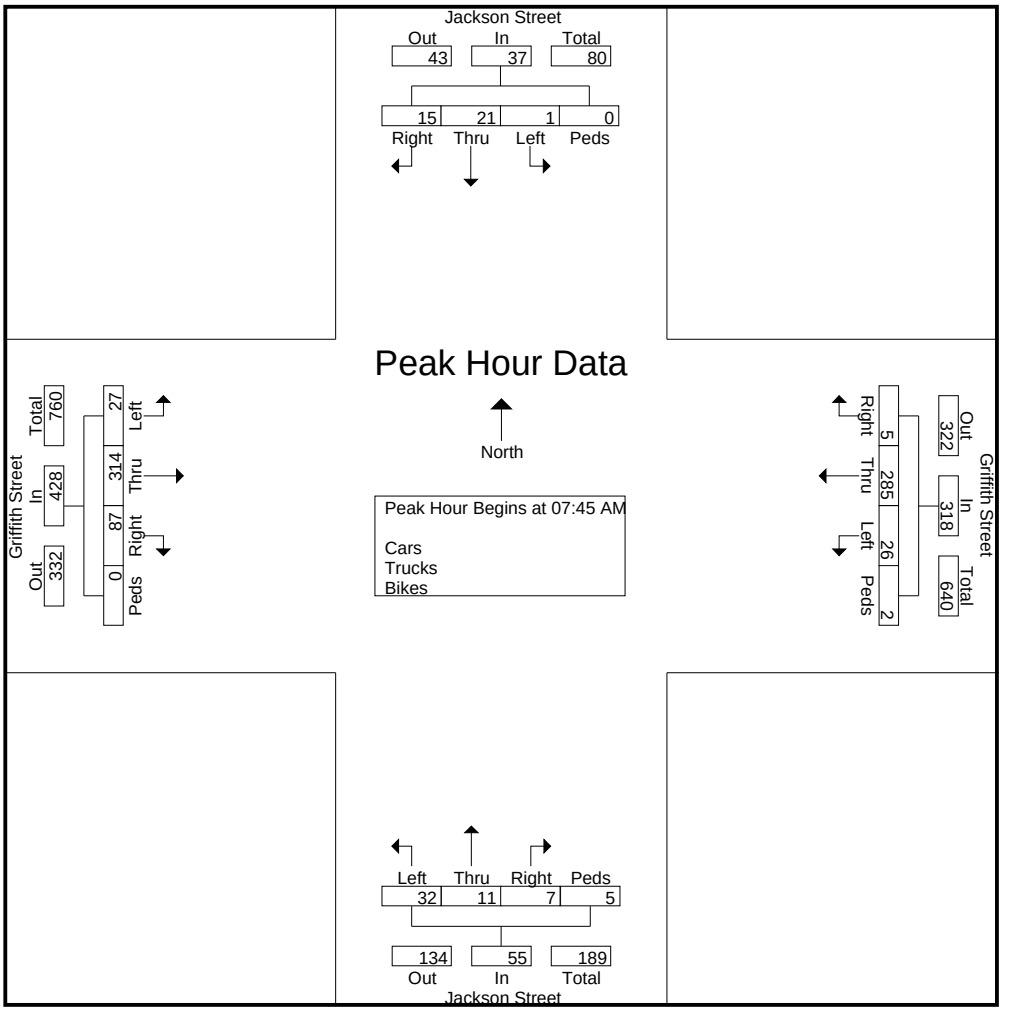
File Name : JSGS10
Site Code : 10014002
Start Date : 12/14/2010
Page No : 3

	Jackson Street Southbound					Griffith Street Westbound					Jackson Street Northbound					Griffith Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	**10**	**6**	0	**16**	6	**92**	0	0	**98**	7	0	0	0	7	7	**88**	12	0	107	**228**
08:00 AM	0	6	2	0	8	5	67	0	**1**	73	**10**	2	1	1	14	5	76	18	0	99	194
08:15 AM	**1**	4	3	0	8	**10**	65	**3**	0	78	5	**6**	**6**	0	**17**	3	73	23	0	99	202
08:30 AM	0	1	4	0	5	5	61	2	1	69	10	3	0	**4**	17	**12**	77	**34**	0	**123**	214
Total Volume	1	21	15	0	37	26	285	5	2	318	32	11	7	5	55	27	314	87	0	428	838
% App. Total	2.7	56.8	40.5	0		8.2	89.6	1.6	0.6		58.2	20	12.7	9.1		6.3	73.4	20.3	0		
PHF	.250	.525	.625	.000	.578	.650	.774	.417	.500	.811	.800	.458	.292	.313	.809	.563	.892	.640	.000	.870	.919



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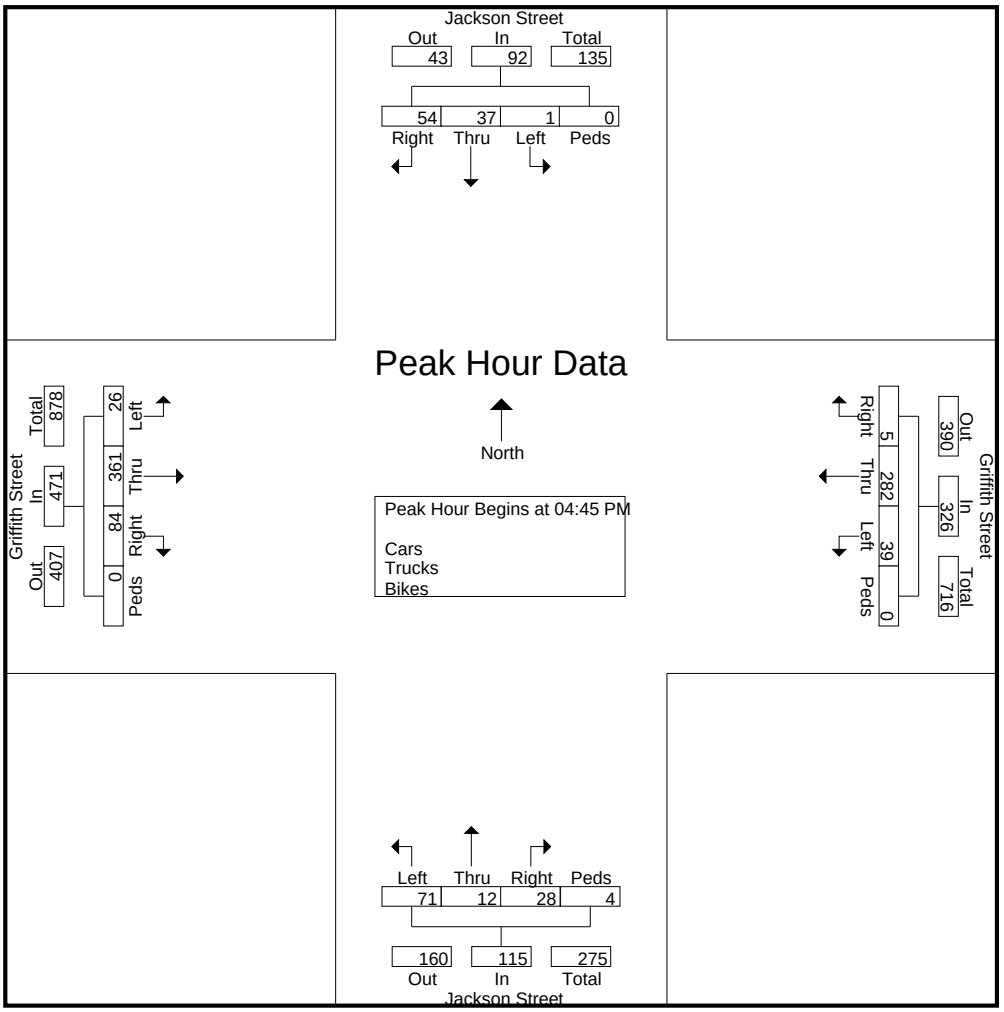
Project: Davidson Parking Study
Date: 12/14/10
Counter: SEPI Engineering & Construction
Weather: Sunny

File Name : JSGS10
Site Code : 10014002
Start Date : 12/14/2010
Page No : 4

	Jackson Street Southbound					Griffith Street Westbound					Jackson Street Northbound					Griffith Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	0	4	12	0	16	4	**79**	2	0	85	**24**	**6**	2	0	32	6	**94**	18	0	118	251
05:00 PM	0	9	**16**	0	25	9	59	0	0	68	18	1	**16**	**2**	**37**	5	91	19	0	115	245
05:15 PM	**1**	10	15	0	**26**	**18**	74	**3**	0	**95**	17	2	6	2	27	**8**	92	22	0	**122**	**270**
05:30 PM	0	**14**	11	0	25	8	70	0	0	78	12	3	4	0	19	7	84	**25**	0	116	238
Total Volume	1	37	54	0	92	39	282	5	0	326	71	12	28	4	115	26	361	84	0	471	1004
% App. Total	1.1	40.2	58.7	0		12	86.5	1.5	0		61.7	10.4	24.3	3.5		5.5	76.6	17.8	0		
PHF	.250	.661	.844	.000	.885	.542	.892	.417	.000	.858	.740	.500	.438	.500	.777	.813	.960	.840	.000	.965	.930



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Project: Davidson Parking Study
Date: 12/15/10
Counter: SEPI Engineering & Construction
Weather: Sunny

File Name : JSDS10AM
Site Code : 10014002
Start Date : 12/16/2010
Page No : 1

Groups Printed- Cars - Trucks - Bikes

	Jackson Street Southbound					Depot Street Westbound					Jackson Street Northbound					Depot Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	1	4	0	0	5	1	0	0	0	1	1	5	1	0	7	0	0	2	0	2	15
07:15 AM	0	4	1	0	5	3	1	0	0	4	0	1	0	0	1	0	0	1	0	1	11
07:30 AM	0	8	0	0	8	1	1	1	0	3	1	4	0	0	5	0	0	3	0	3	19
07:45 AM	3	11	0	0	14	2	4	1	0	7	1	6	0	0	7	1	0	3	0	4	32
Total	4	27	1	0	32	7	6	2	0	15	3	16	1	0	20	1	0	9	0	10	77
08:00 AM	0	23	0	0	23	3	2	3	0	8	2	6	0	1	9	1	3	0	1	5	45
08:15 AM	2	19	0	0	21	7	1	2	0	10	0	6	3	0	9	0	1	3	0	4	44
08:30 AM	3	19	0	0	22	4	3	2	1	10	1	8	1	0	10	1	3	7	0	11	53
08:45 AM	1	16	0	0	17	2	2	2	0	6	1	8	4	0	13	1	2	2	0	5	41
Total	6	77	0	0	83	16	8	9	1	34	4	28	8	1	41	3	9	12	1	25	183
Grand Total	10	104	1	0	115	23	14	11	1	49	7	44	9	1	61	4	9	21	1	35	260
Apprch %	8.7	90.4	0.9	0		46.9	28.6	22.4	2		11.5	72.1	14.8	1.6		11.4	25.7	60	2.9		
Total %	3.8	40	0.4	0	44.2	8.8	5.4	4.2	0.4	18.8	2.7	16.9	3.5	0.4	23.5	1.5	3.5	8.1	0.4	13.5	
Cars	9	104	1	0	114	23	14	11	1	49	7	44	9	1	61	4	9	20	1	34	258
% Cars	90	100	100	0	99.1	100	100	100	100	100	100	100	100	100	100	100	100	95.2	100	97.1	99.2
Trucks	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1	0	1	2
% Trucks	10	0	0	0	0.9	0	0	0	0	0	0	0	0	0	0	0	0	4.8	0	2.9	0.8
Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Bikes	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

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Project: Davidson Parking Study
Date: 12/15/10
Counter: SEPI Engineering & Construction
Weather: Sunny

File Name : JSDS10AM
Site Code : 10014002
Start Date : 12/16/2010
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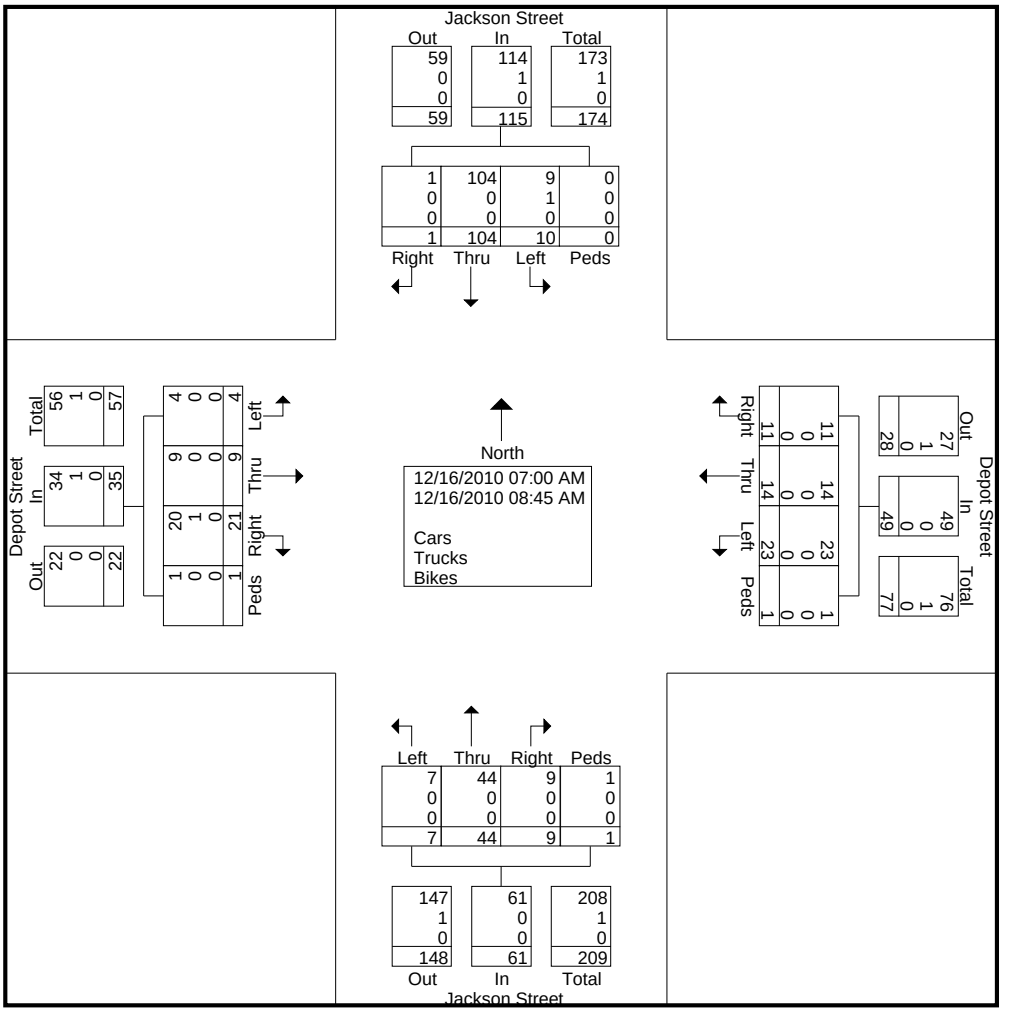

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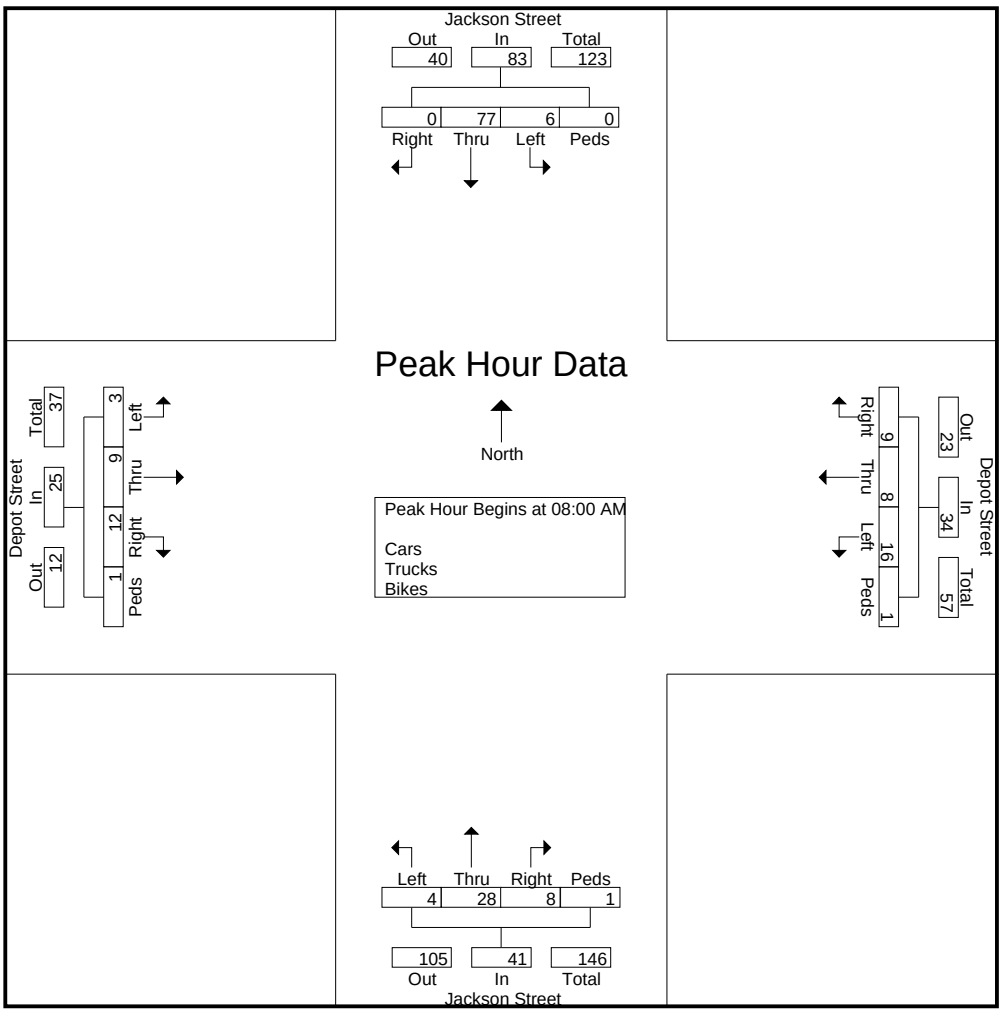
Project: Davidson Parking Study
Date: 12/15/10
Counter: SEPI Engineering & Construction
Weather: Sunny

File Name : JSDS10AM
Site Code : 10014002
Start Date : 12/16/2010
Page No : 3

	Jackson Street Southbound					Depot Street Westbound					Jackson Street Northbound					Depot Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	0	**23**	0	0	**23**	3	2	**3**	0	8	**2**	6	0	**1**	9	**1**	**3**	0	**1**	5	45
08:15 AM	2	19	0	0	21	**7**	1	2	0	**10**	0	6	3	0	9	0	1	3	0	4	44
08:30 AM	**3**	19	0	0	22	4	**3**	2	**1**	10	1	**8**	1	0	10	1	3	**7**	0	**11**	**53**
08:45 AM	1	16	0	0	17	2	2	2	0	6	1	8	**4**	0	**13**	1	2	2	0	5	41
Total Volume	6	77	0	0	83	16	8	9	1	34	4	28	8	1	41	3	9	12	1	25	183
% App. Total	7.2	92.8	0	0		47.1	23.5	26.5	2.9		9.8	68.3	19.5	2.4		12	36	48	4		
PHF	.500	.837	.000	.000	.902	.571	.667	.750	.250	.850	.500	.875	.500	.250	.788	.750	.750	.429	.250	.568	.863



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Project: Davidson Parking Study
Date: 12/13/10
Counter: SEPI Engineering & Construction
Weather: Sunny

File Name : JSDS10PM
Site Code : 10014002
Start Date : 12/13/2010
Page No : 1

Groups Printed- Cars - Trucks - Bikes

	Jackson Street Southbound					Depot Street Westbound					Jackson Street Northbound					Depot Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
04:00 PM	0	28	0	0	28	11	1	0	0	12	7	21	14	0	42	1	5	7	0	13	95
04:15 PM	2	30	1	0	33	15	2	3	1	21	12	24	10	3	49	0	5	5	0	10	113
04:30 PM	2	24	0	0	26	2	5	2	0	9	6	19	8	1	34	0	7	6	0	13	82
04:45 PM	4	18	1	0	23	16	1	4	0	21	14	22	8	3	47	0	3	11	1	15	106
Total	8	100	2	0	110	44	9	9	1	63	39	86	40	7	172	1	20	29	1	51	396
05:00 PM	5	39	0	1	45	13	4	2	0	19	5	28	11	0	44	2	9	9	0	20	128
05:15 PM	9	41	0	0	50	14	1	1	0	16	8	18	8	3	37	0	8	6	2	16	119
05:30 PM	5	41	0	0	46	8	6	1	0	15	14	20	11	1	46	1	9	10	0	20	127
05:45 PM	2	25	2	4	33	4	4	0	4	12	7	15	9	0	31	0	2	2	0	4	80
Total	21	146	2	5	174	39	15	4	4	62	34	81	39	4	158	3	28	27	2	60	454
*** BREAK ***																					
Grand Total	29	246	4	5	284	83	24	13	5	125	73	167	79	11	330	4	48	56	3	111	850
Apprch %	10.2	86.6	1.4	1.8		66.4	19.2	10.4	4		22.1	50.6	23.9	3.3		3.6	43.2	50.5	2.7		
Total %	3.4	28.9	0.5	0.6	33.4	9.8	2.8	1.5	0.6	14.7	8.6	19.6	9.3	1.3	38.8	0.5	5.6	6.6	0.4	13.1	
Cars	28	246	4	5	283	83	24	13	5	125	73	167	79	11	330	4	48	56	3	111	849
% Cars	96.6	100	100	100	99.6	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	99.9
Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% Trucks	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bikes	1	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
% Bikes	3.4	0	0	0	0.4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0.1

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Weather: Sunny

File Name : JSDS10PM
Site Code : 10014002
Start Date : 12/13/2010
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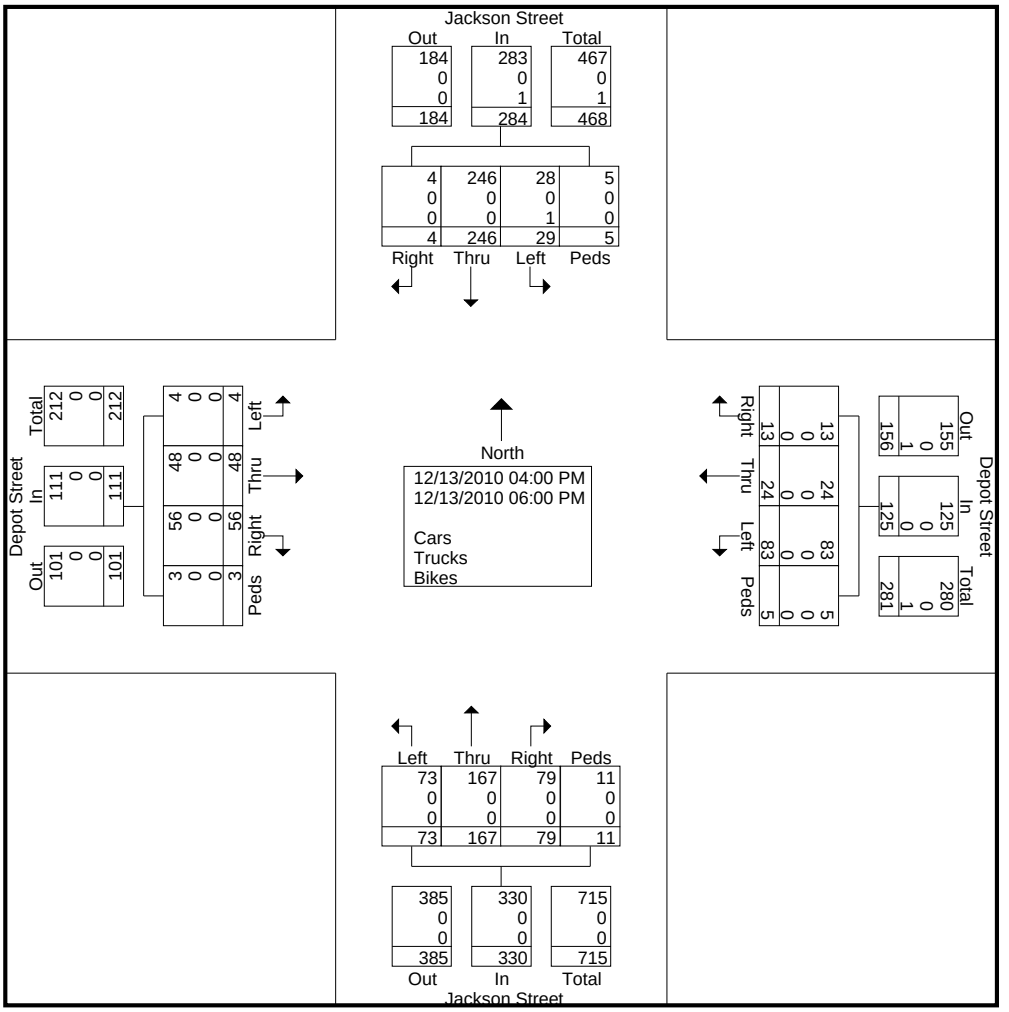

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Date: 12/13/10
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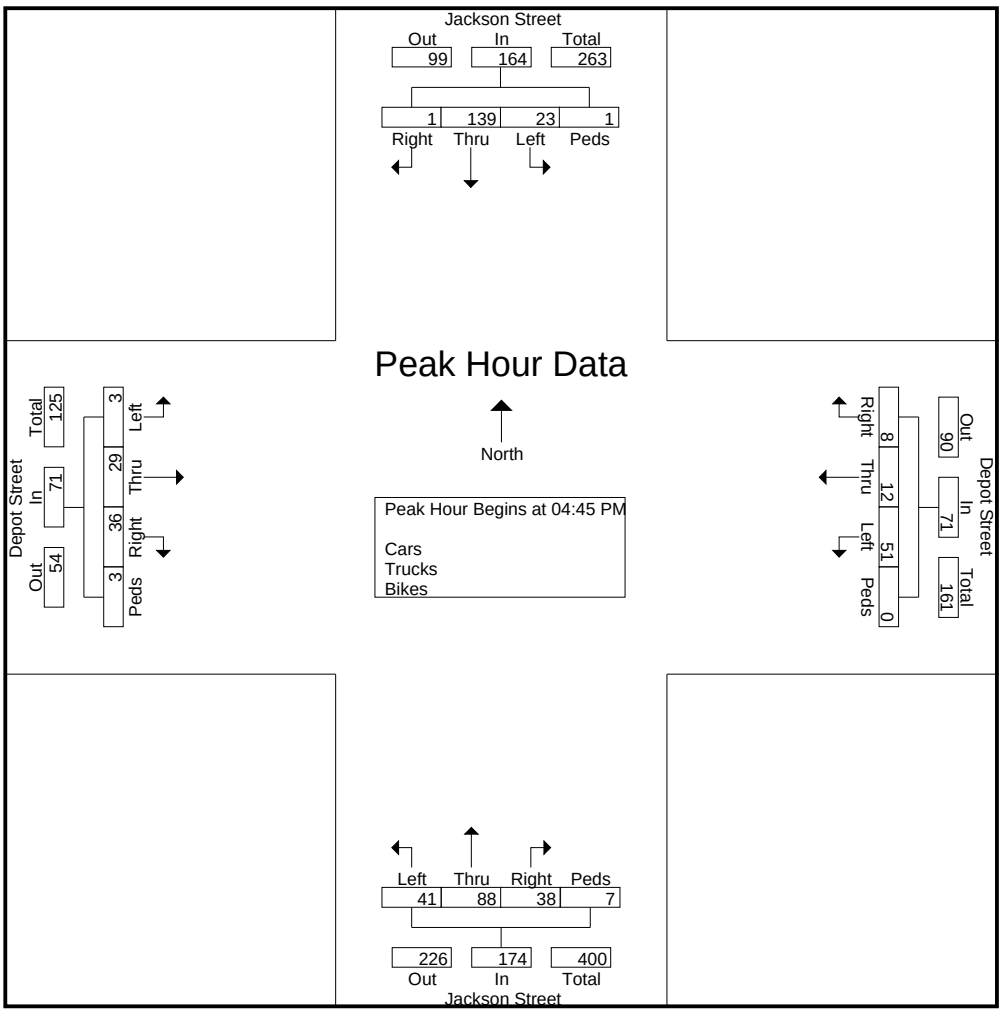
Weather: Sunny

File Name : JSDS10PM
Site Code : 10014002
Start Date : 12/13/2010
Page No : 3

	Jackson Street Southbound					Depot Street Westbound					Jackson Street Northbound					Depot Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 06:00 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:45 PM																					
04:45 PM	4	18	**1**	0	23	**16**	1	**4**	0	**21**	**14**	22	8	**3**	**47**	0	3	**11**	1	15	106
05:00 PM	5	39	0	**1**	45	13	4	2	0	19	5	**28**	**11**	0	44	**2**	**9**	9	0	**20**	**128**
05:15 PM	**9**	**41**	0	0	**50**	14	1	1	0	16	8	18	8	3	37	0	8	6	**2**	16	119
05:30 PM	5	41	0	0	46	8	**6**	1	0	15	14	20	11	1	46	1	9	10	0	20	127
Total Volume	23	139	1	1	164	51	12	8	0	71	41	88	38	7	174	3	29	36	3	71	480
% App. Total	14	84.8	0.6	0.6		71.8	16.9	11.3	0		23.6	50.6	21.8	4		4.2	40.8	50.7	4.2		
PHF	.639	.848	.250	.250	.820	.797	.500	.500	.000	.845	.732	.786	.864	.583	.926	.375	.806	.818	.375	.888	.938



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Project: Davidson Parking Study
Date: 12/15/10
Counter: SEPI Engineering & Construction
Weather: Sunny

File Name : 10014001
Site Code : 10014001
Start Date : 12/15/2010
Page No : 1

Groups Printed- Cars - Trucks

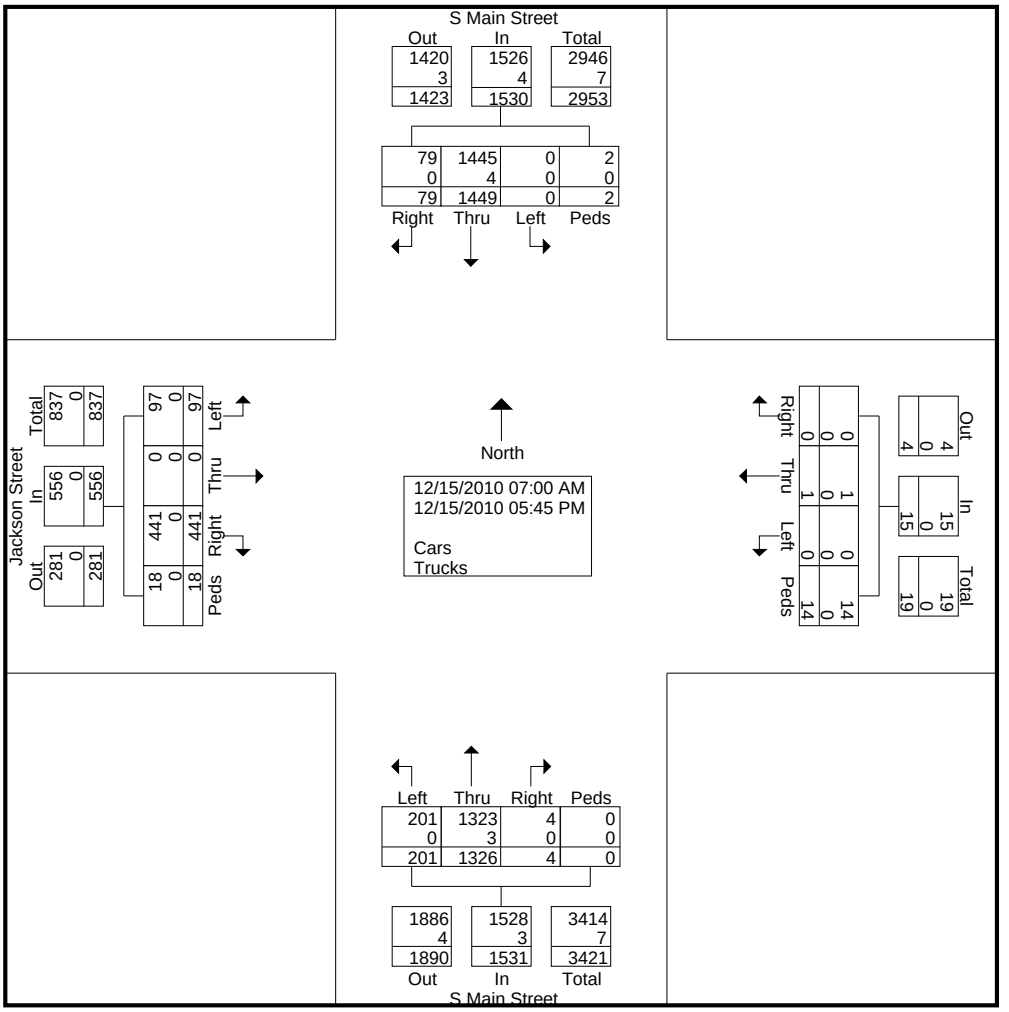
	S Main Street Southbound					Westbound					S Main Street Northbound					Jackson Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	55	1	0	56	0	0	0	0	0	2	44	0	0	46	0	0	8	1	9	111
07:15 AM	0	80	1	0	81	0	0	0	0	0	7	52	0	0	59	2	0	4	0	6	146
07:30 AM	0	111	2	0	113	0	0	0	0	0	7	53	0	0	60	3	0	9	0	12	185
07:45 AM	0	132	3	0	135	0	0	0	0	0	7	51	0	0	58	0	0	21	0	21	214
Total	0	378	7	0	385	0	0	0	0	0	23	200	0	0	223	5	0	42	1	48	656
08:00 AM	0	105	9	0	114	0	0	0	0	0	11	71	0	0	82	0	0	17	0	17	213
08:15 AM	0	101	4	0	105	0	0	0	0	0	13	70	0	0	83	5	0	21	0	26	214
08:30 AM	0	83	7	0	90	0	1	0	0	1	12	70	0	0	82	2	0	28	0	30	203
08:45 AM	0	74	6	0	80	0	0	0	0	0	13	64	1	0	78	3	0	26	0	29	187
Total	0	363	26	0	389	0	1	0	0	1	49	275	1	0	325	10	0	92	0	102	817
*** BREAK ***																					
04:00 PM	0	92	5	0	97	0	0	0	4	4	10	87	0	0	97	7	0	28	3	38	236
04:15 PM	0	105	11	0	116	0	0	0	2	2	19	94	0	0	113	5	0	33	2	40	271
04:30 PM	0	79	4	2	85	0	0	0	2	2	18	92	0	0	110	9	0	30	2	41	238
04:45 PM	0	85	2	0	87	0	0	0	3	3	20	110	0	0	130	18	0	39	1	58	278
Total	0	361	22	2	385	0	0	0	11	11	67	383	0	0	450	39	0	130	8	177	1023
05:00 PM	0	84	7	0	91	0	0	0	1	1	11	116	0	0	127	12	0	41	5	58	277
05:15 PM	0	84	7	0	91	0	0	0	0	0	14	123	0	0	137	14	0	43	1	58	286
05:30 PM	0	77	2	0	79	0	0	0	1	1	20	118	0	0	138	6	0	49	2	57	275
05:45 PM	0	102	8	0	110	0	0	0	1	1	17	111	3	0	131	11	0	44	1	56	298
Total	0	347	24	0	371	0	0	0	3	3	62	468	3	0	533	43	0	177	9	229	1136
Grand Total	0	1449	79	2	1530	0	1	0	14	15	201	1326	4	0	1531	97	0	441	18	556	3632
Apprch %	0	94.7	5.2	0.1		0	6.7	0	93.3		13.1	86.6	0.3	0		17.4	0	79.3	3.2		
Total %	0	39.9	2.2	0.1	42.1	0	0	0	0.4	0.4	5.5	36.5	0.1	0	42.2	2.7	0	12.1	0.5	15.3	
Cars	0	1445	79	2	1526	0	1	0	14	15	201	1323	4	0	1528	97	0	441	18	556	3625
% Cars	0	99.7	100	100	99.7	0	100	0	100	100	100	99.8	100	0	99.8	100	0	100	100	100	99.8
Trucks	0	4	0	0	4	0	0	0	0	0	0	3	0	0	3	0	0	0	0	0	7
% Trucks	0	0.3	0	0	0.3	0	0	0	0	0	0	0.2	0	0	0.2	0	0	0	0	0	0.2

SEPI Engineering & Construction

1025 Wade Avenue
Raleigh, NC 27605
(919) 789-9977

Project: Davidson Parking Study
Date: 12/15/10
Counter: SEPI Engineering & Construction
Weather: Sunny

File Name : 10014001
Site Code : 10014001
Start Date : 12/15/2010
Page No : 2



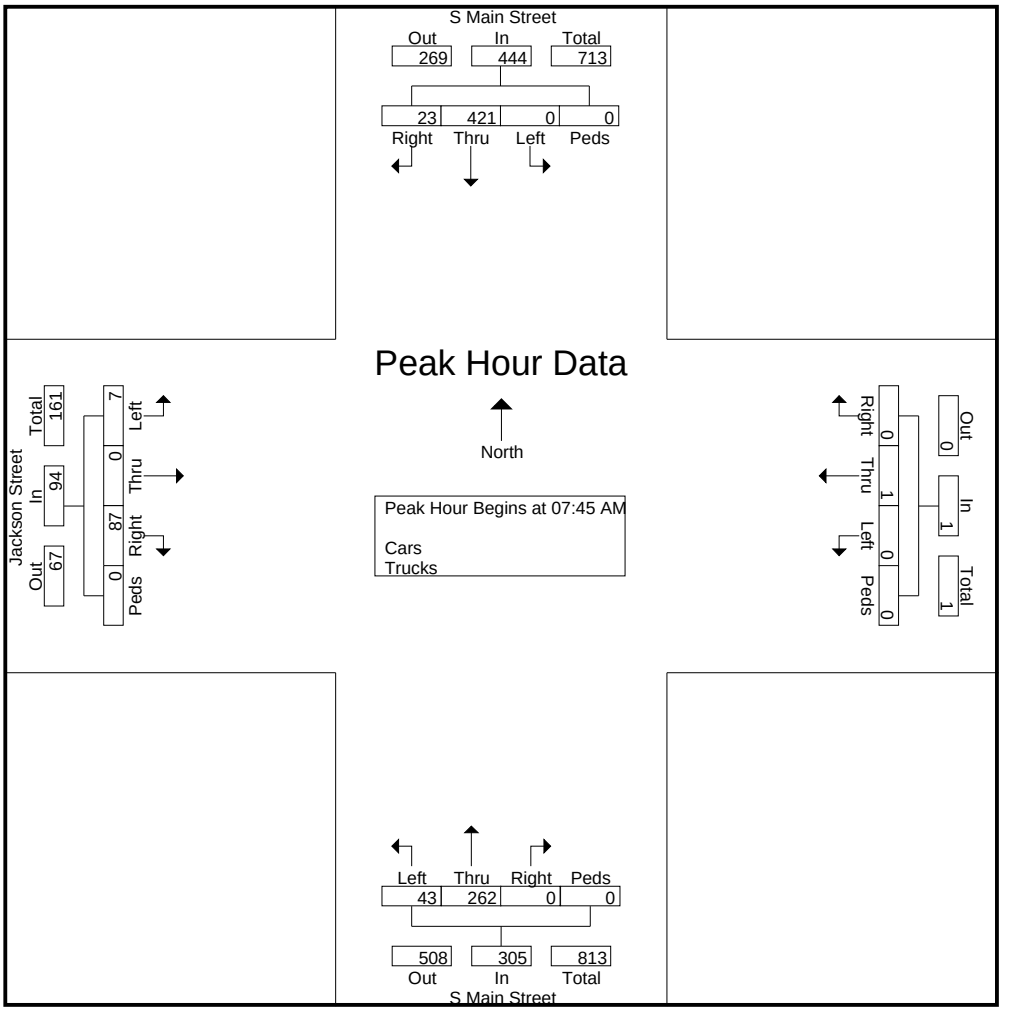
SEPI Engineering & Construction

1025 Wade Avenue
Raleigh, NC 27605
(919) 789-9977

Project: Davidson Parking Study
Date: 12/15/10
Counter: SEPI Engineering & Construction
Weather: Sunny

File Name : 10014001
Site Code : 10014001
Start Date : 12/15/2010
Page No : 3

	S Main Street Southbound					Westbound					S Main Street Northbound					Jackson Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 12:30 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 07:45 AM																					
07:45 AM	0	**132**	3	0	**135**	0	0	0	0	0	7	51	0	0	58	0	0	21	0	21	**214**
08:00 AM	0	105	**9**	0	114	0	0	0	0	0	11	**71**	0	0	82	0	0	17	0	17	213
08:15 AM	0	101	4	0	105	0	0	0	0	0	**13**	70	0	0	**83**	**5**	0	21	0	26	214
08:30 AM	0	83	7	0	90	0	**1**	0	0	**1**	12	70	0	0	82	2	0	**28**	0	**30**	203
Total Volume	0	421	23	0	444	0	1	0	0	1	43	262	0	0	305	7	0	87	0	94	844
% App. Total	0	94.8	5.2	0		0	100	0	0		14.1	85.9	0	0		7.4	0	92.6	0		
PHF	.000	.797	.639	.000	.822	.000	.250	.000	.000	.250	.827	.923	.000	.000	.919	.350	.000	.777	.000	.783	.986



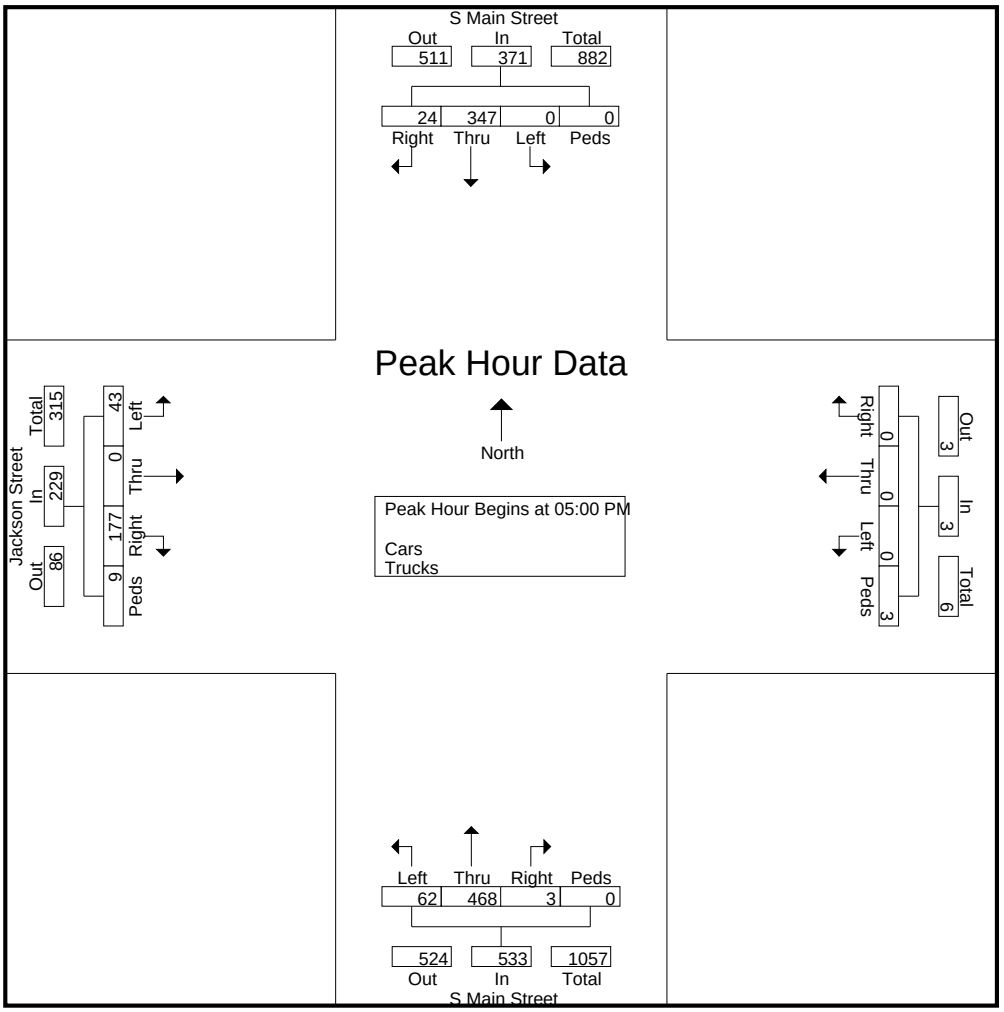
SEPI Engineering & Construction

1025 Wade Avenue
Raleigh, NC 27605
(919) 789-9977

Project: Davidson Parking Study
Date: 12/15/10
Counter: SEPI Engineering & Construction
Weather: Sunny

File Name : 10014001
Site Code : 10014001
Start Date : 12/15/2010
Page No : 4

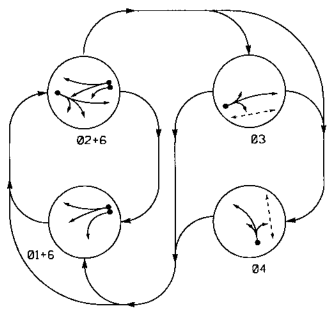
	S Main Street Southbound					Westbound					S Main Street Northbound					Jackson Street Eastbound					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 12:45 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 05:00 PM																					
05:00 PM	0	84	7	0	91	0	0	0	**1**	**1**	11	116	0	0	127	12	0	41	**5**	**58**	277
05:15 PM	0	84	7	0	91	0	0	0	0	0	14	**123**	0	0	137	**14**	0	43	1	58	286
05:30 PM	0	77	2	0	79	0	0	0	1	1	**20**	118	0	0	**138**	6	0	**49**	2	57	275
05:45 PM	0	**102**	**8**	0	**110**	0	0	0	1	1	17	111	**3**	0	131	11	0	44	1	56	**298**
Total Volume	0	347	24	0	371	0	0	0	3	3	62	468	3	0	533	43	0	177	9	229	1136
% App. Total	0	93.5	6.5	0		0	0	0	100		11.6	87.8	0.6	0		18.8	0	77.3	3.9		
PHF	.000	.850	.750	.000	.843	.000	.000	.000	.750	.750	.775	.951	.250	.000	.966	.768	.000	.903	.450	.987	.953



Appendix C – Traffic Signal Plans

PROJECT REFERENCE NO.	SHEET NO.
N/A	Sig. 1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

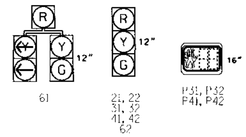
TABLE OF OPERATION

SIGNAL FACE	PHASE Ø1+6	Ø2+6	Ø3	Ø4	FLASH
21,22	R	G	R	R	Y
31,32	R	R	G	R	R
41,42	R	R	R	G	R
61	G	G	R	R	Y
62	G	G	R	R	Y
P31,P32	DW	DW	W	DW	DRK
P41,P42	DW	DW	DW	W	DRK

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

All Heads L.E.D.



OASIS 2070L LOOP & DETECTOR INSTALLATION CHART

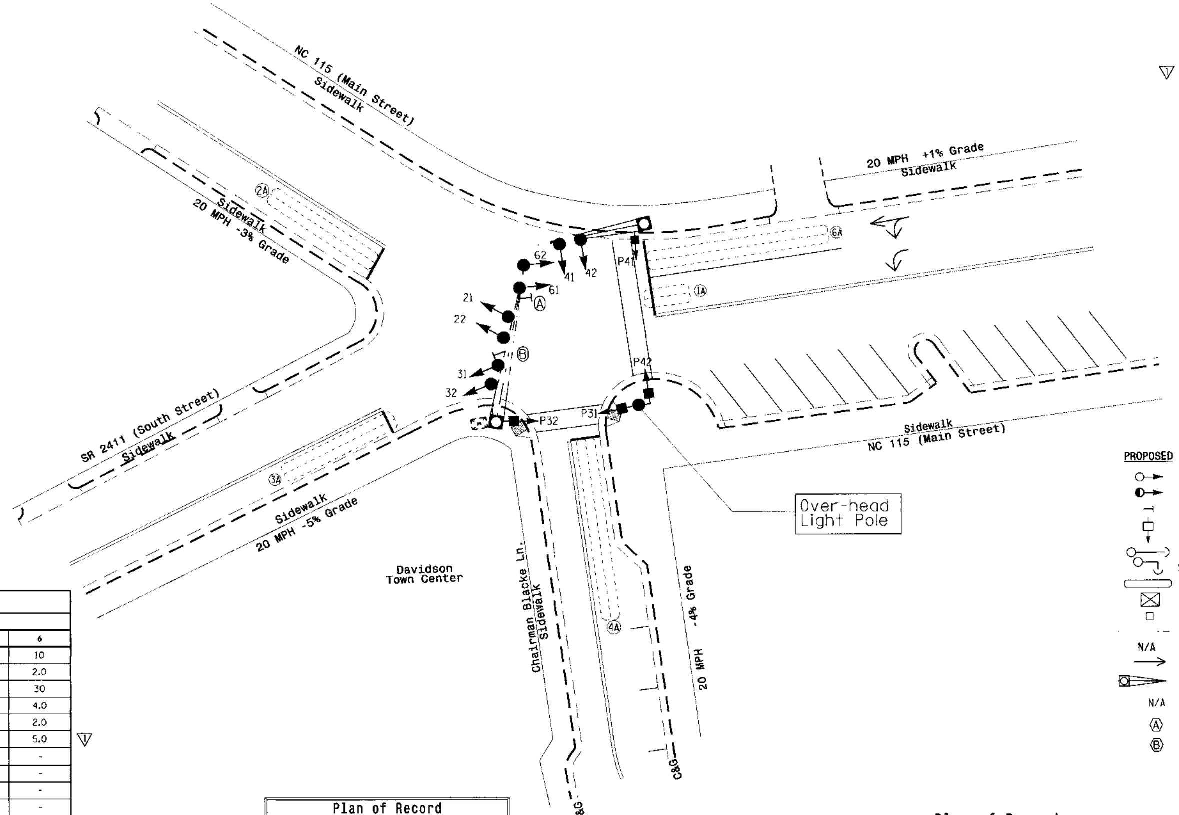
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X15	+5	EXISTING	-	1	Y	Y	-	-	10	-	-
					6	Y	Y	-	-	-	-	-
2A	6X40	0	EXISTING	-	2	Y	Y	-	-	-	-	-
3A	6X40	+5	EXISTING	-	3	Y	Y	-	-	-	-	-
4A	6X60	0	EXISTING	-	4	Y	Y	-	-	10	-	-
6A	6X60	0	EXISTING	-	6	Y	Y	-	-	-	-	-

(INDUCTIVE LOOPS: LOOP through TURNS; DETECTOR PROGRAMMING: NEW LOOP through NEW CARD)

4 PHASE FULLY ACTUATED (ISOLATED)

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Enable backup protection for phase 6 to allow the controller to clear from phase 2+6 to phase 1+6 by progressing through an all red display
4. Set all detector units to presence mode.
5. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
6. Program pedestrian heads to countdown the flashing "DON'T WALK" time only.
7. Pavement markings are existing.



LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Metal Pole with Mastarm	
N/A	Wheelchair Ramp	
(A)	"LEFT TURN YIELD ON GREEN BALL" Sign (R10-12)	(A)
(B)	"NO TURN ON RED" Sign (R10-11)	(B)

OASIS 2070L TIMING CHART

FEATURE	PHASE 1	2	3	4	6
Min Green 1 *	8	10	7	7	10
Extension 1 *	4.0	2.0	1.0	1.0	2.0
Max Green 1 *	20	30	20	20	30
Yellow Clearance	4.0	4.0	4.0	4.0	4.0
Red Clearance	1.5	2.0	2.0	2.0	2.0
Red Revert	2.0	2.0	2.0	2.0	5.0
Walk 1 *	-	-	7.0	7.0	-
Don't Walk 1	-	-	4.0	9.0	-
Seconds Per Actuation *	-	-	-	-	-
Max Variable Initial *	-	-	-	-	-
Time Before Reduction *	-	-	-	-	-
Time To Reduce *	-	-	-	-	-
Minimum Gap	-	-	-	-	-
Recall Mode	-	MIN RECALL	-	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	-	YELLOW
Dual Entry	-	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Plan of Record

PREPARED BY: C. L. CARPER DATE: MAY 2010
REVIEWED BY: N. MAHBOOBA DATE: MAY 2010
SIGNATURE: T. J. Willis DATE: 6/15/10
COMMENTS:
Upgraded equipment to 2070 and 16" count down Ped. signals.

This plan of record reflects existing field conditions as submitted by field personnel. This plan may have been modified from its original state.

Plan of Record

REVISION SEAL

NORTH CAROLINA PROFESSIONAL SEAL 24393 ENGINEER TIMOTHY J. WILLIAMS

T. J. Willis 6/15/10
SIGNATURE DATE

Prepared in the Offices of: Transportation Mobility and Safety Division, Signal Design Section, N.C. Department of Transportation
750 N.Greenfield Pkwy,Garner,NC 27529

SCALE 0 20
1"=20'

NC 115 (Main Street) at SR 2411 (South Street) / Chairman Blacke Ln.

DIVISION 10 MECKENBURG COUNTY DAVIDSON

PLAN DATE: JANUARY 2002 REVIEWED BY: ARH
PREPARED BY: MBW REVIEWED BY: MAK

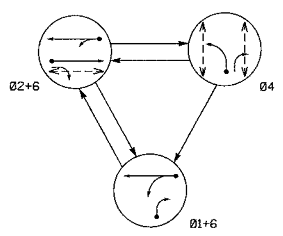
REVISIONS INIT. DATE
Add red revert and enable backup protection. TJW 6/15/10

Not a certified document. This document originally issued and sealed by Margaret A.Kubilins,PE #17464 on 9/10/2002. This document shall not be considered a certified document.

SIG. INVENTORY NO. 10-0257

PROJECT REFERENCE NO.	SHEET NO.
N/A	Sig. 1

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

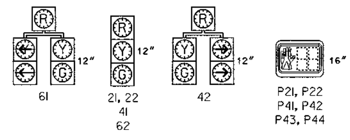
- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

TABLE OF OPERATION				
SIGNAL FACE	PHASE			
	Ø1+6	Ø2+6	Ø4	FLASH
21, 22	R	G	R	Y
41	R	R	G	R
42	R / →	R	G	R
61	G / ←	G	R	Y
62	G	G	R	Y
P21, P22	DW	W	DW	DRK
P41, P42	DW	DW	W	DRK
P43, P44	DW	DW	W	DRK

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

Denotes L.E.D.

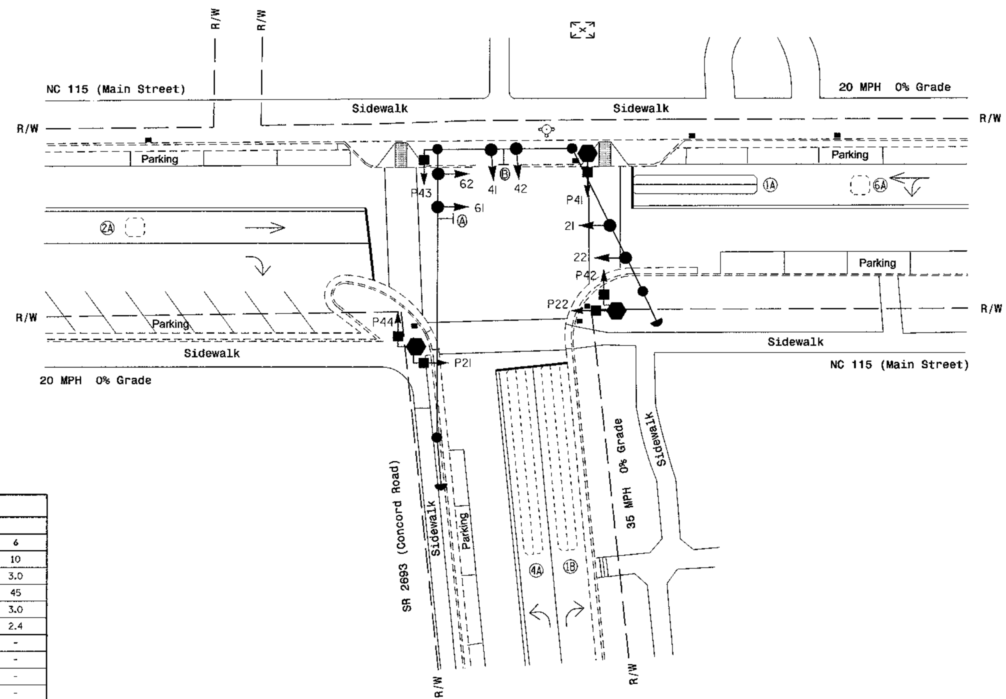


2070L LOOP & DETECTOR INSTALLATION												
INDUCTIVE LOOPS					DETECTOR PROGRAMMING							
LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
1A	6X40	0	2-4-2	Y	1	Y	Y	-	-	15	-	-
					6	Y	Y	Y	-	3	-	-
1B	6X60	0	2-4-2	-	1	Y	Y	-	-	15	-	-
2A	6X60	70	4	-	2	Y	Y	-	-	-	-	-
4A	6X60	0	2-4-2	-	4	Y	Y	-	-	3	-	-
6A	6X6	70	4	-	6	Y	Y	-	-	-	-	-

3 Phase
Fully Actuated
Isolated

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
5. Program pedestrian heads to countdown the flashing "Don't Walk" time only.
6. Pavement markings are existing.
7. Clearance interval timings may be adjusted incrementally until required values are reached.



2070L TIMING CHART				
FEATURE	PHASE			
	1	2	4	6
Min Green 1 *	7	10	7	10
Extension 1 *	2.0	3.0	1.0	3.0
Max Green 1 *	20	45	30	45
Yellow Clearance	3.0	3.0	3.0	3.0
Red Clearance	2.3	2.4	2.3	2.4
Walk 1 *	-	7	7	-
Don't Walk 1	-	9	9	-
Seconds Per Actuation *	-	-	-	-
Max Variable Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	-	MIN RECALL	-	MIN RECALL
Vehicle Call Memory	-	YELLOW	-	YELLOW
Dual Entry	-	-	-	-
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Pavement Marking Arrow	
N/A	Fire Hydrant	
	Pedestrian Signal Pedestal	
Ⓐ	"LEFT TURN YIELD ON GREEN" Sign (R10-12)	Ⓐ
Ⓑ	"LEFT TURN YIELD TO PEDESTRIANS" Sign	Ⓑ

Signal Upgrade

Prepared in the Offices of: Traffic Engineering and Safety Systems Branch, Signals and Geometrics Section, 750 N. Greenfield Pkwy, Garner, NC 27529

NC 115 (Main Street) at SR 2693 (Concord Road)

Division 10 Mecklenburg County Davidson

PLAN DATE: September 2007 REVIEWED BY: M. Wahbooba
PREPARED BY: C.E. Carter REVIEWED BY:

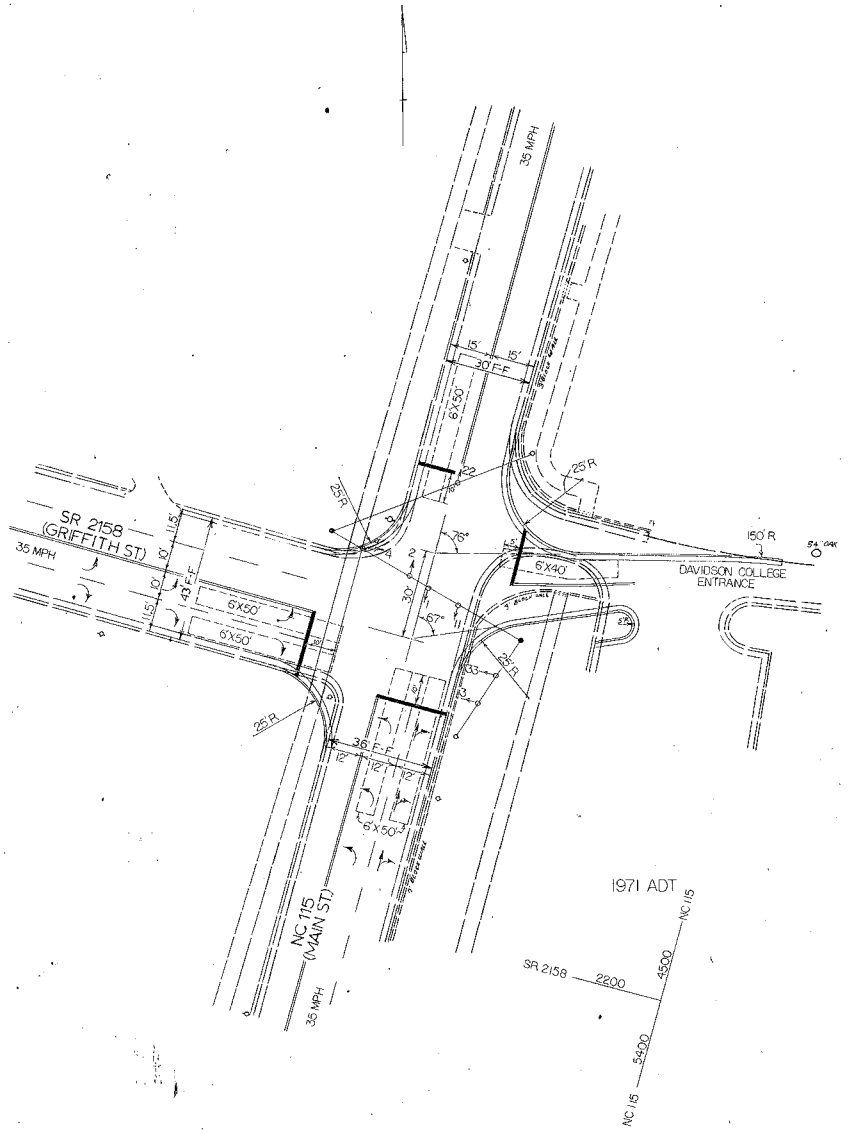
SCALE 0 20 1"=20'

REVISIONS INIT. DATE

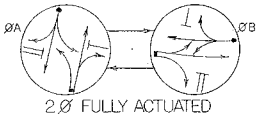
SEAL
NORTH CAROLINA PROFESSIONAL ENGINEER SEAL 29904 JASON P. GALLOWAY

SIGNATURE DATE 10/16/07
SIG. INVENTORY NO. 10-0258

05-NOV-2007 08:57
s:\its signals\workgroups\munther group\c.carter\div 10\100258.dgn
cecarter



PHASING DIAGRAM



2Ø FULLY ACTUATED

— LEGEND —

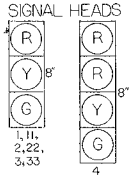
- SIGNAL HEAD
- LOOP
- EXISTING POLE
- NEW POLE
- EXISTING CURBING & GUTTER
- NEW CURBING & GUTTER

COLOR SEQUENCE CHART

SIGNAL HEAD	ØA R / W	ØA CLR ØB	ØB R / W	ØB CLR ØA	FLASH
1, 11, 2, 22	G	Y	R	R	Y
3, 33	R	R	G	Y	R
4	R	R	G	Y	R

SET ALL PHASES
INITIAL INTERVAL - 6 SEC.
VEHICLE INTERVAL - 0 SEC.

SIGNAL HEADS



USE NEW EQUIPMENT
UPGRADE SIGNAL

— PLAN A —

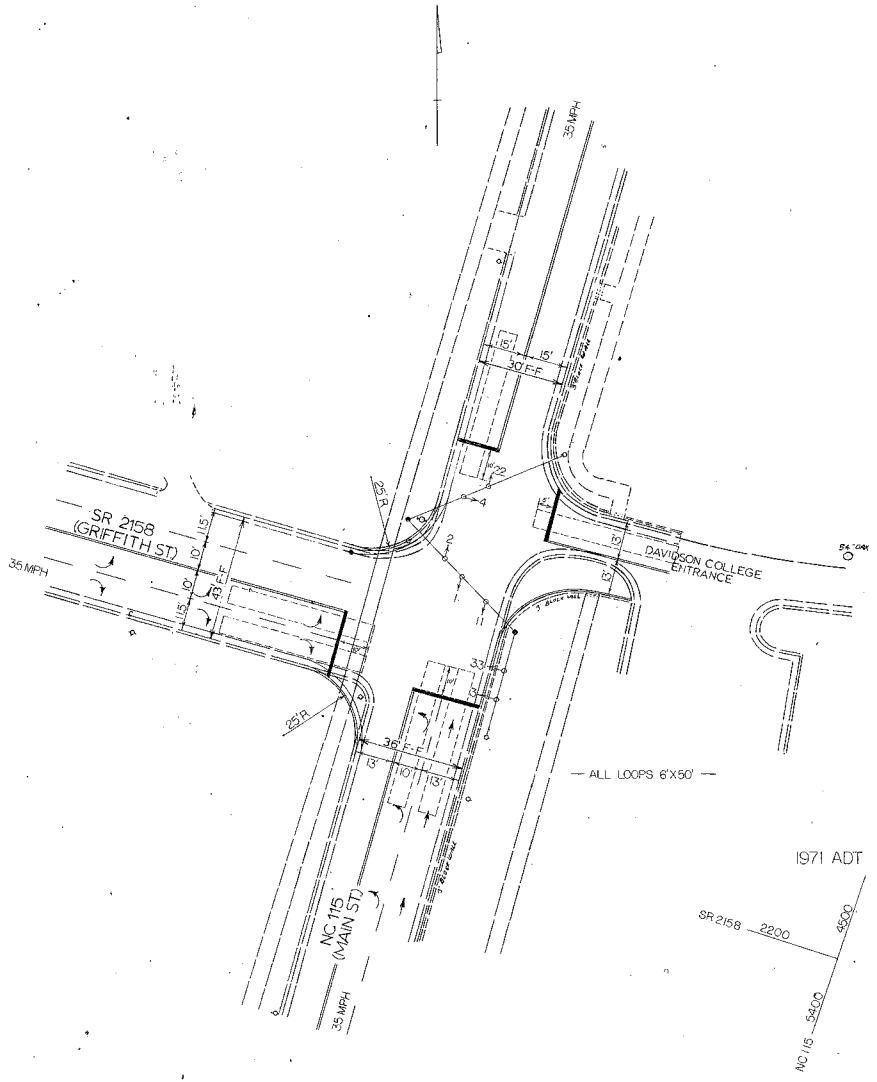
SIGNAL NO. 10-~~267~~ 260

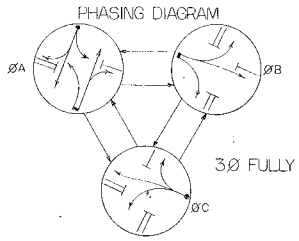
DESIGN FOR THE INTERSECTION OF NC 115 (MAIN ST.) & SR 2158 (GRIFFITH ST.) & DAVIDSON COLLEGE ENTRANCE
DAVIDSON
MECKLENBURG CO. DIVISION 10

SCALE 1" = 20'	N. C. STATE HIGHWAY COMMISSION TRAFFIC ENGINEERING DEPARTMENT		REVISIONS
DATE 9-20-72			
DWG. BY RLH			
DESIGN BY TED 10-24-72			
APPROVED	DESIGN ENGR.	SIGNAL ENGR.	AREA ENGR.

10-27-72

FILE NO. 10-260



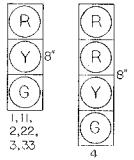


COLOR SEQUENCE CHART

SIGNAL HEAD	Ø A			Ø B			Ø C			FLASH
	R/W	CLR ØB	CLR ØC	R/W	CLR ØA	CLR ØC	R/W	CLR ØA	CLR ØB	
1,11,2,22	G	Y	Y	R	R	R	R	R	R	Y
3,33	R	R	R	G	Y	Y	R	R	R	R
4	R	R	R	R	R	R	G	Y	Y	R

SET ALL PHASES
INITIAL INTERVAL- 6 SEC.
VEHICLE INTERVAL- 0 SEC.

SIGNAL HEADS



— LEGEND —
- SIGNAL HEAD
- EXISTING POLE
- NEW POLE
- LOOP
- EXISTING CURBING & GUTTER
- NEW CURBING & GUTTER

USE NEW EQUIPMENT — PLAN B —

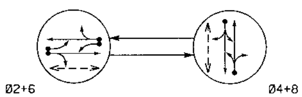
UPGRADE SIGNAL SIGNAL NO. 10-387 260

DESIGN FOR THE INTERSECTION OF NC 115 (MAIN ST.) & SR 2158 (GRIFFITH ST) & DAVIDSON COLLEGE ENTRANCE
DAVIDSON
MECKLENBURG CO. DIVISION 10

SCALE 1" = 20'	N. C. STATE HIGHWAY COMMISSION TRAFFIC ENGINEERING DEPARTMENT	REVISIONS
DATE 9-20-72		
DWG. BY RLH		
DESIGN BY RLH 10-24-72		
APPROVED 10-27-72	DESIGN ENGR.	SIGNAL ENGR. / AREA ENGR.

FILE NO. 10-260

PHASING DIAGRAM



PHASING DIAGRAM DETECTION LEGEND

- DETECTED MOVEMENT
- UNDETECTED MOVEMENT (OVERLAP)
- UNSIGNALIZED MOVEMENT
- PEDESTRIAN MOVEMENT

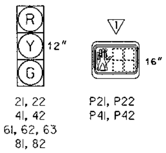
TABLE OF OPERATION

SIGNAL FACE	PHASE Ø2+6	PHASE Ø4+8	PHASE FLASH
21, 22	G	R	Y
41, 42	R	G	R
61, 62, 63	G	R	Y
81, 82	R	G	R
P21,P22	W	DW	DRK
P41, P42	DW	W	DRK

W - Walk
DW - Don't Walk
DRK - Dark

SIGNAL FACE I.D.

ALL HEADS L.E.D.s



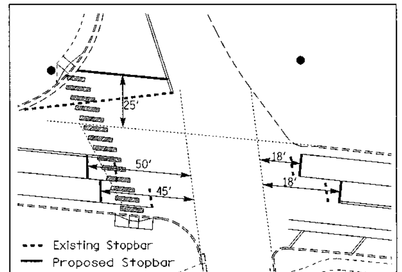
2070L LOOP & DETECTOR INSTALLATION

INDUCTIVE LOOPS: LOOP	SIZE (FT)	DISTANCE FROM STOPBAR (FT)	TURNS	NEW LOOP	DETECTOR PROGRAMMING: PHASE	CALLING	EXTENSION	FULL TIME DELAY	STRETCH TIME	DELAY TIME	SYSTEM LOOP	NEW CARD
2A	6X6	70	3	Y	2	Y	Y	-	-	-	-	-
2B	6X40	0	2-4-2	Y	2	Y	Y	-	-	-	-	-
4A	6X40	0	2-4-2	Y	4	Y	Y	-	-	5	-	-
4B	6X15	+5	3	Y	4	Y	Y	-	-	15	-	-
6A	6X6	70	3	Y	6	Y	Y	-	-	-	-	-
6B	6X40	0	2-4-2	Y	6	Y	Y	-	-	-	-	-
8A	6X40	0	2-4-2	-	8	Y	Y	-	-	5	-	-

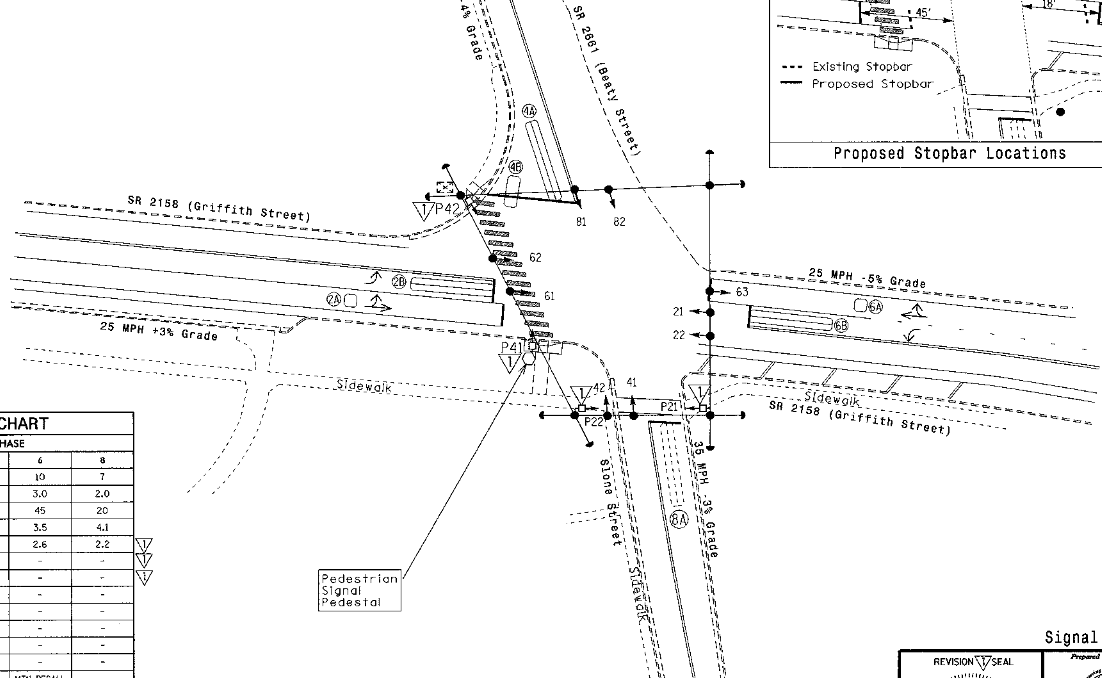
2 Phase
Fully Actuated
Isolated

NOTES

1. Refer to "Roadway Standard Drawings NCDOT" dated July 2006 and "Standard Specifications for Roads and Structures" dated July 2006.
2. Do not program signal for late night flashing operation unless otherwise directed by the Engineer.
3. Set all detector units to presence mode.
4. Omit "WALK" and flashing "DON'T WALK" with no pedestrian calls.
5. Program pedestrian heads to countdown the flashing "Don't Walk" time only.



Proposed Stopbar Locations



LEGEND

PROPOSED		EXISTING
	Traffic Signal Head	
	Modified Signal Head	N/A
	Sign	
	Pedestrian Signal Head With Push Button & Sign	
	Signal Pole with Guy	
	Signal Pole with Sidewalk Guy	
	Inductive Loop Detector	
	Controller & Cabinet	
	Junction Box	
	2-in Underground Conduit	
N/A	Right of Way	
	Directional Arrow	
	Pavement Marking Arrow	
	Pedestrian Signal Pedestal	

2070L TIMING CHART

FEATURE	PHASE 2	PHASE 4	PHASE 6	PHASE 8
Min Green 1 *	10	7	10	7
Extension 1 *	3.0	2.0	3.0	2.0
Max Green 1 *	45	20	45	20
Yellow Clearance	3.1	4.1	3.5	4.1
Red Clearance	2.5	2.2	2.6	2.2
Walk 1 *	7	7	-	-
Don't Walk 1	5	15	-	-
Seconds Per Actuation *	-	-	-	-
Max Variable Initial *	-	-	-	-
Time Before Reduction *	-	-	-	-
Time To Reduce *	-	-	-	-
Minimum Gap	-	-	-	-
Recall Mode	MIN RECALL	-	MIN RECALL	-
Vehicle Call Memory	YELLOW	-	YELLOW	-
Dual Entry	-	ON	-	ON
Simultaneous Gap	ON	ON	ON	ON

* These values may be field adjusted. Do not adjust Min Green and Extension times for phases 2 and 6 lower than what is shown. Min Green for all other phases should not be lower than 4 seconds.

Signal Upgrade

REVISION SEAL
NORTH CAROLINA PROFESSIONAL SEAL 24393 ENGINEER TIMOTHY J. WILLIAMS
SIGNATURE 6/10/09 DATE

Prepared in the Offices of: Traffic Engineering and Safety Systems Branch, North Carolina Department of Transportation, Signals and Geometrics Section
750 N. Greenfield Pkwy, Garner, NC 27529
SCALE 0 30 1"=30'

SR 2158 (Griffith Street) at SR 2661 (Beaty Street) /Sloan Street

Division 10 Mecklenburg County Davidson

PLAN DATE:	April 2008	REVIEWED BY:	M. Wahbooba
PREPARED BY:	C.E. Carter	REVIEWED BY:	

REVISIONS	INIT.	DATE
1 Revising clearance time, adding crosswalk, pedestrian signal heads & pedestrian signal pedestal.	TJW	6/10/09

Not a certified document as to the Original Document but Only as to the Revisions - This document originally issued and sealed by Jason P. Galloway PE, PE no. 29904 on 5/2/2008. This document is only certified as to the revisions.

SIG. INVENTORY NO. 10-1072

Appendix D – Traffic Accident Information

T - Type of Accident Codes
0 = UNKNOWN
1 = RAN OFF ROAD - RIGHT
2 = RAN OFF ROAD - LEFT
3 = RAN OFF ROAD - STRAIGHT
4 = JACKKNIFE
5 = OVERTURN/ROLLOVER
13 = OTHER NON-COLLISION
14 = PEDESTRIAN
15 = PEDALCYCLIST
16 = RR TRAIN, ENGINE
17 = ANIMAL
18 = MOVABLE OBJECT
19 = FIXED OBJECT
20 = PARKED MOTOR VEHICLE
21 = REAR END, SLOW OR STOP
22 = REAR END, TURN
23 = LEFT TURN, SAME ROADWAY
24 = LEFT TURN, DIFFERENT ROADWAYS
25 = RIGHT TURN, SAME ROADWAY
26 = RIGHT TURN, DIFFERENT ROADWAYS
27 = HEAD ON
28 = SIDESWIPE, SAME DIRECTION
29 = SIDESWIPE, OPPOSITE DIRECTION
30 = ANGLE
31 = BACKING UP
32 = OTHER COLLISION WITH VEHICLE

F - Road Feature Codes
0 = NO SPECIAL FEATURE
1 = BRIDGE
2 = BRIDGE APPROACH
3 = UNDERPASS
4 = DRIVEWAY, PUBLIC
5 = DRIVEWAY, PRIVATE
6 = ALLEY INTERSECTION
7 = FOUR-WAY INTERSECTION
8 = T-INTERSECTION
9 = Y-INTERSECTION
10 = TRAFFIC CIRCLE/ROUNDABOUT
11 = FIVE-POINT, OR MORE
12 = RELATED TO INTERSECTION
13 = NON-INTERSECTION MEDIAN CROSSING
14 = END OR BEGINNING - DIVIDED HIGHWAY
15 = OFF RAMP ENTRY
16 = OFF RAMP PROPER
17 = OFF RAMP TERMINAL ON CROSSROAD
18 = MERGE LANE BETWEEN ON AND OFF RAMP
19 = ON RAMP ENTRY
20 = ON RAMP PROPER
21 = ON RAMP TERMINAL ON CROSSROAD
22 = RAILROAD CROSSING
23 = TUNNEL
24 = SHARED-USE PATHS OR TRAILS
25 = OTHER

R - Road Condition Codes
1 = DRY
2 = WET
3 = WATER (STANDING, MOVING)
4 = ICE
5 = SNOW
6 = SLUSH
7 = SAND, MUD, DIRT, GRAVEL
8 = FUEL, OIL
9 = OTHER
10 = UNKNOWN

L - Light Condition Codes
1 = DAYLIGHT
2 = DUSK
3 = DAWN
4 = DARK - LIGHTED ROADWAY
5 = DARK - ROADWAY NOT LIGHTED
6 = DARK - UNKNOWN LIGHTING
7 = OTHER
8 = UNKNOWN

W - Weather Condition Codes
1 = CLEAR
2 = CLOUDY
3 = RAIN
4 = SNOW
5 = FOG, SMOG, SMOKE
6 = SLEET, HAIL, FREEZING RAIN/DRIZZLE
7 = SEVERE CROSSWINDS
8 = BLOWING SAND, DIRT, SNOW
9 = OTHER

S - Accident Severity Codes
K = FATAL
A = A-LEVEL INJURY
B = B-LEVEL INJURY
C = C-LEVEL INJURY
O = PROPERTY DAMAGE ONLY

Ch - Road Character
1 = STRAIGHT, LEVEL
2 = STRAIGHT, HILLCREST
3 = STRAIGHT, GRADE
4 = STRAIGHT, BOTTOM (SAG)
5 = CURVE, LEVEL
6 = CURVE, HILLCREST
7 = CURVE, GRADE
8 = CURVE, BOTTOM (SAG)
9 = OTHER

Op - Traffic Control Operating
1 = YES
2 = NO
3 = UNKNOWN

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Fiche, Intersection, and Strip Reports Code Index

Veh Mnvr - Vehicle Maneuver Codes
1 = STOPPED IN TRAVEL LANE
2 = PARKED OUT OF TRAVEL LANES
3 = PARKED IN TRAVEL LANES
4 = GOING STRAIGHT AHEAD
5 = CHANGING LANES OR MERGING
6 = PASSING
7 = MAKING RIGHT TURN
8 = MAKING LEFT TURN
9 = MAKING U-TURN
10 = BACKING
11 = SLOWING OR STOPPING
12 = STARTING IN ROADWAY
13 = PARKING
14 = LEAVING PARKED POSITION
15 = AVOIDING OBJECT IN ROAD

Dv - Traffic Control Device
0 = NO CONTROL PRESENT
1 = STOP SIGN
2 = YIELD SIGN
3 = STOP AND GO SIGNAL
4 = FLASHING SIGNAL WITH STOP SIGN
5 = FLASHING SIGNAL WITHOUT STOP SIGN
6 = RR GATE AND FLASHER
7 = RR FLASHER
8 = RR CROSSBUCKS ONLY
9 = HUMAN CONTROL
10 = WARNING SIGN
11 = SCHOOL ZONE SIGNS
12 = FLASHING STOP AND GO SIGNAL
13 = DOUBLE YELLOW LINE, NO PASSING ZONE
14 = OTHER

Alchl/Drgs - Driver Alcohol/Drugs Suspected Status Codes
0 = NO
1 = YES - ALCOHOL, IMPAIRMENT SUSPECTED
2 = YES - ALCOHOL, NO IMPAIRMENT DETECTED
3 = YES - OTHER DRUGS, IMPAIRMENT SUSPECTED
4 = YES - OTHER DRUGS, NO IMPAIRMENT DETECTED
5 = YES - ALCOHOL AND OTHER DRUGS, IMPAIRMENT SUSPECTED
6 = YES - ALCOHOL AND OTHER DRUGS, NO IMPAIRMENT DETECTED
7 = UNKNOWN

Ped Actn - Pedestrian Action Codes
1 = ENTERING OR CROSSING SPECIFIED LOCATION
2 = WALKING, RIDING, RUNNING/JOGGING WITH TRAFFIC
3 = WALKING, RIDING, RUNNING/JOGGING AGAINST TRAFFIC
4 = WORKING
5 = PUSHING VEHICLE
6 = APPROACHING OR LEAVING VEHICLE
7 = PLAYING
8 = STANDING
9 = OTHER

Ci - Roadway Contributing Circumstances
0 = NONE (NO UNUSUAL CONDITIONS)
1 = ROAD SURFACE CONDITION
2 = DEBRIS
3 = RUT, HOLES, BUMPS
4 = WORK ZONE (CONSTRUCTION, MAINTENANCE, UTILITY)
5 = WORN TRAVEL-POLISHED SURFACE
6 = OBSTRUCTION IN ROADWAY
7 = TRAFFIC CONTROL DEVICE INOPERATIVE, NOT VISIBLE OR MISSING
8 = SHOULDERS LOW, SOFT OR HIGH
9 = NO SHOULDERS
10 = NON-HIGHWAY WORK
11 = OTHER
12 = UNKNOWN

North Carolina Department of Transportation
Traffic Engineering Accident Analysis System
Fiche, Intersection, and Strip Reports Code Index

Obj Strk - Object Struck Codes
14 = PEDESTRIAN
15 = PEDALCYCLIST
17 = ANIMAL
18 = MOVABLE OBJECT
20 = PARKED MOTOR VEHICLE
33 = TREE
34 = UTILITY POLE
35 = LUMINAIRE POLE NON-BREAKAWAY
36 = LUMINAIRE POLE BREAKAWAY
37 = OFFICIAL HIGHWAY SIGN NON-BREAKAWAY
38 = OFFICIAL HIGHWAY SIGN BREAKAWAY
39 = OVERHEAD SIGN SUPPORT
40 = COMMERCIAL SIGN
41 = GUARDRAIL END ON SHOULDER
42 = GUARDRAIL FACE ON SHOULDER
43 = GUARDRAIL END IN MEDIAN
44 = GUARDRAIL FACE IN MEDIAN
45 = SHOULDER BARRIER END
46 = SHOULDER BARRIER FACE
47 = MEDIAN BARRIER END
48 = MEDIAN BARRIER FACE
49 = BRIDGE RAIL END
50 = BRIDGE RAIL FACE
51 = OVERHEAD PART UNDERPASS
52 = PIER ON SHOULDER OF UNDERPASS
53 = PIER IN MEDIAN OF UNDERPASS
54 = ABUTMENT OF UNDERPASS
55 = TRAFFIC ISLAND CURB OR MEDIAN
56 = CATCH BASIN OR CULVERT ON SHOULDER
57 = CATCH BASIN OR CULVERT ON MEDIAN
58 = DITCH
59 = EMBANKMENT
60 = MAILBOX
61 = FENCE OR FENCE POST
62 = CONTRUCTION BARRIER
63 = CRASH CUSHION
64 = OTHER FIXED OBJECT

Unit # - Vehicle Style Codes
1 = PASSENGER CAR
2 = PICKUP
3 = LIGHT TRUCK (MINI-VAN, PANEL)
4 = SPORT UTILITY
5 = VAN
6 = COMMERCIAL BUS
7 = SCHOOL BUS
8 = ACTIVITY BUS
9 = OTHER BUS
10 = SINGLE UNIT TRUCK (2-AXLE, 6-TIRE)
11 = SINGLE UNIT TRUCK (3 OR MORE AXLES)
12 = TRUCK/TRAILER
13 = TRUCK/TRACTOR
14 = TRACTOR/SEMI-TRAILER
15 = TRACTOR/DOULBES
16 = UNKNOWN HEAVY TRUCK
17 = TAXICAB
18 = FARM EQUIPMENT
19 = FARM TRACTOR
20 = MOTORCYCLE
21 = MOPED
22 = MOTOR SCOOTER OR MOTOR BIKE
23 = PEDALCYCLE
24 = PEDESTRIAN
25 = MOTOR HOME/RECREATIONAL VEHICLE
26 = OTHER
27 = ALL TERRAIN VEHICLE (ATV)
28 = FIRETRUCK
29 = EMS VEHICLE, AMBULANCE, RESCUE SQUAD
30 = MILITARY
31 = POLICE
32 = UNKNOWN

Study Criteria Summary

County: MECKLENBURG **City:** All and Rural
Date: 10/01/2007 **to** 09/30/2010 **Study:** MW410000410140
Location: Crash analysis at intersection of SR 2158 (Griffith Street) and Sloan Street.

Report Details

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries F	A	B	C	Condition R	L	W	Road Ch	Ci	Trfc Ctl Dv	Op
1	**102220622**	12/18/2007 13:40	OTHER NON-COLLISION	$ 4500	0	0	0	1	1	1	1	3	0	0	
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 25 MPH	**Dir:** E	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
Unit 2 : 2	**Alchl/Drgs:** 0	**Speed:** 5 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
2	**102258433**	02/08/2008 16:21	REAR END, SLOW OR STOP	$ 1750	0	0	0	0	1	1	1	1	0	0	
Unit 1 : 4	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
Unit 2 : 5	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 1	**Obj Strk:**										
3	**102481956**	12/06/2008 20:47	SIDESWIPE, SAME DIRECTION	$ 12500	0	0	0	0	1	4	2	3	0		
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 25 MPH	**Dir:** E	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 7	**Speed:** 0 MPH	**Dir:** E	**Veh Mnvr / Ped Actn:** 2	**Obj Strk:**										
4	**102499746**	12/23/2008 18:04	ANIMAL	$ 1000	0	0	0	0	1	4	1	1	0	0	
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 30 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:** 17										

Legend for Report Details:
Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	4	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	1	25.00
Total Injury Crashes	1	25.00
Property Damage Only Crashes	3	75.00
Night Crashes	2	50.00
Wet Crashes	0	0.00
Alcohol/Drugs Involvement Crashes	0	0.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	4	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	0	0.00
Class C Crashes	1	25.00
Property Damage Only Crashes	3	75.00

Vehicle Exposure Statistics

Annual ADT = 11500

Total Vehicle Exposure = 12.6 (MEV)

Crash Rate	Crashes Per 100 Million Vehicles Entered
Total Crash Rate	31.74
Fatal Crash Rate	0.00
Non Fatal Crash Rate	7.93
Night Crash Rate	15.87
Wet Crash Rate	0.00
EPDO Rate	90.45

Miscellaneous Statistics

Severity Index =	2.85
EPDO Crash Index =	11.40
Estimated Property Damage Total = $	19750.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANIMAL	1	25.00
OTHER NON-COLLISION	1	25.00
REAR END, SLOW OR STOP	1	25.00
SIDESWIPE, SAME DIRECTION	1	25.00

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	0	0.00
Class C Injuries	1	100.00
Total Non-Fatal Injuries	1	100.00
Total Injuries	1	100.00

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	0	0.00
Feb	1	25.00
Mar	0	0.00
Apr	0	0.00
May	0	0.00
Jun	0	0.00
Jul	0	0.00
Aug	0	0.00
Sep	0	0.00
Oct	0	0.00
Nov	0	0.00
Dec	3	75.00

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	0	0.00
Tue	2	50.00
Wed	0	0.00
Thu	0	0.00
Fri	1	25.00
Sat	1	25.00
Sun	0	0.00

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	0	0.00
0800-0859	0	0.00
0900-0959	0	0.00
1000-1059	0	0.00
1100-1159	0	0.00
1200-1259	0	0.00
1300-1359	1	25.00
1400-1459	0	0.00
1500-1559	0	0.00
1600-1659	1	25.00
1700-1759	0	0.00
1800-1859	1	25.00
1900-1959	0	0.00
2000-2059	1	25.00
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	2	0	0	2
Dark	2	0	0	2
Other	0	0	0	0
Total	4	0	0	4

Object Struck Summary

Object Type	Times Struck	Percent of Total
ANIMAL	1	100.00

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	4	57.14
PICKUP	1	14.29
SPORT UTILITY	1	14.29
VAN	1	14.29

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2007	1	0	1	0
2008	3	0	0	3
2009	0	0	0	0
2010	0	0	0	0
Total	4	0	1	3

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2007	0	1
2008	0	0
2009	0	0
2010	0	0
Total	0	1

Miscellaneous Totals

Year	Property Damage	EPDO Index
2007	$ 4500	8.40
2008	$ 15250	3.00
2009	$ 0	0.00
2010	$ 0	0.00
Total	$ 19750	11.40

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2007	0	0	0	0	0	0	1
2008	0	0	1	0	0	1	1
2009	0	0	0	0	0	0	0
2010	0	0	0	0	0	0	0
Total	0	0	1	0	0	1	2

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
MW410000410140	41000010140			76.8	8.4	11500	

Request Date	Courier Service	Phone No.	Ext.	Fax No.
11/24/2010		919 573 9919		919 789 9591

County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
MECKLENBURG	59	10	All and Rural		150	10/01/2007	09/30/2010	3.00

Location Text

Crash analysis at intersection of SR 2158 (Griffith Street) and Sloan Street.

Requestor

Jefrey P. Hochanadel
Sepi Eng
1025 Wade Ave
Rleigh, NC 27605

Included Accidents

102220622

102499746

Fiche Roads

Name	Code
BEATTY	50034407
DEPOT	50008300
GRIFFIN	50012570
GRIFFITH	50012584
SLOAN	50028393
SR 2158	40002158

Intersection Road Combinations

Name	Code	Code	Name
SR 2158	40002158	50008300	DEPOT
SR 2158	40002158	50028393	SLOAN
SR 2158	40002158	50034407	BEATTY
GRIFFIN	50012570	50008300	DEPOT
GRIFFIN	50012570	50028393	SLOAN
GRIFFIN	50012570	50034407	BEATTY
GRIFFITH	50012584	50008300	DEPOT
GRIFFITH	50012584	50028393	SLOAN
GRIFFITH	50012584	50034407	BEATTY

Study Criteria Summary

County: MECKLENBURG **City:** All and Rural
Date: 10/01/2007 **to** 09/30/2010 **Study:** EDW41000010223
Location: SR 2158 (Griffith Street) @ SR 2733 (Jackson Street)

Report Details

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries F	A	B	C	Condition R	L	W	Road Ch	Ci	Trfc Ctl Dv	Op
1	**102177042**	10/28/2007 16:50	ANGLE	$ 1600	0	0	0	0	1	1	1	3	0	1	1
Unit 1 : 2	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
2	**102607984**	05/30/2009 15:07	REAR END, SLOW OR STOP	$ 5500	0	0	0	0	1	1	1	3	0	0	
Unit 1 : 1	**Alchl/Drgs:** 1	**Speed:** 25 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 0	**Speed:** 5 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
Unit 3 : 1	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 1	**Obj Strk:**										

Legend for Report Details:
Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	2	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	0	0.00
Total Injury Crashes	0	0.00
Property Damage Only Crashes	2	100.00
Night Crashes	0	0.00
Wet Crashes	0	0.00
Alcohol/Drugs Involvement Crashes	1	50.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	2	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	0	0.00
Class C Crashes	0	0.00
Property Damage Only Crashes	2	100.00

Vehicle Exposure Statistics

Annual ADT = 8000

Total Vehicle Exposure = 8.77 (MEV)

Crash Rate	Crashes Per 100 Million Vehicles Entered
Total Crash Rate	22.81
Fatal Crash Rate	0.00
Non Fatal Crash Rate	0.00
Night Crash Rate	0.00
Wet Crash Rate	0.00
EPDO Rate	22.81

Miscellaneous Statistics

Severity Index =	1.00
EPDO Crash Index =	2.00
Estimated Property Damage Total = $	7100.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANGLE	1	50.00
REAR END, SLOW OR STOP	1	50.00

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	0	0.00
Class C Injuries	0	0.00
Total Non-Fatal Injuries	0	0.00
Total Injuries	0	0.00

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	0	0.00
Feb	0	0.00
Mar	0	0.00
Apr	0	0.00
May	1	50.00
Jun	0	0.00
Jul	0	0.00
Aug	0	0.00
Sep	0	0.00
Oct	1	50.00
Nov	0	0.00
Dec	0	0.00

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	0	0.00
Tue	0	0.00
Wed	0	0.00
Thu	0	0.00
Fri	0	0.00
Sat	1	50.00
Sun	1	50.00

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	0	0.00
0800-0859	0	0.00
0900-0959	0	0.00
1000-1059	0	0.00
1100-1159	0	0.00
1200-1259	0	0.00
1300-1359	0	0.00
1400-1459	0	0.00
1500-1559	1	50.00
1600-1659	1	50.00
1700-1759	0	0.00
1800-1859	0	0.00
1900-1959	0	0.00
2000-2059	0	0.00
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	2	0	0	2
Dark	0	0	0	0
Other	0	0	0	0
Total	2	0	0	2

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	4	80.00
PICKUP	1	20.00

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2007	1	0	0	1
2008	0	0	0	0
2009	1	0	0	1
2010	0	0	0	0
Total	2	0	0	2

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2007	0	0
2008	0	0
2009	0	0
2010	0	0
Total	0	0

Miscellaneous Totals

Year	Property Damage	EPDO Index
2007	$ 1600	1.00
2008	$ 0	0.00
2009	$ 5500	1.00
2010	$ 0	0.00
Total	$ 7100	2.00

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2007	0	0	0	0	1	0	0
2008	0	0	0	0	0	0	0
2009	0	0	1	0	0	0	0
2010	0	0	0	0	0	0	0
Total	0	0	1	0	1	0	0

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
EDW41000010223	41000010223			76.8	8.4	8000	

Request Date	Courier Service	Phone No.	Ext.	Fax No.
11/29/2010		(919)789-9977		(919)789-9591

County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
MECKLENBURG	59	10	All and Rural		150	10/01/2007	09/30/2010	3.00

Location Text

SR 2158 (Griffith Street) @ SR 2733 (Jackson Street)

Requestor

Jeffrey P. Hochanadel
SEPI
1025 Wade Ave
Raleigh, NC

Included Accidents

102607984

Fiche Roads

Name	Code
SR 2158	40002158
SR 2733	40002733
GRIFFITH	50012584
JACKSON	50015195

Intersection Road Combinations

Name	Code	Code	Name
SR 2158	40002158	40002733	SR 2733
SR 2158	40002158	50015195	JACKSON
SR 2733	40002733	50012584	GRIFFITH
GRIFFITH	50012584	50015195	JACKSON

Study Criteria Summary

County: MECKLENBURG **City:** All and Rural
Date: 10/01/2007 **to** 09/30/2010 **Study:** MW41000010100
Location: Crash analysis at intersection of NC 115 (N. Main Street) and SR 2158 (Griffith Street).

Report Details

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries F	A	B	C	Condition R	L	W	Road Ch	Ci	Trfc Ctl Dv	Op
1	**102203054**	11/27/2007 15:39	LEFT TURN, SAME ROADWAY	$ 10000	0	0	0	2	1	1	1	1	0	3	1
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 20 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 8	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 0	**Speed:** 20 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
2	**102278936**	03/08/2008 06:40	REAR END, SLOW OR STOP	$ 1000	0	0	0	1	2	1	2	1	0	3	1
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
Unit 2 : 5	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 11	**Obj Strk:**										
3	**102302753**	04/11/2008 10:31	REAR END, SLOW OR STOP	$ 3000	0	0	0	0	1	1	1		0		
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
Unit 2 : 2	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 1	**Obj Strk:**										
4	**102470107**	11/25/2008 17:40	REAR END, SLOW OR STOP	$ 7500	0	0	0	0	1	4	1	1	0	3	1
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 5 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 10	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
5	**102966763**	09/14/2010 17:21	LEFT TURN, SAME ROADWAY	$ 3000	0	0	0	0	1	1	1	3	0	3	1
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 9	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										

Legend for Report Details:
Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	5	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	2	40.00
Total Injury Crashes	2	40.00
Property Damage Only Crashes	3	60.00
Night Crashes	1	20.00
Wet Crashes	1	20.00
Alcohol/Drugs Involvement Crashes	0	0.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	5	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	0	0.00
Class C Crashes	2	40.00
Property Damage Only Crashes	3	60.00

Vehicle Exposure Statistics

Annual ADT = 17000

Total Vehicle Exposure = 18.63 (MEV)

Crash Rate	Crashes Per 100 Million Vehicles Entered
Total Crash Rate	26.84
Fatal Crash Rate	0.00
Non Fatal Crash Rate	10.73
Night Crash Rate	5.37
Wet Crash Rate	5.37
EPDO Rate	106.27

Miscellaneous Statistics

Severity Index =	3.96
EPDO Crash Index =	19.80
Estimated Property Damage Total = $	24500.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
LEFT TURN, SAME ROADWAY	2	40.00
REAR END, SLOW OR STOP	3	60.00

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	0	0.00
Class C Injuries	3	100.00
Total Non-Fatal Injuries	3	100.00
Total Injuries	3	100.00

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	0	0.00
Feb	0	0.00
Mar	1	20.00
Apr	1	20.00
May	0	0.00
Jun	0	0.00
Jul	0	0.00
Aug	0	0.00
Sep	1	20.00
Oct	0	0.00
Nov	2	40.00
Dec	0	0.00

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	0	0.00
Tue	3	60.00
Wed	0	0.00
Thu	0	0.00
Fri	1	20.00
Sat	1	20.00
Sun	0	0.00

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	1	20.00
0700-0759	0	0.00
0800-0859	0	0.00
0900-0959	0	0.00
1000-1059	1	20.00
1100-1159	0	0.00
1200-1259	0	0.00
1300-1359	0	0.00
1400-1459	0	0.00
1500-1559	1	20.00
1600-1659	0	0.00
1700-1759	2	40.00
1800-1859	0	0.00
1900-1959	0	0.00
2000-2059	0	0.00
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	3	1	0	4
Dark	1	0	0	1
Other	0	0	0	0
Total	4	1	0	5

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	8	80.00
PICKUP	1	10.00
VAN	1	10.00

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2007	1	0	1	0
2008	3	0	1	2
2009	0	0	0	0
2010	1	0	0	1
Total	5	0	2	3

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2007	0	2
2008	0	1
2009	0	0
2010	0	0
Total	0	3

Miscellaneous Totals

Year	Property Damage	EPDO Index
2007	$ 10000	8.40
2008	$ 11500	10.40
2009	$ 0	0.00
2010	$ 3000	1.00
Total	$ 24500	19.80

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2007	1	0	0	0	0	0	0
2008	0	0	3	0	0	0	0
2009	0	0	0	0	0	0	0
2010	1	0	0	0	0	0	0
Total	2	0	3	0	0	0	0

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
MW41000010100	41000010100			76.8	8.4	17000	

Request Date	Courier Service	Phone No.	Ext.	Fax No.
11/24/2010		919 573 9919		919 789 9591

County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
MECKLENBURG	59	10	All and Rural		150	10/01/2007	09/30/2010	3.00

Location Text

Crash analysis at intersection of NC 115 (N. Main Street) and SR 2158 (Griffith Street).

Requestor

Jefrey P. Hochanadel
Sepi Eng
1025 Wade Ave
Rleigh, NC 27605

Included Accidents

102278936

102302753

Fiche Roads

Name	Code
NC 115	30000115
SR 2158	40002158
GRIFFIN	50012570
GRIFFITH	50012584
JACKSON	50015195
MAIN	50018682
MECKLENBURG	50019722

Intersection Road Combinations

Name	Code	Code	Name
NC 115	30000115	50012570	GRIFFIN
NC 115	30000115	50012584	GRIFFITH
NC 115	30000115	40002158	SR 2158
MECKLENBURG	50019722	50012584	GRIFFITH
MECKLENBURG	50019722	50012570	GRIFFIN
MECKLENBURG	50019722	40002158	SR 2158
MAIN	50018682	50012584	GRIFFITH
MAIN	50018682	50012570	GRIFFIN
MAIN	50018682	40002158	SR 2158

Study Criteria Summary

County: MECKLENBURG **City:** All and Rural
Date: 10/01/2007 **to** 09/30/2010 **Study:** EDW41000010224
Location: SR 2733 (Jackson Street) @ Depot Street

Report Details

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries F	A	B	C	Condition R	L	W	Road Ch	Ci	Trfc Ctl Dv	Op
1	**102563808**	03/24/2009 12:26	BACKING UP	$ 1000	0	0	0	0	1	1	1	3	0	0	

Unit 1 : 4 **Alchl/Drgs:** 0 **Speed:** 5 MPH **Dir:** W **Veh Mnvr / Ped Actn:** 10 **Obj Strk:**
Unit 2 : 1 **Alchl/Drgs:** 7 **Speed:** 0 MPH **Dir:** S **Veh Mnvr / Ped Actn:** 10 **Obj Strk:**

Legend for Report Details:
Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	1	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	0	0.00
Total Injury Crashes	0	0.00
Property Damage Only Crashes	1	100.00
Night Crashes	0	0.00
Wet Crashes	0	0.00
Alcohol/Drugs Involvement Crashes	0	0.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	1	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	0	0.00
Class C Crashes	0	0.00
Property Damage Only Crashes	1	100.00

Vehicle Exposure Statistics

Annual ADT = 3500

Total Vehicle Exposure = 3.84 (MEV)

Crash Rate	Crashes Per 100 Million Vehicles Entered
Total Crash Rate	26.07
Fatal Crash Rate	0.00
Non Fatal Crash Rate	0.00
Night Crash Rate	0.00
Wet Crash Rate	0.00
EPDO Rate	26.07

Miscellaneous Statistics

Severity Index =	1.00
EPDO Crash Index =	1.00
Estimated Property Damage Total = $	1000.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
BACKING UP	1	100.00

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	0	0.00
Class C Injuries	0	0.00
Total Non-Fatal Injuries	0	0.00
Total Injuries	0	0.00

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	0	0.00
Feb	0	0.00
Mar	1	100.00
Apr	0	0.00
May	0	0.00
Jun	0	0.00
Jul	0	0.00
Aug	0	0.00
Sep	0	0.00
Oct	0	0.00
Nov	0	0.00
Dec	0	0.00

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	0	0.00
Tue	1	100.00
Wed	0	0.00
Thu	0	0.00
Fri	0	0.00
Sat	0	0.00
Sun	0	0.00

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	0	0.00
0800-0859	0	0.00
0900-0959	0	0.00
1000-1059	0	0.00
1100-1159	0	0.00
1200-1259	1	100.00
1300-1359	0	0.00
1400-1459	0	0.00
1500-1559	0	0.00
1600-1659	0	0.00
1700-1759	0	0.00
1800-1859	0	0.00
1900-1959	0	0.00
2000-2059	0	0.00
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	1	0	0	1
Dark	0	0	0	0
Other	0	0	0	0
Total	1	0	0	1

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	1	50.00
SPORT UTILITY	1	50.00

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2007	0	0	0	0
2008	0	0	0	0
2009	1	0	0	1
2010	0	0	0	0
Total	1	0	0	1

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2007	0	0
2008	0	0
2009	0	0
2010	0	0
Total	0	0

Miscellaneous Totals

Year	Property Damage	EPDO Index
2007	$ 0	0.00
2008	$ 0	0.00
2009	$ 1000	1.00
2010	$ 0	0.00
Total	$ 1000	1.00

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2007	0	0	0	0	0	0	0
2008	0	0	0	0	0	0	0
2009	0	0	0	0	0	0	1
2010	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	1

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
EDW41000010224	41000010224			76.8	8.4	3500	

Request Date	Courier Service	Phone No.	Ext.	Fax No.
11/29/2010		(919)789-9977		(919)789-9591

County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
MECKLENBURG	59	10	All and Rural		150	10/01/2007	09/30/2010	3.00

Location Text

SR 2733 (Jackson Street) @ Depot Street

Requestor

Jeffrey P. Hochanadel
SEPI
1025 Wade Ave
Raleigh, NC

Included Accidents

102563808

Fiche Roads

Name	Code
SR 2733	40002733
JACKSON	50015195
DEPOT	50008300

Intersection Road Combinations

Name	Code	Code	Name
SR 2733	40002733	50008300	DEPOT
DEPOT	50008300	50015195	JACKSON

Study Criteria Summary

County: MECKLENBURG **City:** All and Rural
Date: 10/01/2007 **to** 09/30/2010 **Study:** EDW41000010142
Location: NC 115 (Main Street) @ SR 2693 (Concord Road)

Report Details

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries F	A	B	C	Condition R	L	W	Road Ch	Ci	Trfc Ctl Dv	Op
1	**102131165**	10/11/2007 11:07	ANGLE	$ 2500	0	0	0	0	1	1	1	1	0	0	
Unit	**1** : 1	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 6				**Obj Strk:**						
Unit	**2** : 4	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 13				**Obj Strk:**						
2	**102166791**	10/18/2007 09:38	RAN OFF ROAD - RIGHT	$ 2000	0	0	0	0	1	1	1	1	0	3	1
Unit	**1** : 1	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:** 36						
Unit	**2** : 32	**Alchl/Drgs:** 7	**Speed:** 0 MPH	**Dir:**	**Veh Mnvr / Ped Actn:**				**Obj Strk:**						
3	**102188157**	11/08/2007 18:27	REAR END, SLOW OR STOP	$ 10000	0	0	0	0	1	4	1	1	0	3	1
Unit	**1** : 2	**Alchl/Drgs:** 1	**Speed:** 15 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:**						
Unit	**2** : 4	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 1				**Obj Strk:**						
Unit	**3** : 1	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:**						
Unit	**4** : 1	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:**						
Unit	**5** : 1	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:**						
Unit	**6** : 4	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:**						
4	**102210207**	12/06/2007 20:37	ANIMAL	$ 2500	0	0	0	0	1	4	1	1	0	13	1
Unit	**1** : 1	**Alchl/Drgs:** 0	**Speed:** 20 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:** 17						
5	**102252837**	02/01/2008 01:58	RAN OFF ROAD - RIGHT	$ 30150	0	0	0	0	2	4	3	1	0	3	1
Unit	**1** : 4	**Alchl/Drgs:** 1	**Speed:** 35 MPH	**Dir:** E	**Veh Mnvr / Ped Actn:** 8				**Obj Strk:** 64						
6	**102261217**	02/13/2008 06:53	LEFT TURN, SAME ROADWAY	$ 4000	0	0	0	0	2	3	3	1	0	3	1
Unit	**1** : 1	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 8				**Obj Strk:**						
Unit	**2** : 1	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:**						
7	**102414760**	09/16/2008 13:46	RIGHT TURN, SAME ROADWAY	$ 3000	0	0	0	0	2	1	3	1	0	3	1
Unit	**1** : 12	**Alchl/Drgs:** 0	**Speed:** 5 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 7				**Obj Strk:**						
Unit	**2** : 1	**Alchl/Drgs:** 0	**Speed:** 5 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 7				**Obj Strk:**						

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries F	A	B	C	Condition R	L	W	Road Ch	Ci	Trfc Ctl Dv	Op
8	**102541518**	02/23/2009 08:40	PARKED MOTOR VEHICLE	$ 1600	0	0	0	0	1	1	1	1	0		
Unit	**1** : 4	**Alchl/Drgs:** 3	**Speed:** 10 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:** 20						
Unit	**2** : 1	**Alchl/Drgs:** 7	**Speed:** 0 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 2				**Obj Strk:** 20						
9	**102607940**	05/30/2009 13:53	SIDESWIPE, SAME DIRECTION	$ 2300	0	0	0	0	1	1	1	1	0	3	1
Unit	**1** : 1	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** SW	**Veh Mnvr / Ped Actn:** 8				**Obj Strk:**						
Unit	**2** : 4	**Alchl/Drgs:** 7	**Speed:** 0 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 2				**Obj Strk:** 20						
10	**102672221**	08/28/2009 18:45	REAR END, SLOW OR STOP	$ 1600	0	0	0	0	2	1	3	1	0	3	1
Unit	**1** : 4	**Alchl/Drgs:** 0	**Speed:** 20 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:**						
Unit	**2** : 5	**Alchl/Drgs:** 0	**Speed:** 5 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:**						
11	**102858846**	01/09/2010 11:01	REAR END, SLOW OR STOP	$ 1650	0	0	0	0	1	1	1	1	0	3	1
Unit	**1** : 4	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** E	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:**						
Unit	**2** : 1	**Alchl/Drgs:** 0	**Speed:** 20 MPH	**Dir:** E	**Veh Mnvr / Ped Actn:** 7				**Obj Strk:**						
12	**102859776**	04/01/2010 18:27	LEFT TURN, SAME ROADWAY	$ 4500	0	0	0	0	1	1	1	1	0	3	1
Unit	**1** : 4	**Alchl/Drgs:** 0	**Speed:** 2 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 1				**Obj Strk:**						
Unit	**2** : 12	**Alchl/Drgs:** 0	**Speed:** 3 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 8				**Obj Strk:**						
13	**102859777**	04/22/2010 11:55	BACKING UP	$ 2000	0	0	0	0	1	1	1	1	0	3	1
Unit	**1** : 4	**Alchl/Drgs:** 0	**Speed:** 5 MPH	**Dir:** SW	**Veh Mnvr / Ped Actn:** 10				**Obj Strk:**						
Unit	**2** : 16	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 1				**Obj Strk:**						
14	**102874673**	05/18/2010 16:39	REAR END, SLOW OR STOP	$ 5500	0	0	0	0	1	1	1	1	12	3	1
Unit	**1** : 4	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4				**Obj Strk:**						
Unit	**2** : 3	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 11				**Obj Strk:**						
15	**102951155**	08/23/2010 14:30	LEFT TURN, DIFFERENT ROADWAYS	$ 0	0	0	0	1	1	1	1	1	0	3	1
Unit	**1** : 2	**Alchl/Drgs:** 0	**Speed:** 5 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 1				**Obj Strk:** 14						
Unit	**2** : 24	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:**	**Veh Mnvr / Ped Actn:**				**Obj Strk:** 14						

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries F	A	B	C	Condition R	L	W	Road Ch	Ci	Trfc Ctl Dv	Op

Legend for Report Details:
Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	15	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	1	6.67
Total Injury Crashes	1	6.67
Property Damage Only Crashes	14	93.33
Night Crashes	3	20.00
Wet Crashes	4	26.67
Alcohol/Drugs Involvement Crashes	2	13.33

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	15	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	0	0.00
Class C Crashes	1	6.67
Property Damage Only Crashes	14	93.33

Vehicle Exposure Statistics

Annual ADT = 13700

Total Vehicle Exposure = 15.02 (MEV)

Crash Rate	Crashes Per 100 Million Vehicles Entered
Total Crash Rate	99.90
Fatal Crash Rate	0.00
Non Fatal Crash Rate	6.66
Night Crash Rate	19.98
Wet Crash Rate	26.64
EPDO Rate	149.18

Miscellaneous Statistics

Severity Index =	1.49
EPDO Crash Index =	22.40
Estimated Property Damage Total = $	73300.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
ANGLE	1	6.67
ANIMAL	1	6.67
BACKING UP	1	6.67
LEFT TURN, DIFFERENT ROADWAYS	1	6.67
LEFT TURN, SAME ROADWAY	2	13.33
PARKED MOTOR VEHICLE	1	6.67
RAN OFF ROAD - RIGHT	2	13.33
REAR END, SLOW OR STOP	4	26.67
RIGHT TURN, SAME ROADWAY	1	6.67
SIDESWIPE, SAME DIRECTION	1	6.67

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	0	0.00
Class C Injuries	1	100.00
Total Non-Fatal Injuries	1	100.00
Total Injuries	1	100.00

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	1	6.67
Feb	3	20.00
Mar	0	0.00
Apr	2	13.33
May	2	13.33
Jun	0	0.00
Jul	0	0.00
Aug	2	13.33
Sep	1	6.67
Oct	2	13.33
Nov	1	6.67
Dec	1	6.67

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	2	13.33
Tue	2	13.33
Wed	1	6.67
Thu	6	40.00
Fri	2	13.33
Sat	2	13.33
Sun	0	0.00

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	1	6.67
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	1	6.67
0700-0759	0	0.00
0800-0859	1	6.67
0900-0959	1	6.67
1000-1059	0	0.00
1100-1159	3	20.00
1200-1259	0	0.00
1300-1359	2	13.33
1400-1459	1	6.67
1500-1559	0	0.00
1600-1659	1	6.67
1700-1759	0	0.00
1800-1859	3	20.00
1900-1959	0	0.00
2000-2059	1	6.67
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	9	2	0	11
Dark	2	1	0	3
Other	0	1	0	1
Total	11	4	0	15

Object Struck Summary

Object Type	Times Struck	Percent of Total
ANIMAL	1	12.50
LUMINAIRE POLE BREAKAWAY	1	12.50
OTHER FIXED OBJECT	1	12.50
PARKED MOTOR VEHICLE	3	37.50
PEDESTRIAN	2	25.00

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
LIGHT TRUCK (MINI-VAN, PANEL)	1	3.12
PASSENGER CAR	12	37.50
PEDESTRIAN	1	3.12
PICKUP	2	6.25
SPORT UTILITY	11	34.38
TRUCK/TRAILER	2	6.25
UNKNOWN	1	3.12
UNKNOWN HEAVY TRUCK	1	3.12
VAN	1	3.12

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2007	4	0	0	4
2008	3	0	0	3
2009	3	0	0	3
2010	5	0	1	4
Total	15	0	1	14

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2007	0	0
2008	0	0
2009	0	0
2010	0	1
Total	0	1

Miscellaneous Totals

Year	Property Damage	EPDO Index
2007	$ 17000	4.00
2008	$ 37150	3.00
2009	$ 5500	3.00
2010	$ 13650	12.40
Total	$ 73300	22.40

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2007	0	0	1	1	1	0	1
2008	1	1	0	1	0	0	0
2009	0	0	1	0	0	1	1
2010	2	0	2	0	0	0	1
Total	3	1	4	2	1	1	3

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
EDW41000010142	41000010142			76.8	8.4	13700	

Request Date	Courier Service	Phone No.	Ext.	Fax No.
11/29/2010		(919)789-9977		(919)789-9591

County Name	County Code	Div.	Municipality Name	Municipality Code	Y-Line Ft.	Begin Date	End Date	Years
MECKLENBURG	59	10	All and Rural		150	10/01/2007	09/30/2010	3.00

Location Text

NC 115 (Main Street) @ SR 2693 (Concord Road)

Requestor

Jeffrey P. Hochanadel
SEPI
1025 Wade Ave
Raleigh, NC

Included Accidents

102859776
102874673

Fiche Roads

Name	Code
NC 115	30000115
SR 2693	40002693
CONCORD	50006740
MAIN	50018682
MECKLENBURG	50019722
ROCKY RIVER	50026311
OLD STATESVILLE	50022757

Intersection Road Combinations

Name	Code	Code	Name
NC 115	30000115	40002693	SR 2693
NC 115	30000115	50006740	CONCORD
MAIN	50018682	40002693	SR 2693
MAIN	50018682	50006740	CONCORD

Study Criteria Summary

County: MECKLENBURG **City:** All and Rural
Date: 10/01/2007 **to** 09/30/2010 **Study:** MW41000010141
Location: Crash analysis at intersection of NC 115 (N. Main Street) and SR 5304 (South Street)/Chairman Blake Lane.

Report Details

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries F	A	B	C	Condition R	L	W	Road Ch	Ci	Trfc Ctl Dv	Op
1	**102470104**	11/20/2008 09:23	RIGHT TURN, SAME ROADWAY	$ 1700	0	0	0	0	1	1	1	5	0	0	
Unit 1 : 5	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 7	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
2	**102658671**	08/05/2009 11:48	BACKING UP	$ 4550	0	0	0	0	1	1	1	1	0	0	
Unit 1 : 3	**Alchl/Drgs:** 0	**Speed:** 2 MPH	**Dir:** W	**Veh Mnvr / Ped Actn:** 10	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 0	**Speed:** 15 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
3	**102933658**	06/04/2010 09:30	PEDALCYCLIST	$ 500	0	0	0	0	1	1	1	1	0		
Unit 1 : 23	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:**	**Veh Mnvr / Ped Actn:**	**Obj Strk:**										
Unit 2 : 4	**Alchl/Drgs:** 0	**Speed:** 5 MPH	**Dir:** NW	**Veh Mnvr / Ped Actn:** 13	**Obj Strk:**										
4	**102978963**	09/30/2010 08:16	SIDESWIPE, SAME DIRECTION	$ 200	0	0	0	0	1	1	2	1	0	3	1
Unit 1 : 4	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** SW	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
Unit 2 : 14	**Alchl/Drgs:** 0	**Speed:** 10 MPH	**Dir:** SW	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										

Legend for Report Details:
Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	4	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	0	0.00
Total Injury Crashes	0	0.00
Property Damage Only Crashes	4	100.00
Night Crashes	0	0.00
Wet Crashes	0	0.00
Alcohol/Drugs Involvement Crashes	0	0.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	4	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	0	0.00
Class C Crashes	0	0.00
Property Damage Only Crashes	4	100.00

Vehicle Exposure Statistics

Annual ADT = 12300

Total Vehicle Exposure = 13.48 (MEV)

Crash Rate	Crashes Per 100 Million Vehicles Entered
Total Crash Rate	29.67
Fatal Crash Rate	0.00
Non Fatal Crash Rate	0.00
Night Crash Rate	0.00
Wet Crash Rate	0.00
EPDO Rate	29.67

Miscellaneous Statistics

Severity Index =	1.00
EPDO Crash Index =	4.00
Estimated Property Damage Total = $	6950.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
BACKING UP	1	25.00
PEDALCYCLIST	1	25.00
RIGHT TURN, SAME ROADWAY	1	25.00
SIDESWIPE, SAME DIRECTION	1	25.00

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	0	0.00
Class C Injuries	0	0.00
Total Non-Fatal Injuries	0	0.00
Total Injuries	0	0.00

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	0	0.00
Feb	0	0.00
Mar	0	0.00
Apr	0	0.00
May	0	0.00
Jun	1	25.00
Jul	0	0.00
Aug	1	25.00
Sep	1	25.00
Oct	0	0.00
Nov	1	25.00
Dec	0	0.00

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	0	0.00
Tue	0	0.00
Wed	1	25.00
Thu	2	50.00
Fri	1	25.00
Sat	0	0.00
Sun	0	0.00

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	0	0.00
0800-0859	1	25.00
0900-0959	2	50.00
1000-1059	0	0.00
1100-1159	1	25.00
1200-1259	0	0.00
1300-1359	0	0.00
1400-1459	0	0.00
1500-1559	0	0.00
1600-1659	0	0.00
1700-1759	0	0.00
1800-1859	0	0.00
1900-1959	0	0.00
2000-2059	0	0.00
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	4	0	0	4
Dark	0	0	0	0
Other	0	0	0	0
Total	4	0	0	4

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
LIGHT TRUCK (MINI-VAN, PANEL)	1	12.50
PASSENGER CAR	2	25.00
PEDALCYCLE	1	12.50
SPORT UTILITY	2	25.00
TRACTOR/SEMI-TRAILER	1	12.50
VAN	1	12.50

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2007	0	0	0	0
2008	1	0	0	1
2009	1	0	0	1
2010	2	0	0	2
Total	4	0	0	4

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2007	0	0
2008	0	0
2009	0	0
2010	0	0
Total	0	0

Miscellaneous Totals

Year	Property Damage	EPDO Index
2007	$ 0	0.00
2008	$ 1700	1.00
2009	$ 4550	1.00
2010	$ 700	2.00
Total	$ 6950	4.00

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2007	0	0	0	0	0	0	0
2008	0	1	0	0	0	0	0
2009	0	0	0	0	0	0	1
2010	0	0	0	0	0	1	1
Total	0	1	0	0	0	1	2

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
MW41000010141	41000010141			76.8	8.4	12300	

Request Date	Courier Service	Phone No.	Ext.	Fax No.
11/24/2010		919 573 9919		919 789 9591

County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
MECKLENBURG	59	10	All and Rural		150	10/01/2007	09/30/2010	3.00

Location Text

Crash analysis at intersection of NC 115 (N. Main Street) and SR 5304 (South Street)/Chairman Blake Lane.

Requestor

Jefrey P. Hochanadel
Sepi Eng
1025 Wade Ave
Rleigh, NC 27605

Included Accidents

102978963

102658671

Fiche Roads

Name	Code
MAIN	50018682
MECKLENBURG	50019722
NC 115	30000115
SOUTH	50028612
SR 5304	40005304

Intersection Road Combinations

Name	Code	Code	Name
MAIN	50018682	40005304	SR 5304
MAIN	50018682	50028612	SOUTH
MECKLENBURG	50019722	40005304	SR 5304
MECKLENBURG	50019722	50028612	SOUTH
NC 115	30000115	40005304	SR 5304
NC 115	30000115	50028612	SOUTH

Study Criteria Summary

County: MECKLENBURG **City:** All and Rural
Date: 10/1/2007 **to** 9/30/2010 **Study:** 41000009962
Location: NC 115-Main St at SR 2733-Jackson St

Report Details

Acc No	Crash ID	Date	Accident Type	Total Damage	Injuries F	A	B	C	Condition R	L	W	Road Ch	Ci	Trfc Ctl Dv	Op
1	**102195050**	11/17/2007 12:35	SIDESWIPE, OPPOSITE DIRECTION	$ 3200	0	0	0	0	1	1	1	2	0	0	
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 25 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 16	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 7	**Speed:** 25 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 16	**Obj Strk:**										
2	**102456776**	10/01/2008 14:46	REAR END, SLOW OR STOP	$ 4100	0	0	2	1	1	1	1	2	0	3	1
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 1	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 1	**Obj Strk:**										
Unit 3 : 1	**Alchl/Drgs:** 0	**Speed:** 20 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
3	**102618636**	06/09/2009 17:12	PEDALCYCLIST	$ 0	0	0	1	0	1	1	1	1	0	1	1
Unit 1 : 1	**Alchl/Drgs:** 0	**Speed:** 2 MPH	**Dir:** S	**Veh Mnvr / Ped Actn:** 7	**Obj Strk:**										
Unit 2 : 23	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:**	**Veh Mnvr / Ped Actn:**	**Obj Strk:**										
4	**102926770**	07/22/2010 13:32	REAR END, SLOW OR STOP	$ 2200	0	0	0	1	1	1	1	1	0	0	
Unit 1 : 5	**Alchl/Drgs:** 0	**Speed:** 7 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 4	**Obj Strk:**										
Unit 2 : 1	**Alchl/Drgs:** 0	**Speed:** 0 MPH	**Dir:** N	**Veh Mnvr / Ped Actn:** 8	**Obj Strk:**										

Legend for Report Details:
Acc No - Accident Number
Injuries: F - Fatal, A - Class A, B - Class B, C - Class C
Condition: R - Road Surface, L - Ambient Light, W - Weather
Rd Ch - Road Character
Rd Ci - Roadway Contributing Circumstances
Trfc Ctl - Traffic Control: Dv - Device, Op - Operating
Alchl/Drgs - Alcohol Drugs Suspected
Veh Mnvr/Ped Actn - Vehicle Maneuver/Pedestrian Action
Obj Strk - Object Struck

Summary Statistics

High Level Crash Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	4	100.00
Fatal Crashes	0	0.00
Non-Fatal Injury Crashes	3	75.00
Total Injury Crashes	3	75.00
Property Damage Only Crashes	1	25.00
Night Crashes	0	0.00
Wet Crashes	0	0.00
Alcohol/Drugs Involvement Crashes	0	0.00

Crash Severity Summary

Crash Type	Number of Crashes	Percent of Total
Total Crashes	4	100.00
Fatal Crashes	0	0.00
Class A Crashes	0	0.00
Class B Crashes	2	50.00
Class C Crashes	1	25.00
Property Damage Only Crashes	1	25.00

Vehicle Exposure Statistics

Annual ADT = 16500

Total Vehicle Exposure = 18.08 (MEV)

Crash Rate	Crashes Per 100 Million Vehicles Entered
Total Crash Rate	22.12
Fatal Crash Rate	0.00
Non Fatal Crash Rate	16.59
Night Crash Rate	0.00
Wet Crash Rate	0.00
EPDO Rate	144.88

Miscellaneous Statistics

Severity Index =	6.55
EPDO Crash Index =	26.20
Estimated Property Damage Total = $	9500.00

Accident Type Summary

Accident Type	Number of Crashes	Percent of Total
PEDALCYCLIST	1	25.00
REAR END, SLOW OR STOP	2	50.00
SIDESWIPE, OPPOSITE DIRECTION	1	25.00

Injury Summary

Injury Type	Number of Injuries	Percent of Total
Fatal Injuries	0	0.00
Class A Injuries	0	0.00
Class B Injuries	3	60.00
Class C Injuries	2	40.00
Total Non-Fatal Injuries	5	100.00
Total Injuries	5	100.00

Monthly Summary

Month	Number of Crashes	Percent of Total
Jan	0	0.00
Feb	0	0.00
Mar	0	0.00
Apr	0	0.00
May	0	0.00
Jun	1	25.00
Jul	1	25.00
Aug	0	0.00
Sep	0	0.00
Oct	1	25.00
Nov	1	25.00
Dec	0	0.00

Daily Summary

Day	Number of Crashes	Percent of Total
Mon	0	0.00
Tue	1	25.00
Wed	1	25.00
Thu	1	25.00
Fri	0	0.00
Sat	1	25.00
Sun	0	0.00

Hourly Summary

Hour	Number of Crashes	Percent of Total
0000-0059	0	0.00
0100-0159	0	0.00
0200-0259	0	0.00
0300-0359	0	0.00
0400-0459	0	0.00
0500-0559	0	0.00
0600-0659	0	0.00
0700-0759	0	0.00
0800-0859	0	0.00
0900-0959	0	0.00
1000-1059	0	0.00
1100-1159	0	0.00
1200-1259	1	25.00
1300-1359	1	25.00
1400-1459	1	25.00
1500-1559	0	0.00
1600-1659	0	0.00
1700-1759	1	25.00
1800-1859	0	0.00
1900-1959	0	0.00
2000-2059	0	0.00
2100-2159	0	0.00
2200-2259	0	0.00
2300-2359	0	0.00

Light and Road Conditions Summary

Condition	Dry	Wet	Other	Total
Day	4	0	0	4
Dark	0	0	0	0
Other	0	0	0	0
Total	4	0	0	4

Vehicle Type Summary

Vehicle Type	Number Involved	Percent of Total
PASSENGER CAR	7	77.78
PEDALCYCLE	1	11.11
VAN	1	11.11

Yearly Totals Summary

Accident Totals

Year	Total Accidents	Fatal Accidents	Injury Accidents	Property Damage Only Accidents
2007	1	0	0	1
2008	1	0	1	0
2009	1	0	1	0
2010	1	0	1	0
Total	4	0	3	1

Injury Totals

Year	Fatal Injuries	Class A, B, or C Injuries
2007	0	0
2008	0	3
2009	0	1
2010	0	1
Total	0	5

Miscellaneous Totals

Year	Property Damage	EPDO Index
2007	$ 3200	1.00
2008	$ 4100	8.40
2009	$ 0	8.40
2010	$ 2200	8.40
Total	$ 9500	26.20

Type of Accident Totals

Year	Left Turn	Right Turn	Rear End	Run Off Road & Fixed Object	Angle	Side Swipe	Other
2007	0	0	0	0	0	1	0
2008	0	0	1	0	0	0	0
2009	0	0	0	0	0	0	1
2010	0	0	1	0	0	0	0
Total	0	0	2	0	0	1	1

Study Criteria

Study Name	Log No.	PH No.	TIP No.	K/A Cf.	B/C Cf.	ADT	ADT Route
41000009962				76.8	8.4	16500	

Request Date	Courier Service	Phone No.	Ext.	Fax No.

County			Municipality					
Name	Code	Div.	Name	Code	Y-Line Ft.	Begin Date	End Date	Years
MECKLENBURG	59	10	All and Rural		150	10/1/2007	9/30/2010	3.00

Location Text

NC 115-Main St at SR 2733-Jackson St

Requestor

Jefferey P. Hochanadel, PE
Sepi Engineering and Construction

Included Accidents

102456776

Excluded Accidents

102435772
102669177

Fiche Roads

Name	Code
NC 115	30000115
MAIN	50018682
SR 2733	40002733
JACKSON	50015195

Intersection Road Combinations

Name	Code	Code	Name
NC 115	30000115	40002733	SR 2733
NC 115	30000115	50015195	JACKSON
MAIN	50018682	40002733	SR 2733
MAIN	50018682	50015195	JACKSON

Appendix E – Synchro Analysis Output – Unsignalized / Signalized Intersections

Condition 1

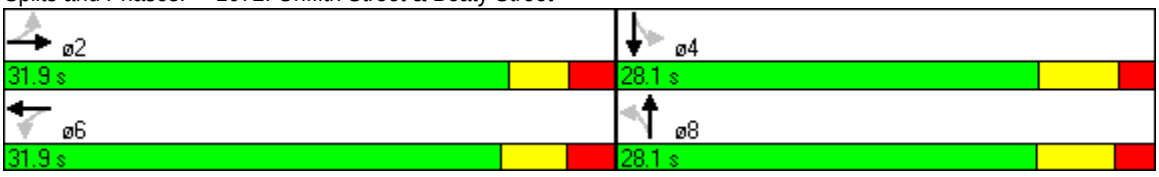
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	261	412	6	3	288	21	12	27	3	29	34	218
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.990			0.991			0.895	
Flt Protected	0.950			0.950				0.986			0.995	
Satd. Flow (prot)	1743	1831	0	1814	1890	0	0	1847	0	0	1692	0
Flt Permitted	0.534			0.410				0.867			0.964	
Satd. Flow (perm)	980	1831	0	783	1890	0	0	1624	0	0	1639	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	290	458	7	3	320	23	13	30	3	32	38	242
Shared Lane Traffic (%)												
Lane Group Flow (vph)	290	465	0	3	343	0	0	46	0	0	312	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		28.1	28.1	
Total Split (s)	31.9	31.9	0.0	31.9	31.9	0.0	28.1	28.1	0.0	28.1	28.1	0.0
Total Split (%)	53.2%	53.2%	0.0%	53.2%	53.2%	0.0%	46.8%	46.8%	0.0%	46.8%	46.8%	0.0%
Maximum Green (s)	26.3	26.3		25.8	25.8		21.8	21.8		22.0	22.0	
Yellow Time (s)	3.1	3.1		3.5	3.5		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.5	2.5		2.6	2.6		2.2	2.2		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	6.3	5.0	4.0	6.1	6.1	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

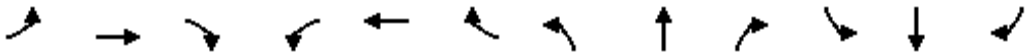
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	20.8	20.8		20.8	20.8			14.7			13.5	
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.32			0.29	
v/c Ratio	0.66	0.56		0.01	0.40			0.09			0.65	
Control Delay	19.6	13.1		8.3	10.7			12.6			22.2	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	19.6	13.1		8.3	10.7			12.6			22.2	
LOS	B	B		A	B			B			C	
Approach Delay		15.6			10.7			12.6			22.2	
Approach LOS		B			B			B			C	
Queue Length 50th (ft)	54	83		1	55			9			76	
Queue Length 95th (ft)	#167	193		4	133			28			153	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	610	1139		487	1175			867			834	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.48	0.41		0.01	0.29			0.05			0.37	

Intersection Summary

Area Type: Other
Cycle Length: 60
Actuated Cycle Length: 46.1
Natural Cycle: 60
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.66
Intersection Signal Delay: 15.7 Intersection LOS: B
Intersection Capacity Utilization 62.5% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1072: Griffith Street & Beaty Street

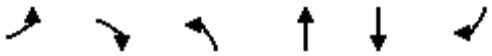




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	27	314	87	26	285	5	32	11	7	1	21	15
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	29	341	95	28	310	5	35	12	8	1	23	16
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked												
vC, conflicting volume	315			436			844	819	389	830	864	312
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	315			436			844	819	389	830	864	312
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			97			86	96	99	100	92	98
cM capacity (veh/h)	1245			1124			250	295	660	267	278	728

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	465	343	54	40
Volume Left	29	28	35	1
Volume Right	95	5	8	16
cSH	1245	1124	284	371
Volume to Capacity	0.02	0.03	0.19	0.11
Queue Length 95th (ft)	2	2	17	9
Control Delay (s)	0.7	0.9	20.6	15.9
Lane LOS	A	A	C	C
Approach Delay (s)	0.7	0.9	20.6	15.9
Approach LOS			C	C

Intersection Summary				
Average Delay	2.7			
Intersection Capacity Utilization	44.8%	ICU Level of Service	A	
Analysis Period (min)	15			

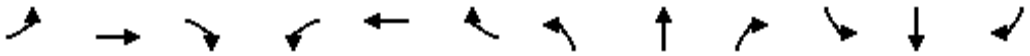


Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	73	212	285	316	339	47
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.984	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1833	0
Flt Permitted	0.950		0.255			
Satd. Flow (perm)	1770	1583	475	1863	1833	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	81	236	317	351	377	52
Shared Lane Traffic (%)						
Lane Group Flow (vph)	81	236	317	351	429	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	29.0	29.0	20.0	61.0	41.0	0.0
Total Split (%)	32.2%	32.2%	22.2%	67.8%	45.6%	0.0%
Maximum Green (s)	23.0	23.0	14.0	55.0	35.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	17.4	17.4	43.5	43.5	23.8	
Actuated g/C Ratio	0.25	0.25	0.63	0.63	0.34	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.18	0.59	0.54	0.30	0.68	
Control Delay	23.5	31.3	10.0	7.2	26.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	23.5	31.3	10.0	7.2	26.1	
LOS	C	C	A	A	C	
Approach Delay	29.3			8.5	26.1	
Approach LOS	C			A	C	
Queue Length 50th (ft)	26	87	52	58	153	
Queue Length 95th (ft)	71	188	114	125	277	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	668	597	611	1540	1023	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.12	0.40	0.52	0.23	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 69.3			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.68			
Intersection Signal Delay: 18.5		Intersection LOS: B	
Intersection Capacity Utilization 52.3%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	3	9	12	16	8	9	4	28	8	6	77	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	3	10	13	18	9	10	4	31	9	7	86	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	27	37	44	92
Volume Left (vph)	3	18	4	7
Volume Right (vph)	13	10	9	0
Hadj (s)	-0.24	-0.03	-0.07	0.05
Departure Headway (s)	4.0	4.2	4.1	4.1
Degree Utilization, x	0.03	0.04	0.05	0.11
Capacity (veh/h)	865	828	858	854
Control Delay (s)	7.1	7.4	7.3	7.6
Approach Delay (s)	7.1	7.4	7.3	7.6
Approach LOS	A	A	A	A

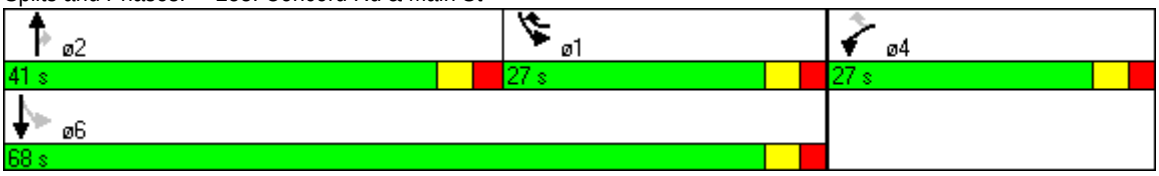
Intersection Summary			
Delay	7.4		
HCM Level of Service	A		
Intersection Capacity Utilization	17.2%	ICU Level of Service	A
Analysis Period (min)	15		

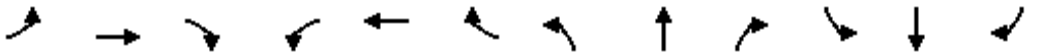
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	146	319	153	94	258	229
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.974
Satd. Flow (prot)	1770	1583	1863	1794	0	1814
Flt Permitted	0.950					0.745
Satd. Flow (perm)	1770	1583	1863	1794	0	1388
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	162	354	170	104	287	254
Shared Lane Traffic (%)						
Lane Group Flow (vph)	162	354	170	104	0	541
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	12.3	23.4	23.4	12.3	21.4
Total Split (s)	27.0	27.0	41.0	41.0	27.0	68.0
Total Split (%)	28.4%	28.4%	43.2%	43.2%	28.4%	71.6%
Maximum Green (s)	21.7	21.7	35.6	35.6	21.7	62.6
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.3	2.3	2.4	2.4	2.3	2.4
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.3	5.0
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	9.5	23.1	12.4	12.4		30.2
Actuated g/C Ratio	0.20	0.50	0.27	0.27		0.65
v/c Ratio	0.45	0.45	0.34	0.22		0.53
Control Delay	23.9	8.8	19.4	18.2		8.6
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	23.9	8.8	19.4	18.2		8.6
LOS	C	A	B	B		A
Approach Delay	13.5		18.9			8.6
Approach LOS	B		B			A
Queue Length 50th (ft)	37	46	36	21		64
Queue Length 95th (ft)	112	113	108	71		156
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	909	929	1463	1409		1482
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.18	0.38	0.12	0.07		0.37

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 46.4			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.53			
Intersection Signal Delay: 12.6		Intersection LOS: B	
Intersection Capacity Utilization 55.3%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 258: Concord Rd & Main St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	189	26	7	5	43	16	44	48	9	3	24	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.966			0.988			0.861	
Flt Protected		0.959			0.996			0.979		0.950		
Satd. Flow (prot)	0	1806	0	0	1783	0	0	1838	0	1796	1628	0
Flt Permitted		0.126			0.996			0.979		0.438		
Satd. Flow (perm)	0	237	0	0	1783	0	0	1838	0	828	1628	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	210	29	8	6	48	18	49	53	10	3	27	344
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	247	0	0	72	0	0	112	0	3	371	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		14.0	20.0	
Total Split (s)	36.5	36.5	0.0	20.0	20.0	0.0	20.0	20.0	0.0	14.0	50.0	0.0
Total Split (%)	40.3%	40.3%	0.0%	22.1%	22.1%	0.0%	22.1%	22.1%	0.0%	15.5%	55.2%	0.0%
Maximum Green (s)	30.5	30.5		14.0	14.0		14.0	14.0		8.0	44.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		35.3			9.0			10.0		35.2	37.3	
Actuated g/C Ratio		0.55			0.14			0.15		0.54	0.58	
v/c Ratio		1.90			0.29			0.39		0.01	0.39	
Control Delay		457.6			33.2			33.5		10.7	14.0	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		457.6			33.2			33.5		10.7	14.0	
LOS		F			C			C		B	B	
Approach Delay		457.6			33.2			33.5			14.0	
Approach LOS		F			C			C			B	
Queue Length 50th (ft)		~125			27			42		1	98	
Queue Length 95th (ft)		#353			77			108		5	201	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		130			420			433		582	1149	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		1.90			0.17			0.26		0.01	0.32	

Intersection Summary

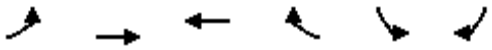
Area Type: Other
Cycle Length: 90.5
Actuated Cycle Length: 64.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.90
Intersection Signal Delay: 154.5 Intersection LOS: F
Intersection Capacity Utilization 60.2% ICU Level of Service B
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

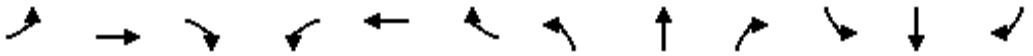
Splits and Phases: 257: Main St & Chairman Blake Lane



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	43	262	421	23	7	87
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	48	291	468	26	8	97
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	493				867	481
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	493				867	481
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	96				97	83
cM capacity (veh/h)	1070				309	585

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	339	493	104
Volume Left	48	0	8
Volume Right	0	26	97
cSH	1070	1700	549
Volume to Capacity	0.04	0.29	0.19
Queue Length 95th (ft)	4	0	17
Control Delay (s)	1.6	0.0	13.1
Lane LOS	A		B
Approach Delay (s)	1.6	0.0	13.1
Approach LOS			B

Intersection Summary			
Average Delay	2.0		
Intersection Capacity Utilization	55.5%	ICU Level of Service	B
Analysis Period (min)	15		



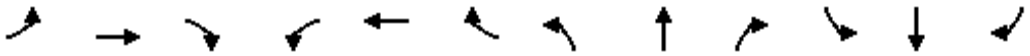
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	159	426	19	6	652	15	45	22	4	38	47	357
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.997			0.993			0.891	
Flt Protected	0.950			0.950				0.969			0.996	
Satd. Flow (prot)	1743	1824	0	1814	1904	0	0	1819	0	0	1686	0
Flt Permitted	0.190			0.382				0.585			0.967	
Satd. Flow (perm)	349	1824	0	729	1904	0	0	1098	0	0	1637	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	177	473	21	7	724	17	50	24	4	42	52	397
Shared Lane Traffic (%)												
Lane Group Flow (vph)	177	494	0	7	741	0	0	78	0	0	491	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		20.0	20.0	
Total Split (s)	42.0	42.0	0.0	42.0	42.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	60.0%	60.0%	0.0%	60.0%	60.0%	0.0%	40.0%	40.0%	0.0%	40.0%	40.0%	0.0%
Maximum Green (s)	36.4	36.4		35.9	35.9		21.7	21.7		21.9	21.9	
Yellow Time (s)	3.1	3.1		3.5	3.5		4.1	4.1		4.1	4.1	
All-Red Time (s)	2.5	2.5		2.6	2.6		2.2	2.2		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	5.0	5.0	4.0	5.0	5.0	4.0	6.3	5.0	4.0	6.1	6.1	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	35.2	35.2		35.2	35.2			22.6			21.5	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.33			0.32	
v/c Ratio	0.98	0.52		0.02	0.75			0.21			0.95	
Control Delay	84.9	13.2		8.2	18.7			19.0			54.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	84.9	13.2		8.2	18.7			19.0			54.8	
LOS	F	B		A	B			B			D	
Approach Delay		32.1			18.6			19.0			54.8	
Approach LOS		C			B			B			D	
Queue Length 50th (ft)	67	127		1	228			24			205	
Queue Length 95th (ft)	#192	204		7	360			55			#386	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	191	999		399	1043			374			531	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.93	0.49		0.02	0.71			0.21			0.92	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 67.8
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.98
Intersection Signal Delay: 32.1 Intersection LOS: C
Intersection Capacity Utilization 83.7% ICU Level of Service E
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

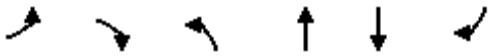
Splits and Phases: 1072: Griffith Street & Beaty Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	26	361	84	39	282	5	71	12	28	1	36	54
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	28	392	91	42	307	5	77	13	30	1	39	59
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.93			0.93	0.93	0.93	0.93	0.93	
vC, conflicting volume	312			484			967	891	438	926	934	309
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	312			408			927	846	359	883	892	309
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	98			96			57	95	95	99	84	92
cM capacity (veh/h)	1248			1071			178	261	638	217	246	731

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	512	354	121	99
Volume Left	28	42	77	1
Volume Right	91	5	30	59
cSH	1248	1071	227	404
Volume to Capacity	0.02	0.04	0.53	0.24
Queue Length 95th (ft)	2	3	70	24
Control Delay (s)	0.7	1.4	37.4	16.8
Lane LOS	A	A	E	C
Approach Delay (s)	0.7	1.4	37.4	16.8
Approach LOS			E	C

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	48.7%	ICU Level of Service	A
Analysis Period (min)	15		

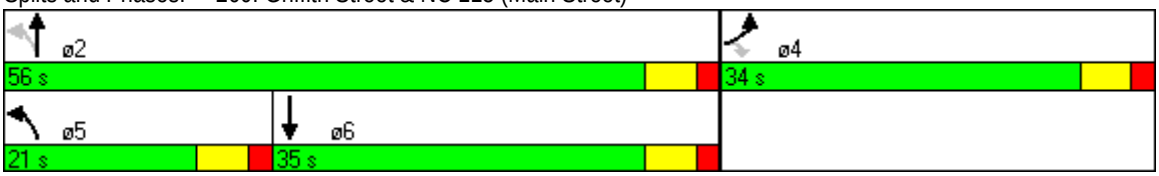


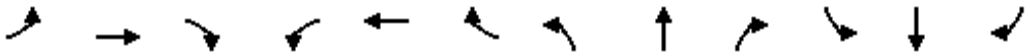
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	112	274	308	301	277	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.982	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1829	0
Flt Permitted	0.950		0.286			
Satd. Flow (perm)	1770	1583	533	1863	1829	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	124	304	342	334	308	47
Shared Lane Traffic (%)						
Lane Group Flow (vph)	124	304	342	334	355	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	34.0	34.0	21.0	56.0	35.0	0.0
Total Split (%)	37.8%	37.8%	23.3%	62.2%	38.9%	0.0%
Maximum Green (s)	28.0	28.0	15.0	50.0	29.0	
Yellow Time (s)	4.0	4.0	4.0	4.0	4.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	20.6	20.6	41.6	41.6	21.0	
Actuated g/C Ratio	0.29	0.29	0.59	0.59	0.30	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.24	0.66	0.57	0.30	0.65	
Control Delay	21.6	30.5	12.2	8.9	28.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	21.6	30.5	12.2	8.9	28.8	
LOS	C	C	B	A	C	
Approach Delay	27.9			10.6	28.8	
Approach LOS	C			B	C	
Queue Length 50th (ft)	41	115	67	64	134	
Queue Length 95th (ft)	92	226	147	140	251	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	784	701	625	1415	837	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.16	0.43	0.55	0.24	0.42	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 70.6			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.66			
Intersection Signal Delay: 20.1		Intersection LOS: C	
Intersection Capacity Utilization 50.4%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	3	29	36	51	12	8	41	88	38	23	139	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	3	32	40	57	13	9	46	98	42	26	154	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	76	79	186	181
Volume Left (vph)	3	57	46	26
Volume Right (vph)	40	9	42	1
Hadj (s)	-0.27	0.11	-0.05	0.06
Departure Headway (s)	4.6	5.0	4.4	4.6
Degree Utilization, x	0.10	0.11	0.23	0.23
Capacity (veh/h)	714	665	774	751
Control Delay (s)	8.1	8.6	8.8	8.9
Approach Delay (s)	8.1	8.6	8.8	8.9
Approach LOS	A	A	A	A

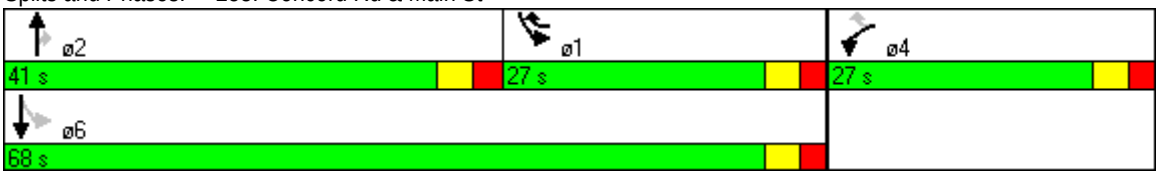
Intersection Summary			
Delay	8.7		
HCM Level of Service	A		
Intersection Capacity Utilization	32.6%	ICU Level of Service	A
Analysis Period (min)	15		

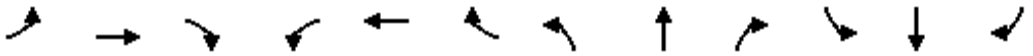
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	139	299	192	140	304	182
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.970
Satd. Flow (prot)	1770	1583	1863	1794	0	1807
Flt Permitted	0.950					0.689
Satd. Flow (perm)	1770	1583	1863	1794	0	1283
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	154	332	213	156	338	202
Shared Lane Traffic (%)						
Lane Group Flow (vph)	154	332	213	156	0	540
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	12.3	23.4	23.4	12.3	21.4
Total Split (s)	27.0	27.0	41.0	41.0	27.0	68.0
Total Split (%)	28.4%	28.4%	43.2%	43.2%	28.4%	71.6%
Maximum Green (s)	21.7	21.7	35.6	35.6	21.7	62.6
Yellow Time (s)	3.0	3.0	3.0	3.0	3.0	3.0
All-Red Time (s)	2.3	2.3	2.4	2.4	2.3	2.4
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.3	5.0
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	10.0	24.7	14.3	14.3		33.4
Actuated g/C Ratio	0.20	0.49	0.28	0.28		0.67
v/c Ratio	0.44	0.43	0.40	0.31		0.54
Control Delay	26.5	9.4	20.7	19.9		8.9
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	26.5	9.4	20.7	19.9		8.9
LOS	C	A	C	B		A
Approach Delay	14.8		20.3			8.9
Approach LOS	B		C			A
Queue Length 50th (ft)	37	46	47	33		65
Queue Length 95th (ft)	124	125	148	111		161
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	873	948	1395	1343		1371
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.18	0.35	0.15	0.12		0.39

Intersection Summary			
Area Type:	Other		
Cycle Length: 95			
Actuated Cycle Length: 50.2			
Natural Cycle: 60			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.54			
Intersection Signal Delay: 14.0		Intersection LOS: B	
Intersection Capacity Utilization 56.7%		ICU Level of Service B	
Analysis Period (min) 15			

Splits and Phases: 258: Concord Rd & Main St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	356	65	6	13	53	23	15	22	3	19	30	269
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.965			0.991			0.865	
Flt Protected		0.960			0.993			0.981		0.950		
Satd. Flow (prot)	0	1811	0	0	1776	0	0	1847	0	1796	1635	0
Flt Permitted		0.178			0.993			0.981		0.386		
Satd. Flow (perm)	0	336	0	0	1776	0	0	1847	0	730	1635	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	396	72	7	14	59	26	17	24	3	21	33	299
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	475	0	0	99	0	0	44	0	21	332	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		13.5	20.0	
Total Split (s)	36.5	36.5	0.0	20.0	20.0	0.0	20.0	20.0	0.0	13.5	50.0	0.0
Total Split (%)	40.6%	40.6%	0.0%	22.2%	22.2%	0.0%	22.2%	22.2%	0.0%	15.0%	55.6%	0.0%
Maximum Green (s)	30.5	30.5		14.0	14.0		14.0	14.0		8.0	44.0	
Yellow Time (s)	4.0	4.0		4.0	4.0		4.0	4.0		4.0	4.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		1.5	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.0	6.0	4.0	6.0	6.0	4.0	6.0	6.0	4.0	5.5	6.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		35.8			9.9			8.4		38.4	39.9	
Actuated g/C Ratio		0.56			0.16			0.13		0.60	0.63	
v/c Ratio		2.51			0.36			0.18		0.04	0.32	
Control Delay		711.3			33.5			33.8		9.5	11.2	
Queue Delay		0.0			0.0			0.0		0.0	0.0	
Total Delay		711.3			33.5			33.8		9.5	11.2	
LOS		F			C			C		A	B	
Approach Delay		711.3			33.5			33.8			11.1	
Approach LOS		F			C			C			B	
Queue Length 50th (ft)		~279			36			16		4	81	
Queue Length 95th (ft)		#607			94			53		16	165	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		189			432			450		589	1184	
Starvation Cap Reductn		0			0			0		0	0	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		2.51			0.23			0.10		0.04	0.28	

Intersection Summary

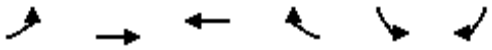
Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 63.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.51
Intersection Signal Delay: 356.9 Intersection LOS: F
Intersection Capacity Utilization 58.4% ICU Level of Service B
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 257: Main St & Chairman Blake Lane

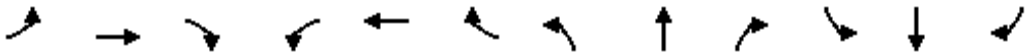


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	62	468	347	24	43	177
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	69	520	386	27	48	197
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	412				1057	399
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	412				1057	399
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				80	70
cM capacity (veh/h)	1147				234	651

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	589	412	244
Volume Left	69	0	48
Volume Right	0	27	197
cSH	1147	1700	483
Volume to Capacity	0.06	0.24	0.51
Queue Length 95th (ft)	5	0	70
Control Delay (s)	1.6	0.0	19.8
Lane LOS	A		C
Approach Delay (s)	1.6	0.0	19.8
Approach LOS			C

Intersection Summary			
Average Delay	4.7		
Intersection Capacity Utilization	71.1%	ICU Level of Service	C
Analysis Period (min)	15		

Condition 2



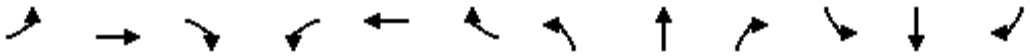
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	334	527	8	4	369	27	15	35	4	37	44	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.990			0.991			0.895	
Flt Protected	0.950			0.950				0.986			0.995	
Satd. Flow (prot)	1743	1831	0	1814	1890	0	0	1847	0	0	1692	0
Flt Permitted	0.442			0.319				0.868			0.960	
Satd. Flow (perm)	811	1831	0	609	1890	0	0	1626	0	0	1632	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	371	586	9	4	410	30	17	39	4	41	49	310
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	595	0	4	440	0	0	60	0	0	400	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	46.0	46.0	0.0	46.0	46.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	61.3%	61.3%	0.0%	61.3%	61.3%	0.0%	38.7%	38.7%	0.0%	38.7%	38.7%	0.0%
Maximum Green (s)	39.0	39.0		39.0	39.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	35.6	35.6		36.2	36.2			20.9			19.6	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.30			0.28	
v/c Ratio	0.89	0.63		0.01	0.44			0.12			0.86	
Control Delay	41.5	15.8		8.5	12.1			19.4			45.0	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	41.5	15.8		8.5	12.1			19.4			45.0	
LOS	D	B		A	B			B			D	
Approach Delay		25.7			12.1			19.4			45.0	
Approach LOS		C			B			B			D	
Queue Length 50th (ft)	140	180		1	115			20			173	
Queue Length 95th (ft)	#314	281		5	181			46			#321	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	479	1081		364	1130			565			535	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.77	0.55		0.01	0.39			0.11			0.75	

Intersection Summary

Area Type: Other
Cycle Length: 75
Actuated Cycle Length: 69
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 26.4 Intersection LOS: C
Intersection Capacity Utilization 79.1% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

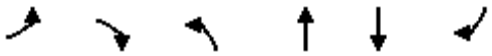
Splits and Phases: 1072: Griffith Street & Beaty Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	402	111	33	365	6	41	14	9	1	27	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	437	121	36	397	7	45	15	10	1	29	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.83			0.83	0.83	0.83	0.83	0.83	
vC, conflicting volume	403			558			1080	1048	497	1062	1105	400
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	403			369			996	958	296	975	1026	400
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			70	92	98	99	84	97
cM capacity (veh/h)	1155			991			150	200	619	169	182	650

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	596	439	70	51
Volume Left	38	36	45	1
Volume Right	121	7	10	21
cSH	1155	991	179	256
Volume to Capacity	0.03	0.04	0.39	0.20
Queue Length 95th (ft)	3	3	43	18
Control Delay (s)	0.9	1.1	37.5	22.5
Lane LOS	A	A	E	C
Approach Delay (s)	0.9	1.1	37.5	22.5
Approach LOS			E	C

Intersection Summary				
Average Delay	4.1			
Intersection Capacity Utilization	53.8%	ICU Level of Service	A	
Analysis Period (min)	15			



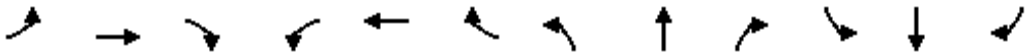
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	94	271	365	405	434	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.984	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1833	0
Flt Permitted	0.950		0.162			
Satd. Flow (perm)	1770	1583	302	1863	1833	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	104	301	406	450	482	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	301	406	450	549	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	27.0	27.0	22.0	63.0	41.0	0.0
Total Split (%)	30.0%	30.0%	24.4%	70.0%	45.6%	0.0%
Maximum Green (s)	20.0	20.0	15.0	56.0	34.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	20.0	20.0	52.6	52.6	30.3	
Actuated g/C Ratio	0.24	0.24	0.64	0.64	0.37	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.24	0.79	0.82	0.38	0.82	
Control Delay	28.4	46.7	30.6	8.5	34.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	28.4	46.7	30.6	8.5	34.9	
LOS	C	D	C	A	C	
Approach Delay	42.0			19.0	34.9	
Approach LOS	D			B	C	
Queue Length 50th (ft)	46	154	132	107	261	
Queue Length 95th (ft)	91	#287	#296	162	390	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	477	426	498	1323	808	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.22	0.71	0.82	0.34	0.68	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 82.8			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 28.9		Intersection LOS: C	
Intersection Capacity Utilization 65.0%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	12	15	21	10	12	5	36	10	8	99	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	13	17	23	11	13	6	40	11	9	110	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	34	48	57	119
Volume Left (vph)	4	23	6	9
Volume Right (vph)	17	13	11	0
Hadj (s)	-0.23	-0.04	-0.06	0.05
Departure Headway (s)	4.1	4.3	4.1	4.2
Degree Utilization, x	0.04	0.06	0.07	0.14
Capacity (veh/h)	834	802	839	839
Control Delay (s)	7.3	7.5	7.4	7.9
Approach Delay (s)	7.3	7.5	7.4	7.9
Approach LOS	A	A	A	A

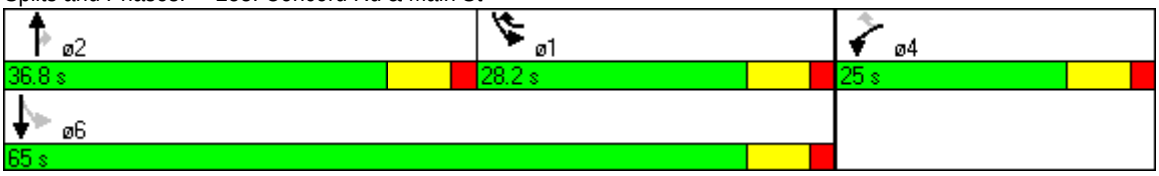
Intersection Summary			
Delay	7.6		
HCM Level of Service	A		
Intersection Capacity Utilization	20.3%	ICU Level of Service	A
Analysis Period (min)	15		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	187	408	196	120	330	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.974
Satd. Flow (prot)	1770	1583	1863	1794	0	1814
Flt Permitted	0.950					0.695
Satd. Flow (perm)	1770	1583	1863	1794	0	1295
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	208	453	218	133	367	326
Shared Lane Traffic (%)						
Lane Group Flow (vph)	208	453	218	133	0	693
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	25.0	28.2	36.8	36.8	28.2	65.0
Total Split (%)	27.8%	31.3%	40.9%	40.9%	31.3%	72.2%
Maximum Green (s)	18.0	21.2	29.8	29.8	21.2	58.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.3	40.3	15.4	15.4		43.4
Actuated g/C Ratio	0.18	0.58	0.22	0.22		0.62
v/c Ratio	0.67	0.50	0.53	0.34		0.72
Control Delay	41.0	11.1	31.7	28.5		15.9
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	41.0	11.1	31.7	28.5		15.9
LOS	D	B	C	C		B
Approach Delay	20.5		30.5			15.9
Approach LOS	C		C			B
Queue Length 50th (ft)	84	94	85	49		150
Queue Length 95th (ft)	180	211	171	109		298
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	494	912	858	827		1232
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.42	0.50	0.25	0.16		0.56

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 69.9			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.72			
Intersection Signal Delay: 20.7		Intersection LOS: C	
Intersection Capacity Utilization 70.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 258: Concord Rd & Main St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	242	34	9	7	55	21	57	62	12	4	31	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.966			0.988			0.861	
Flt Protected		0.959			0.996			0.979		0.950		
Satd. Flow (prot)	0	1806	0	0	1783	0	0	1838	0	1796	1628	0
Flt Permitted		0.103			0.996			0.979		0.434		
Satd. Flow (perm)	0	194	0	0	1783	0	0	1838	0	821	1628	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	269	38	10	8	61	23	63	69	13	4	34	441
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	317	0	0	92	0	0	145	0	4	475	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		15.0	20.0	
Total Split (s)	95.0	95.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	15.0	110.0	0.0
Total Split (%)	63.3%	63.3%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%	10.0%	73.3%	0.0%
Maximum Green (s)	88.0	88.0		13.0	13.0		13.0	13.0		8.0	103.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		88.2			11.2			13.0		90.9	90.9	
Actuated g/C Ratio		0.65			0.08			0.10		0.67	0.67	
v/c Ratio		2.52			0.63			0.82		0.01	0.44	
Control Delay		726.8			80.4			95.0		7.8	12.2	
Queue Delay		0.0			0.0			0.0		0.0	0.8	
Total Delay		726.8			80.4			95.0		7.8	13.0	
LOS		F			F			F		A	B	
Approach Delay		726.8			80.4			95.0			13.0	
Approach LOS		F			F			F			B	
Queue Length 50th (ft)		~350			78			126		1	187	
Queue Length 95th (ft)		#619			151			#281		5	261	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		126			171			176		606	1234	
Starvation Cap Reductn		0			0			0		0	454	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		2.52			0.54			0.82		0.01	0.61	

Intersection Summary

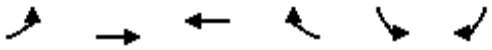
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 136.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.52
Intersection Signal Delay: 249.6 Intersection LOS: F
Intersection Capacity Utilization 73.2% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

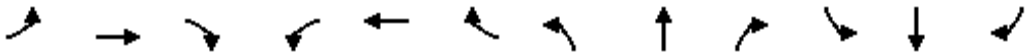
Splits and Phases: 257: Main St & Chairman Blake Lane



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	55	336	539	29	9	111
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	61	373	599	32	10	123
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	631				1111	615
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	631				1111	615
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				95	75
cM capacity (veh/h)	951				217	491

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	434	631	133
Volume Left	61	0	10
Volume Right	0	32	123
cSH	951	1700	449
Volume to Capacity	0.06	0.37	0.30
Queue Length 95th (ft)	5	0	31
Control Delay (s)	1.9	0.0	16.4
Lane LOS	A		C
Approach Delay (s)	1.9	0.0	16.4
Approach LOS			C

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	68.2%	ICU Level of Service	C
Analysis Period (min)	15		



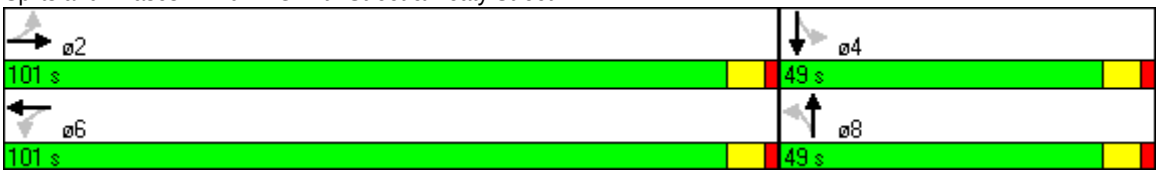
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	204	545	24	8	835	19	58	28	5	49	60	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.997			0.992			0.891	
Flt Protected	0.950			0.950				0.969			0.996	
Satd. Flow (prot)	1743	1824	0	1814	1904	0	0	1817	0	0	1686	0
Flt Permitted	0.131			0.319				0.284			0.962	
Satd. Flow (perm)	240	1824	0	609	1904	0	0	533	0	0	1629	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	227	606	27	9	928	21	64	31	6	54	67	508
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	633	0	9	949	0	0	101	0	0	629	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	101.0	101.0	0.0	101.0	101.0	0.0	49.0	49.0	0.0	49.0	49.0	0.0
Total Split (%)	67.3%	67.3%	0.0%	67.3%	67.3%	0.0%	32.7%	32.7%	0.0%	32.7%	32.7%	0.0%
Maximum Green (s)	94.0	94.0		94.0	94.0		42.0	42.0		42.0	42.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

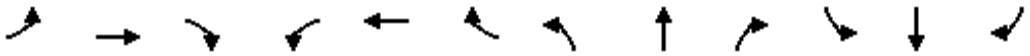
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	94.6	94.6		95.1	95.1			43.3			42.0	
Actuated g/C Ratio	0.63	0.63		0.63	0.63			0.29			0.28	
v/c Ratio	1.50	0.55		0.02	0.79			0.66			1.38	
Control Delay	283.3	17.9		10.5	26.0			68.7			224.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	283.3	17.9		10.5	26.0			68.7			224.4	
LOS	F	B		B	C			E			F	
Approach Delay		88.0			25.9			68.7			224.4	
Approach LOS		F			C			E			F	
Queue Length 50th (ft)	~307	333		3	643			87			~813	
Queue Length 95th (ft)	#335	439		11	842			#177			#1055	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	151	1150		386	1207			154			456	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	1.50	0.55		0.02	0.79			0.66			1.38	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 150
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.50
Intersection Signal Delay: 97.5 Intersection LOS: F
Intersection Capacity Utilization 106.1% ICU Level of Service G
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1072: Griffith Street & Beaty Street

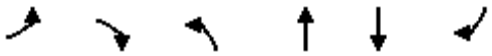




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	462	108	50	361	6	91	15	36	1	47	69
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	502	117	54	392	7	99	16	39	1	51	75
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.80			0.80	0.80	0.80	0.80	0.80	
vC, conflicting volume	399			620			1238	1140	561	1184	1196	396
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	399			402			1173	1051	328	1106	1120	396
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			94			0	90	93	99	66	89
cM capacity (veh/h)	1160			927			83	166	571	121	151	654

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	655	453	154	127
Volume Left	36	54	99	1
Volume Right	117	7	39	75
cSH	1160	927	114	275
Volume to Capacity	0.03	0.06	1.36	0.46
Queue Length 95th (ft)	2	5	264	57
Control Delay (s)	0.8	1.7	278.8	28.8
Lane LOS	A	A	F	D
Approach Delay (s)	0.8	1.7	278.8	28.8
Approach LOS			F	D

Intersection Summary			
Average Delay	34.5		
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		



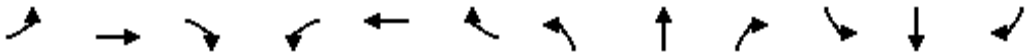
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	143	351	394	385	355	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.982	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1829	0
Flt Permitted	0.950		0.179			
Satd. Flow (perm)	1770	1583	333	1863	1829	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	159	390	438	428	394	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	159	390	438	428	454	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	32.0	32.0	24.0	58.0	34.0	0.0
Total Split (%)	35.6%	35.6%	26.7%	64.4%	37.8%	0.0%
Maximum Green (s)	25.0	25.0	17.0	51.0	27.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	24.7	24.7	50.1	50.1	25.9	
Actuated g/C Ratio	0.29	0.29	0.59	0.59	0.31	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.31	0.85	0.84	0.39	0.82	
Control Delay	25.9	47.3	33.2	10.9	40.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	25.9	47.3	33.2	10.9	40.8	
LOS	C	D	C	B	D	
Approach Delay	41.1			22.2	40.8	
Approach LOS	D			C	D	
Queue Length 50th (ft)	69	205	159	120	231	
Queue Length 95th (ft)	121	#357	#331	181	#375	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	568	508	521	1174	630	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.28	0.77	0.84	0.36	0.72	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 84.9
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.85
Intersection Signal Delay: 32.2 Intersection LOS: C
Intersection Capacity Utilization 64.2% ICU Level of Service C
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	37	46	65	15	10	53	113	49	29	178	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	41	51	72	17	11	59	126	54	32	198	2

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	97	100	239	232
Volume Left (vph)	4	72	59	32
Volume Right (vph)	51	11	54	2
Hadj (s)	-0.27	0.11	-0.05	0.06
Departure Headway (s)	4.9	5.3	4.7	4.8
Degree Utilization, x	0.13	0.15	0.31	0.31
Capacity (veh/h)	654	613	735	714
Control Delay (s)	8.7	9.2	9.7	9.9
Approach Delay (s)	8.7	9.2	9.7	9.9
Approach LOS	A	A	A	A

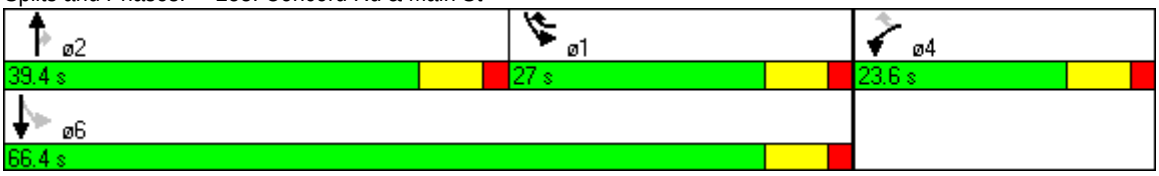
Intersection Summary			
Delay	9.6		
HCM Level of Service	A		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

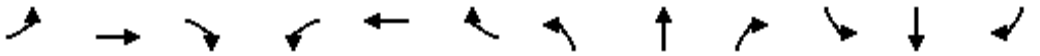
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	178	383	246	179	389	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.970
Satd. Flow (prot)	1770	1583	1863	1794	0	1807
Flt Permitted	0.950					0.571
Satd. Flow (perm)	1770	1583	1863	1794	0	1064
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	198	426	273	199	432	259
Shared Lane Traffic (%)						
Lane Group Flow (vph)	198	426	273	199	0	691
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	23.6	27.0	39.4	39.4	27.0	66.4
Total Split (%)	26.2%	30.0%	43.8%	43.8%	30.0%	73.8%
Maximum Green (s)	16.6	20.0	32.4	32.4	20.0	59.4
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.3	42.0	18.3	18.3		48.0
Actuated g/C Ratio	0.17	0.56	0.25	0.25		0.64
v/c Ratio	0.68	0.48	0.60	0.45		0.76
Control Delay	44.6	12.4	32.3	29.2		18.8
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	44.6	12.4	32.3	29.2		18.8
LOS	D	B	C	C		B
Approach Delay	22.6		31.0			18.8
Approach LOS	C		C			B
Queue Length 50th (ft)	100	106	131	92		160
Queue Length 95th (ft)	175	221	200	147		281
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	427	861	873	841		1078
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.46	0.49	0.31	0.24		0.64

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 74.5			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 23.3		Intersection LOS: C	
Intersection Capacity Utilization 73.2%		ICU Level of Service D	
Analysis Period (min) 15			

Splits and Phases: 258: Concord Rd & Main St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	456	84	8	17	68	29	20	29	4	25	39	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.966			0.991			0.865	
Flt Protected		0.960			0.993			0.981		0.950		
Satd. Flow (prot)	0	1811	0	0	1778	0	0	1847	0	1796	1635	0
Flt Permitted		0.175			0.993			0.981		0.379		
Satd. Flow (perm)	0	330	0	0	1778	0	0	1847	0	717	1635	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	507	93	9	19	76	32	22	32	4	28	43	382
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	609	0	0	127	0	0	58	0	28	425	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		15.0	20.0	
Total Split (s)	95.0	95.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	15.0	110.0	0.0
Total Split (%)	63.3%	63.3%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%	10.0%	73.3%	0.0%
Maximum Green (s)	88.0	88.0		13.0	13.0		13.0	13.0		8.0	103.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		89.1			12.5			9.8		97.5	97.5	
Actuated g/C Ratio		0.65			0.09			0.07		0.71	0.71	
v/c Ratio		2.85			0.79			0.44		0.05	0.37	
Control Delay		861.2			94.8			75.2		7.4	9.8	
Queue Delay		0.0			0.0			0.0		0.0	0.9	
Total Delay		861.2			94.8			75.2		7.4	10.8	
LOS		F			F			E		A	B	
Approach Delay		861.2			94.8			75.2			10.6	
Approach LOS		F			F			E			B	
Queue Length 50th (ft)		~832			122			55		8	152	
Queue Length 95th (ft)		#1100			#241			103		19	224	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		214			170			177		571	1239	
Starvation Cap Reductn		0			0			0		0	535	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		2.85			0.75			0.33		0.05	0.60	

Intersection Summary

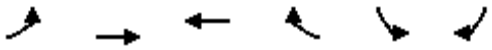
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 137.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.85
Intersection Signal Delay: 437.5 Intersection LOS: F
Intersection Capacity Utilization 71.8% ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 257: Main St & Chairman Blake Lane

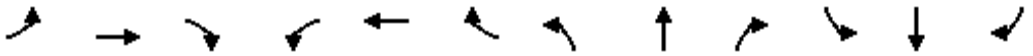


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	79	599	444	31	55	227
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	88	666	493	34	61	252
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	528				1352	511
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	528				1352	511
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				60	55
cM capacity (veh/h)	1039				152	563

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	753	528	313
Volume Left	88	0	61
Volume Right	0	34	252
cSH	1039	1700	368
Volume to Capacity	0.08	0.31	0.85
Queue Length 95th (ft)	7	0	199
Control Delay (s)	2.1	0.0	51.1
Lane LOS	A		F
Approach Delay (s)	2.1	0.0	51.1
Approach LOS			F

Intersection Summary			
Average Delay	11.0		
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		

Condition 3



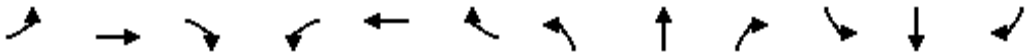
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	334	527	8	4	369	27	36	56	4	37	103	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.990			0.995			0.910	
Flt Protected	0.950			0.950				0.981			0.996	
Satd. Flow (prot)	1743	1831	0	1814	1890	0	0	1845	0	0	1722	0
Flt Permitted	0.431			0.311				0.709			0.962	
Satd. Flow (perm)	791	1831	0	594	1890	0	0	1334	0	0	1663	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	371	586	9	4	410	30	40	62	4	41	114	310
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	595	0	4	440	0	0	106	0	0	465	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	55.0	55.0	0.0	55.0	55.0	0.0	35.0	35.0	0.0	35.0	35.0	0.0
Total Split (%)	61.1%	61.1%	0.0%	61.1%	61.1%	0.0%	38.9%	38.9%	0.0%	38.9%	38.9%	0.0%
Maximum Green (s)	48.0	48.0		48.0	48.0		28.0	28.0		28.0	28.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	43.1	43.1		43.7	43.7			26.8			25.5	
Actuated g/C Ratio	0.52	0.52		0.53	0.53			0.33			0.31	
v/c Ratio	0.90	0.62		0.01	0.44			0.24			0.90	
Control Delay	45.1	17.4		9.5	13.7			24.0			52.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	45.1	17.4		9.5	13.7			24.0			52.1	
LOS	D	B		A	B			C			D	
Approach Delay		28.1			13.6			24.0			52.1	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	172	217		1	139			44			251	
Queue Length 95th (ft)	#359	322		6	209			85			#432	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	480	1111		364	1158			488			581	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.77	0.54		0.01	0.38			0.22			0.80	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 82.4
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 30.2 Intersection LOS: C
Intersection Capacity Utilization 81.1% ICU Level of Service D
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

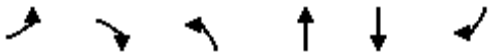
Splits and Phases: 1072: Griffith Street & Beaty Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	402	111	33	365	6	41	14	9	1	27	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	437	121	36	397	7	45	15	10	1	29	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.81			0.81	0.81	0.81	0.81	0.81	
vC, conflicting volume	403			558			1080	1048	497	1062	1105	400
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	403			335			981	942	261	959	1012	400
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			96			70	92	98	99	84	97
cM capacity (veh/h)	1155			990			149	198	629	168	180	650

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	596	439	70	51
Volume Left	38	36	45	1
Volume Right	121	7	10	21
cSH	1155	990	177	254
Volume to Capacity	0.03	0.04	0.39	0.20
Queue Length 95th (ft)	3	3	43	18
Control Delay (s)	0.9	1.1	37.8	22.7
Lane LOS	A	A	E	C
Approach Delay (s)	0.9	1.1	37.8	22.7
Approach LOS			E	C

Intersection Summary			
Average Delay	4.2		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		



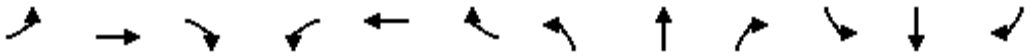
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	94	271	365	363	375	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.981	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1827	0
Flt Permitted	0.950		0.198			
Satd. Flow (perm)	1770	1583	369	1863	1827	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	104	301	406	403	417	67
Shared Lane Traffic (%)						
Lane Group Flow (vph)	104	301	406	403	484	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	29.0	29.0	22.0	61.0	39.0	0.0
Total Split (%)	32.2%	32.2%	24.4%	67.8%	43.3%	0.0%
Maximum Green (s)	22.0	22.0	15.0	54.0	32.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	20.6	20.6	49.8	49.8	27.5	
Actuated g/C Ratio	0.26	0.26	0.62	0.62	0.34	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.23	0.74	0.77	0.35	0.78	
Control Delay	26.6	41.1	24.2	8.9	33.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.6	41.1	24.2	8.9	33.6	
LOS	C	D	C	A	C	
Approach Delay	37.4			16.6	33.6	
Approach LOS	D			B	C	
Queue Length 50th (ft)	43	145	112	98	227	
Queue Length 95th (ft)	88	#266	#269	152	344	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	538	481	530	1321	786	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.19	0.63	0.77	0.31	0.62	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 80.6
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 26.4 Intersection LOS: C
Intersection Capacity Utilization 61.9% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	12	15	21	10	12	5	36	10	8	99	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	13	17	23	11	13	6	40	11	9	110	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	34	48	57	119
Volume Left (vph)	4	23	6	9
Volume Right (vph)	17	13	11	0
Hadj (s)	-0.23	-0.04	-0.06	0.05
Departure Headway (s)	4.1	4.3	4.1	4.2
Degree Utilization, x	0.04	0.06	0.07	0.14
Capacity (veh/h)	834	802	839	839
Control Delay (s)	7.3	7.5	7.4	7.9
Approach Delay (s)	7.3	7.5	7.4	7.9
Approach LOS	A	A	A	A

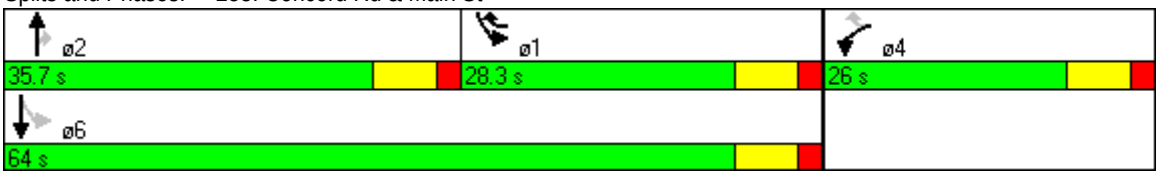
Intersection Summary			
Delay	7.6		
HCM Level of Service	A		
Intersection Capacity Utilization	20.3%	ICU Level of Service	A
Analysis Period (min)	15		

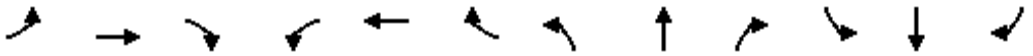
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	187	408	154	120	330	234
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.972
Satd. Flow (prot)	1770	1583	1863	1794	0	1811
Flt Permitted	0.950					0.725
Satd. Flow (perm)	1770	1583	1863	1794	0	1350
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	208	453	171	133	367	260
Shared Lane Traffic (%)						
Lane Group Flow (vph)	208	453	171	133	0	627
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	26.0	28.3	35.7	35.7	28.3	64.0
Total Split (%)	28.9%	31.4%	39.7%	39.7%	31.4%	71.1%
Maximum Green (s)	19.0	21.3	28.7	28.7	21.3	57.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	11.6	36.4	13.2	13.2		38.0
Actuated g/C Ratio	0.18	0.57	0.21	0.21		0.60
v/c Ratio	0.64	0.50	0.44	0.36		0.67
Control Delay	36.2	10.1	29.1	28.0		14.1
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	36.2	10.1	29.1	28.0		14.1
LOS	D	B	C	C		B
Approach Delay	18.4		28.6			14.1
Approach LOS	B		C			B
Queue Length 50th (ft)	67	82	53	40		120
Queue Length 95th (ft)	177	186	144	116		264
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	567	902	900	866		1325
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.37	0.50	0.19	0.15		0.47

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 63.7			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.67			
Intersection Signal Delay: 18.7		Intersection LOS: B	
Intersection Capacity Utilization 65.9%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 258: Concord Rd & Main St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	34	9	7	55	21	57	62	12	4	31	338
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.966			0.988			0.862	
Flt Protected		0.961			0.996			0.979		0.950		
Satd. Flow (prot)	0	1808	0	0	1783	0	0	1838	0	1796	1630	0
Flt Permitted		0.106			0.996			0.979		0.434		
Satd. Flow (perm)	0	199	0	0	1783	0	0	1838	0	821	1630	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	222	38	10	8	61	23	63	69	13	4	34	376
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	270	0	0	92	0	0	145	0	4	410	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		15.0	20.0	
Total Split (s)	95.0	95.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	15.0	110.0	0.0
Total Split (%)	63.3%	63.3%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%	10.0%	73.3%	0.0%
Maximum Green (s)	88.0	88.0		13.0	13.0		13.0	13.0		8.0	103.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

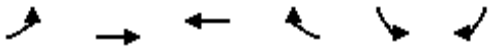
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		88.2			11.2			13.0		90.9	90.9	
Actuated g/C Ratio		0.65			0.08			0.10		0.67	0.67	
v/c Ratio		2.09			0.63			0.82		0.01	0.38	
Control Delay		539.1			80.4			95.0		7.8	11.3	
Queue Delay		0.0			0.0			0.0		0.0	0.6	
Total Delay		539.1			80.4			95.0		7.8	12.0	
LOS		F			F			F		A	B	
Approach Delay		539.1			80.4			95.0			11.9	
Approach LOS		F			F			F			B	
Queue Length 50th (ft)		~258			78			126		1	153	
Queue Length 95th (ft)		#507			151			#281		5	215	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		129			171			176		606	1236	
Starvation Cap Reductn		0			0			0		0	484	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		2.09			0.54			0.82		0.01	0.55	

Intersection Summary

Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 136.2
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.09
Intersection Signal Delay: 186.4 Intersection LOS: F
Intersection Capacity Utilization 67.2% ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.
! Phase conflict between lane groups.

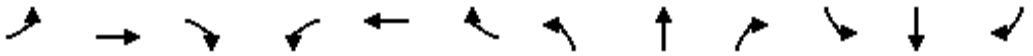
Splits and Phases: 257: Main St & Chairman Blake Lane



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	55	294	480	29	9	111
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	61	327	533	32	10	123
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	566				998	549
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	566				998	549
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	94				96	77
cM capacity (veh/h)	1006				254	535

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	388	566	133
Volume Left	61	0	10
Volume Right	0	32	123
cSH	1006	1700	494
Volume to Capacity	0.06	0.33	0.27
Queue Length 95th (ft)	5	0	27
Control Delay (s)	1.9	0.0	15.0
Lane LOS	A		B
Approach Delay (s)	1.9	0.0	15.0
Approach LOS			B

Intersection Summary			
Average Delay	2.5		
Intersection Capacity Utilization	62.9%	ICU Level of Service	B
Analysis Period (min)	15		



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	204	545	24	8	835	19	90	60	5	49	107	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.997			0.995			0.899	
Flt Protected	0.950			0.950				0.972			0.996	
Satd. Flow (prot)	1743	1824	0	1814	1904	0	0	1829	0	0	1701	0
Flt Permitted	0.135			0.244				0.379			0.956	
Satd. Flow (perm)	248	1824	0	466	1904	0	0	713	0	0	1633	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	227	606	27	9	928	21	100	67	6	54	119	508
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	633	0	9	949	0	0	173	0	0	681	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	36.0	36.0	0.0	36.0	36.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	55.4%	55.4%	0.0%	55.4%	55.4%	0.0%	44.6%	44.6%	0.0%	44.6%	44.6%	0.0%
Maximum Green (s)	29.0	29.0		29.0	29.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	29.6	29.6		30.1	30.1			23.3			22.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.36			0.34	
v/c Ratio	2.01	0.76		0.04	1.08			0.68			1.23	
Control Delay	503.6	22.5		10.4	73.7			34.2			143.5	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	503.6	22.5		10.4	73.7			34.2			143.5	
LOS	F	C		B	E			C			F	
Approach Delay		149.5			73.1			34.2			143.5	
Approach LOS		F			E			C			F	
Queue Length 50th (ft)	~145	198		2	~431			57			~343	
Queue Length 95th (ft)	#229	#335		9	#638			#147			#529	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	113	831		216	882			256			553	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	2.01	0.76		0.04	1.08			0.68			1.23	

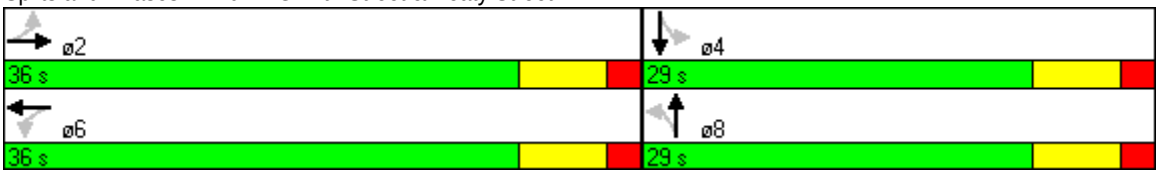
Intersection Summary

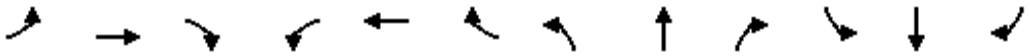
Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.01
Intersection Signal Delay: 113.1 Intersection LOS: F
Intersection Capacity Utilization 108.7% ICU Level of Service G
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1072: Griffith Street & Beaty Street

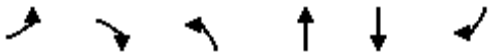




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	462	108	50	361	6	91	15	36	1	47	69
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	502	117	54	392	7	99	16	39	1	51	75
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.74			0.74	0.74	0.74	0.74	0.74	
vC, conflicting volume	399			620			1238	1140	561	1184	1196	396
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	399			317			1147	1017	239	1076	1091	396
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			94			0	90	93	99	65	89
cM capacity (veh/h)	1160			925			79	161	596	118	146	654

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	655	453	154	127
Volume Left	36	54	99	1
Volume Right	117	7	39	75
cSH	1160	925	109	268
Volume to Capacity	0.03	0.06	1.42	0.47
Queue Length 95th (ft)	2	5	274	60
Control Delay (s)	0.8	1.7	304.7	30.0
Lane LOS	A	A	F	D
Approach Delay (s)	0.8	1.7	304.7	30.0
Approach LOS			F	D

Intersection Summary			
Average Delay	37.5		
Intersection Capacity Utilization	58.5%	ICU Level of Service	B
Analysis Period (min)	15		



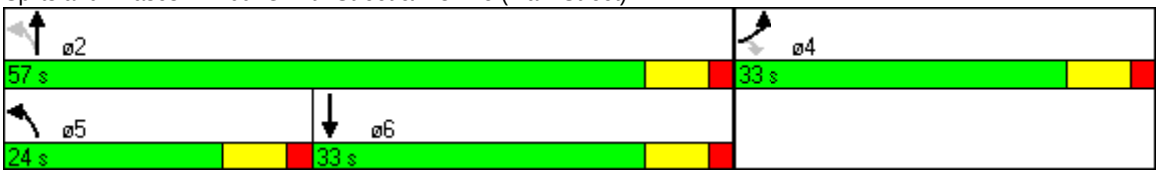
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	143	351	394	321	308	54
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.980	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1825	0
Flt Permitted	0.950		0.215			
Satd. Flow (perm)	1770	1583	400	1863	1825	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	159	390	438	357	342	60
Shared Lane Traffic (%)						
Lane Group Flow (vph)	159	390	438	357	402	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	33.0	33.0	24.0	57.0	33.0	0.0
Total Split (%)	36.7%	36.7%	26.7%	63.3%	36.7%	0.0%
Maximum Green (s)	26.0	26.0	17.0	50.0	26.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	24.9	24.9	47.9	47.9	23.7	
Actuated g/C Ratio	0.30	0.30	0.58	0.58	0.29	

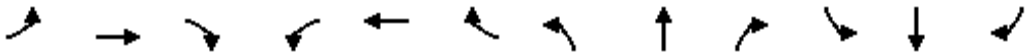
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.30	0.82	0.80	0.33	0.77	
Control Delay	24.8	43.3	27.2	10.6	38.5	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	24.8	43.3	27.2	10.6	38.5	
LOS	C	D	C	B	D	
Approach Delay	38.0			19.8	38.5	
Approach LOS	D			B	D	
Queue Length 50th (ft)	66	195	140	98	201	
Queue Length 95th (ft)	119	#346	#304	152	307	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	606	542	549	1184	625	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.26	0.72	0.80	0.30	0.64	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 82.9
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.82
Intersection Signal Delay: 29.8 Intersection LOS: C
Intersection Capacity Utilization 61.7% ICU Level of Service B
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)





Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	37	46	65	15	10	53	113	49	29	178	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	41	51	72	17	11	59	126	54	32	198	2

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	97	100	239	232
Volume Left (vph)	4	72	59	32
Volume Right (vph)	51	11	54	2
Hadj (s)	-0.27	0.11	-0.05	0.06
Departure Headway (s)	4.9	5.3	4.7	4.8
Degree Utilization, x	0.13	0.15	0.31	0.31
Capacity (veh/h)	654	613	735	714
Control Delay (s)	8.7	9.2	9.7	9.9
Approach Delay (s)	8.7	9.2	9.7	9.9
Approach LOS	A	A	A	A

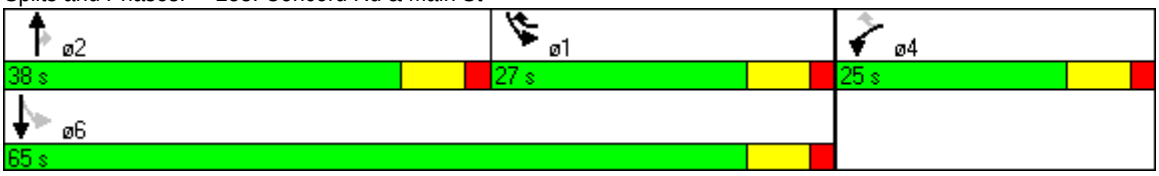
Intersection Summary				
Delay	9.6			
HCM Level of Service	A			
Intersection Capacity Utilization	38.3%	ICU Level of Service	A	
Analysis Period (min)	15			

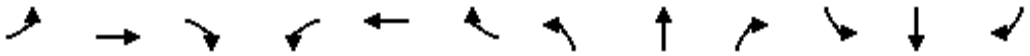
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	178	383	182	179	389	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.967
Satd. Flow (prot)	1770	1583	1863	1794	0	1801
Flt Permitted	0.950					0.678
Satd. Flow (perm)	1770	1583	1863	1794	0	1263
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	198	426	202	199	432	207
Shared Lane Traffic (%)						
Lane Group Flow (vph)	198	426	202	199	0	639
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	25.0	27.0	38.0	38.0	27.0	65.0
Total Split (%)	27.8%	30.0%	42.2%	42.2%	30.0%	72.2%
Maximum Green (s)	18.0	20.0	31.0	31.0	20.0	58.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	11.7	37.9	14.9	14.9		41.1
Actuated g/C Ratio	0.17	0.57	0.22	0.22		0.61
v/c Ratio	0.64	0.48	0.49	0.50		0.69
Control Delay	38.6	10.7	29.6	30.1		14.8
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	38.6	10.7	29.6	30.1		14.8
LOS	D	B	C	C		B
Approach Delay	19.6		29.8			14.8
Approach LOS	B		C			B
Queue Length 50th (ft)	74	86	70	69		127
Queue Length 95th (ft)	172	192	160	159		263
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	515	867	930	896		1231
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.38	0.49	0.22	0.22		0.52

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 67			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.69			
Intersection Signal Delay: 20.2		Intersection LOS: C	
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 258: Concord Rd & Main St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	392	84	8	17	68	29	20	29	4	25	39	297
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.966			0.991			0.867	
Flt Protected		0.961			0.993			0.981		0.950		
Satd. Flow (prot)	0	1813	0	0	1778	0	0	1847	0	1796	1639	0
Flt Permitted		0.178			0.993			0.981		0.379		
Satd. Flow (perm)	0	336	0	0	1778	0	0	1847	0	717	1639	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	436	93	9	19	76	32	22	32	4	28	43	330
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	538	0	0	127	0	0	58	0	28	373	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		15.0	20.0	
Total Split (s)	95.0	95.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	15.0	110.0	0.0
Total Split (%)	63.3%	63.3%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%	10.0%	73.3%	0.0%
Maximum Green (s)	88.0	88.0		13.0	13.0		13.0	13.0		8.0	103.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		89.1			12.5			9.8		97.5	97.5	
Actuated g/C Ratio		0.65			0.09			0.07		0.71	0.71	
v/c Ratio		2.47			0.79			0.44		0.05	0.32	
Control Delay		694.5			94.8			75.2		7.4	9.3	
Queue Delay		0.0			0.0			0.0		0.0	0.8	
Total Delay		694.5			94.8			75.2		7.4	10.1	
LOS		F			F			E		A	B	
Approach Delay		694.5			94.8			75.2			9.9	
Approach LOS		F			F			E			A	
Queue Length 50th (ft)		~682			122			55		8	128	
Queue Length 95th (ft)		#941			#241			103		19	191	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		218			170			177		571	1242	
Starvation Cap Reductn		0			0			0		0	562	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		2.47			0.75			0.33		0.05	0.55	

Intersection Summary

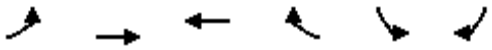
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 137.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.47
Intersection Signal Delay: 350.5 Intersection LOS: F
Intersection Capacity Utilization 65.3% ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 257: Main St & Chairman Blake Lane

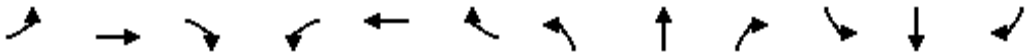


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	79	535	397	31	55	227
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	88	594	441	34	61	252
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	476				1228	458
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	476				1228	458
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				66	58
cM capacity (veh/h)	1087				181	603

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	682	476	313
Volume Left	88	0	61
Volume Right	0	34	252
cSH	1087	1700	414
Volume to Capacity	0.08	0.28	0.76
Queue Length 95th (ft)	7	0	156
Control Delay (s)	2.0	0.0	36.1
Lane LOS	A		E
Approach Delay (s)	2.0	0.0	36.1
Approach LOS			E

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	82.3%	ICU Level of Service	E
Analysis Period (min)	15		

Condition 4



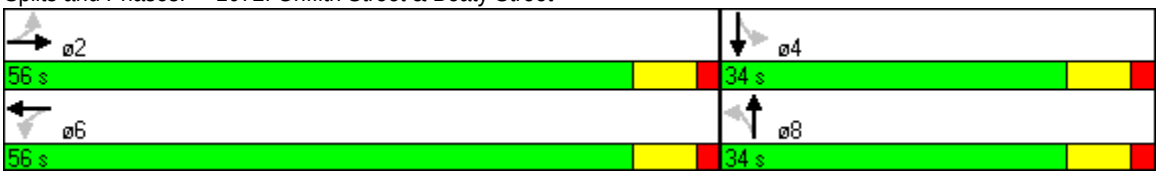
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	334	589	8	5	376	31	15	35	9	65	44	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.989			0.980			0.903	
Flt Protected	0.950			0.950				0.987			0.992	
Satd. Flow (prot)	1743	1831	0	1814	1888	0	0	1829	0	0	1702	0
Flt Permitted	0.425			0.266				0.873			0.928	
Satd. Flow (perm)	780	1831	0	508	1888	0	0	1618	0	0	1592	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	371	654	9	6	418	34	17	39	10	72	49	310
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	663	0	6	452	0	0	66	0	0	431	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	56.0	56.0	0.0	56.0	56.0	0.0	34.0	34.0	0.0	34.0	34.0	0.0
Total Split (%)	62.2%	62.2%	0.0%	62.2%	62.2%	0.0%	37.8%	37.8%	0.0%	37.8%	37.8%	0.0%
Maximum Green (s)	49.0	49.0		49.0	49.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	43.8	43.8		44.3	44.3			26.0			24.6	
Actuated g/C Ratio	0.53	0.53		0.54	0.54			0.32			0.30	
v/c Ratio	0.89	0.68		0.02	0.44			0.13			0.90	
Control Delay	44.1	18.4		9.4	13.2			22.8			53.8	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	44.1	18.4		9.4	13.2			22.8			53.8	
LOS	D	B		A	B			C			D	
Approach Delay		27.7			13.2			22.8			53.8	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	169	248		1	140			27			234	
Queue Length 95th (ft)	#357	369		7	210			58			#410	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	485	1138		319	1186			574			539	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.76	0.58		0.02	0.38			0.11			0.80	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 82.2
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.90
Intersection Signal Delay: 29.8 Intersection LOS: C
Intersection Capacity Utilization 83.7% ICU Level of Service E
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

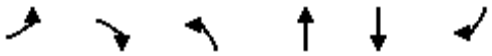
Splits and Phases: 1072: Griffith Street & Beaty Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	402	206	70	365	6	53	15	14	1	32	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	437	224	76	397	7	58	16	15	1	35	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.75			0.75	0.75	0.75	0.75	0.75	
vC, conflicting volume	403			661			1215	1180	549	1201	1289	400
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	403			377			1119	1072	227	1099	1218	400
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			91			39	89	97	99	71	97
cM capacity (veh/h)	1155			883			94	146	607	115	119	650

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	699	479	89	57
Volume Left	38	76	58	1
Volume Right	224	7	15	21
cSH	1155	883	119	170
Volume to Capacity	0.03	0.09	0.75	0.33
Queue Length 95th (ft)	3	7	105	34
Control Delay (s)	0.9	2.4	94.0	36.4
Lane LOS	A	A	F	E
Approach Delay (s)	0.9	2.4	94.0	36.4
Approach LOS			F	E

Intersection Summary			
Average Delay	9.2		
Intersection Capacity Utilization	62.4%	ICU Level of Service	B
Analysis Period (min)	15		



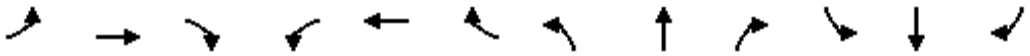
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	99	271	365	405	434	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.975	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1816	0
Flt Permitted	0.950		0.138			
Satd. Flow (perm)	1770	1583	257	1863	1816	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	110	301	406	450	482	108
Shared Lane Traffic (%)						
Lane Group Flow (vph)	110	301	406	450	590	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	32.0	32.0	27.0	78.0	51.0	0.0
Total Split (%)	29.1%	29.1%	24.5%	70.9%	46.4%	0.0%
Maximum Green (s)	25.0	25.0	20.0	71.0	44.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	23.6	23.6	64.6	64.6	37.7	
Actuated g/C Ratio	0.24	0.24	0.66	0.66	0.38	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.26	0.79	0.81	0.37	0.85	
Control Delay	34.2	53.0	34.4	8.9	40.6	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	34.2	53.0	34.4	8.9	40.6	
LOS	C	D	C	A	D	
Approach Delay	47.9			21.0	40.6	
Approach LOS	D			C	D	
Queue Length 50th (ft)	60	190	177	128	352	
Queue Length 95th (ft)	112	#330	#352	184	500	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	497	445	515	1415	869	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.22	0.68	0.79	0.32	0.68	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 98.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 33.2		Intersection LOS: C	
Intersection Capacity Utilization 67.3%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	12	7	21	10	12	6	54	10	8	236	0
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	13	8	23	11	13	7	60	11	9	262	0

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	26	48	78	271
Volume Left (vph)	4	23	7	9
Volume Right (vph)	8	13	11	0
Hadj (s)	-0.11	-0.04	-0.03	0.04
Departure Headway (s)	4.6	4.7	4.3	4.2
Degree Utilization, x	0.03	0.06	0.09	0.32
Capacity (veh/h)	711	707	801	841
Control Delay (s)	7.8	8.0	7.8	9.1
Approach Delay (s)	7.8	8.0	7.8	9.1
Approach LOS	A	A	A	A

Intersection Summary				
Delay	8.7			
HCM Level of Service	A			
Intersection Capacity Utilization	26.5%	ICU Level of Service	A	
Analysis Period (min)	15			

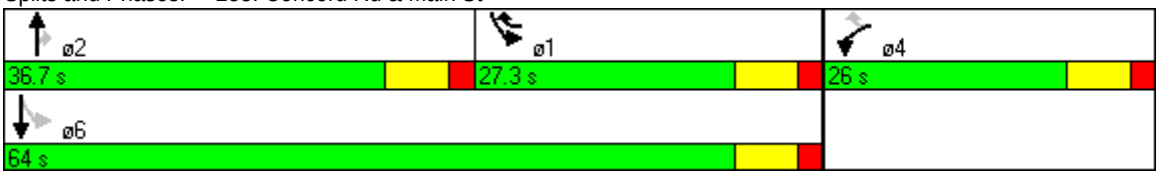
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	233	408	196	125	330	293
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.974
Satd. Flow (prot)	1770	1583	1863	1794	0	1814
Flt Permitted	0.950					0.686
Satd. Flow (perm)	1770	1583	1863	1794	0	1278
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	259	453	218	139	367	326
Shared Lane Traffic (%)						
Lane Group Flow (vph)	259	453	218	139	0	693
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	26.0	27.3	36.7	36.7	27.3	64.0
Total Split (%)	28.9%	30.3%	40.8%	40.8%	30.3%	71.1%
Maximum Green (s)	19.0	20.3	29.7	29.7	20.3	57.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	13.9	42.5	15.7	15.7		44.2
Actuated g/C Ratio	0.19	0.59	0.22	0.22		0.61
v/c Ratio	0.76	0.49	0.54	0.36		0.74
Control Delay	45.0	10.8	33.0	29.8		17.6
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	45.0	10.8	33.0	29.8		17.6
LOS	D	B	C	C		B
Approach Delay	23.3		31.8			17.6
Approach LOS	C		C			B
Queue Length 50th (ft)	115	96	94	57		172
Queue Length 95th (ft)	#222	211	171	114		309
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	503	916	825	795		1186
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.51	0.49	0.26	0.17		0.58

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 72.3			
Natural Cycle: 65			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.76			
Intersection Signal Delay: 22.8		Intersection LOS: C	
Intersection Capacity Utilization 73.5%		ICU Level of Service D	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 258: Concord Rd & Main St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	247	35	10	7	62	21	66	62	12	4	31	443
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.995			0.969			0.989			0.860	
Flt Protected		0.959			0.996			0.977		0.950		
Satd. Flow (prot)	0	1804	0	0	1789	0	0	1836	0	1796	1626	0
Flt Permitted		0.096			0.996			0.977		0.471		
Satd. Flow (perm)	0	181	0	0	1789	0	0	1836	0	891	1626	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	274	39	11	8	69	23	73	69	13	4	34	492
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	324	0	0	100	0	0	155	0	4	526	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		15.0	20.0	
Total Split (s)	95.0	95.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	15.0	110.0	0.0
Total Split (%)	63.3%	63.3%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%	10.0%	73.3%	0.0%
Maximum Green (s)	88.0	88.0		13.0	13.0		13.0	13.0		8.0	103.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		88.2			11.6			13.0		91.0	91.0	
Actuated g/C Ratio		0.65			0.08			0.10		0.67	0.67	
v/c Ratio		2.77			0.66			0.89		0.01	0.49	
Control Delay		838.6			81.8			104.5		7.8	13.2	
Queue Delay		0.0			0.0			0.0		0.0	1.0	
Total Delay		838.6			81.8			104.5		7.8	14.2	
LOS		F			F			F		A	B	
Approach Delay		838.6			81.8			104.5			14.1	
Approach LOS		F			F			F			B	
Queue Length 50th (ft)		~382			85			136		1	221	
Queue Length 95th (ft)		#651			#173			#305		5	301	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		117			170			175		646	1229	
Starvation Cap Reductn		0			0			0		0	429	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		2.77			0.59			0.89		0.01	0.66	

Intersection Summary

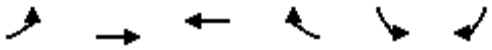
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 136.7
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.77
Intersection Signal Delay: 273.7 Intersection LOS: F
Intersection Capacity Utilization 77.0% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

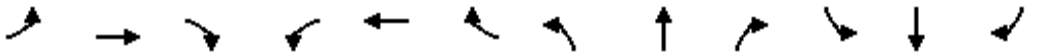
Splits and Phases: 257: Main St & Chairman Blake Lane



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	85	336	539	91	16	118
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	94	373	599	101	18	131
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	700				1212	649
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	700				1212	649
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				90	72
cM capacity (veh/h)	897				180	469

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	468	700	149
Volume Left	94	0	18
Volume Right	0	101	131
cSH	897	1700	394
Volume to Capacity	0.11	0.41	0.38
Queue Length 95th (ft)	9	0	43
Control Delay (s)	2.9	0.0	19.6
Lane LOS	A		C
Approach Delay (s)	2.9	0.0	19.6
Approach LOS			C

Intersection Summary			
Average Delay	3.3		
Intersection Capacity Utilization	74.5%	ICU Level of Service	D
Analysis Period (min)	15		



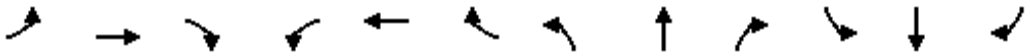
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	204	596	24	13	919	36	58	28	12	86	60	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.994			0.984			0.898	
Flt Protected	0.950			0.950				0.971			0.993	
Satd. Flow (prot)	1743	1824	0	1814	1898	0	0	1806	0	0	1694	0
Flt Permitted	0.119			0.212				0.466			0.928	
Satd. Flow (perm)	218	1824	0	405	1898	0	0	867	0	0	1583	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	227	662	27	14	1021	40	64	31	13	96	67	508
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	689	0	14	1061	0	0	108	0	0	671	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	40.0	40.0	0.0	40.0	40.0	0.0	30.0	30.0	0.0	30.0	30.0	0.0
Total Split (%)	57.1%	57.1%	0.0%	57.1%	57.1%	0.0%	42.9%	42.9%	0.0%	42.9%	42.9%	0.0%
Maximum Green (s)	33.0	33.0		33.0	33.0		23.0	23.0		23.0	23.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	33.6	33.6		34.1	34.1			24.3			23.0	
Actuated g/C Ratio	0.48	0.48		0.49	0.49			0.35			0.33	
v/c Ratio	2.16	0.79		0.07	1.15			0.36			1.29	
Control Delay	572.0	23.5		10.8	100.0			21.4			169.7	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	572.0	23.5		10.8	100.0			21.4			169.7	
LOS	F	C		B	F			C			F	
Approach Delay		159.4			98.9			21.4			169.7	
Approach LOS		F			F			C			F	
Queue Length 50th (ft)	~119	234		3	~549			34			~377	
Queue Length 95th (ft)	#249	#395		12	#769			75			#568	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	105	876		197	925			301			520	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	2.16	0.79		0.07	1.15			0.36			1.29	

Intersection Summary

Area Type: Other
Cycle Length: 70
Actuated Cycle Length: 70
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.16
Intersection Signal Delay: 133.0 Intersection LOS: F
Intersection Capacity Utilization 113.8% ICU Level of Service H
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

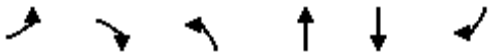
Splits and Phases: 1072: Griffith Street & Beaty Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	462	203	78	361	6	197	20	70	1	54	69
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	502	221	85	392	7	214	22	76	1	59	75
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.68			0.68	0.68	0.68	0.68	0.68	
vC, conflicting volume	399			723			1354	1253	612	1336	1360	396
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	399			364			1286	1139	203	1261	1295	396
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			90			0	82	87	98	39	89
cM capacity (veh/h)	1160			817			40	120	573	68	96	654

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	759	484	312	135
Volume Left	36	85	214	1
Volume Right	221	7	76	75
cSH	1160	817	55	182
Volume to Capacity	0.03	0.10	5.65	0.74
Queue Length 95th (ft)	2	9	Err	118
Control Delay (s)	0.8	2.8	Err	66.1
Lane LOS	A	A	F	F
Approach Delay (s)	0.8	2.8	Err	66.1
Approach LOS			F	F

Intersection Summary			
Average Delay	1853.1		
Intersection Capacity Utilization	83.2%	ICU Level of Service	E
Analysis Period (min)	15		



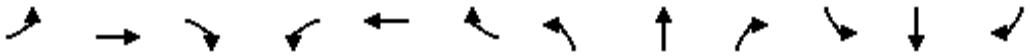
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	177	351	394	385	355	82
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.975	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1816	0
Flt Permitted	0.950		0.164			
Satd. Flow (perm)	1770	1583	305	1863	1816	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	197	390	438	428	394	91
Shared Lane Traffic (%)						
Lane Group Flow (vph)	197	390	438	428	485	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	38.0	38.0	28.0	72.0	44.0	0.0
Total Split (%)	34.5%	34.5%	25.5%	65.5%	40.0%	0.0%
Maximum Green (s)	31.0	31.0	21.0	65.0	37.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	29.0	29.0	60.3	60.3	32.2	
Actuated g/C Ratio	0.29	0.29	0.61	0.61	0.32	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.38	0.85	0.84	0.38	0.82	
Control Delay	31.7	52.1	36.2	11.6	44.3	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	31.7	52.1	36.2	11.6	44.3	
LOS	C	D	D	B	D	
Approach Delay	45.2			24.0	44.3	
Approach LOS	D			C	D	
Queue Length 50th (ft)	105	244	200	143	299	
Queue Length 95th (ft)	175	#413	#389	207	428	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	598	535	530	1279	726	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.33	0.73	0.83	0.33	0.67	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 99.5			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.85			
Intersection Signal Delay: 35.5		Intersection LOS: D	
Intersection Capacity Utilization 67.8%		ICU Level of Service C	
Analysis Period (min) 15			

\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	4	37	53	65	15	10	58	257	49	29	307	2
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	4	41	59	72	17	11	64	286	54	32	341	2

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	104	100	404	376
Volume Left (vph)	4	72	64	32
Volume Right (vph)	59	11	54	2
Hadj (s)	-0.30	0.11	-0.01	0.05
Departure Headway (s)	5.8	6.2	5.1	5.2
Degree Utilization, x	0.17	0.17	0.57	0.54
Capacity (veh/h)	521	497	680	670
Control Delay (s)	10.0	10.5	14.5	14.0
Approach Delay (s)	10.0	10.5	14.5	14.0
Approach LOS	A	B	B	B

Intersection Summary				
Delay		13.4		
HCM Level of Service		B		
Intersection Capacity Utilization		50.5%	ICU Level of Service	A
Analysis Period (min)		15		

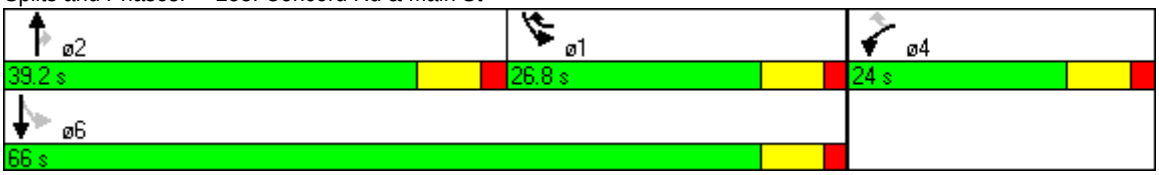
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	215	383	246	215	389	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.970
Satd. Flow (prot)	1770	1583	1863	1794	0	1807
Flt Permitted	0.950					0.566
Satd. Flow (perm)	1770	1583	1863	1794	0	1054
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	239	426	273	239	432	259
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	426	273	239	0	691
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	24.0	26.8	39.2	39.2	26.8	66.0
Total Split (%)	26.7%	29.8%	43.6%	43.6%	29.8%	73.3%
Maximum Green (s)	17.0	19.8	32.2	32.2	19.8	59.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

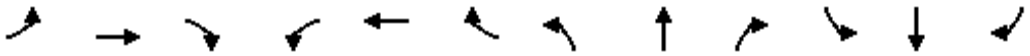
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	13.6	43.6	18.9	18.9		49.0
Actuated g/C Ratio	0.18	0.57	0.25	0.25		0.64
v/c Ratio	0.76	0.47	0.59	0.54		0.77
Control Delay	49.5	12.5	32.9	31.7		20.1
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	49.5	12.5	32.9	31.7		20.1
LOS	D	B	C	C		C
Approach Delay	25.8		32.3			20.1
Approach LOS	C		C			C
Queue Length 50th (ft)	128	109	140	121		181
Queue Length 95th (ft)	#227	225	197	174		285
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	425	900	843	812		1041
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.56	0.47	0.32	0.29		0.66

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 76.7
Natural Cycle: 75
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.77
Intersection Signal Delay: 25.5 Intersection LOS: C
Intersection Capacity Utilization 75.2% ICU Level of Service D
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 258: Concord Rd & Main St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	492	91	13	17	75	29	25	29	4	25	39	381
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.997			0.968			0.992			0.864	
Flt Protected		0.960			0.993			0.979		0.950		
Satd. Flow (prot)	0	1810	0	0	1782	0	0	1845	0	1796	1634	0
Flt Permitted		0.167			0.993			0.979		0.438		
Satd. Flow (perm)	0	315	0	0	1782	0	0	1845	0	828	1634	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	547	101	14	19	83	32	28	32	4	28	43	423
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	662	0	0	134	0	0	64	0	28	466	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		15.0	20.0	
Total Split (s)	95.0	95.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	15.0	110.0	0.0
Total Split (%)	63.3%	63.3%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%	10.0%	73.3%	0.0%
Maximum Green (s)	88.0	88.0		13.0	13.0		13.0	13.0		8.0	103.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		89.1			12.7			10.1		97.4	97.4	
Actuated g/C Ratio		0.65			0.09			0.07		0.71	0.71	
v/c Ratio		3.26			0.82			0.47		0.04	0.40	
Control Delay		1042.2			98.6			76.3		7.4	10.4	
Queue Delay		0.0			0.0			0.0		0.0	1.1	
Total Delay		1042.2			98.6			76.3		7.4	11.5	
LOS		F			F			E		A	B	
Approach Delay		1042.2			98.6			76.3			11.3	
Approach LOS		F			F			E			B	
Queue Length 50th (ft)		~962			129			60		8	174	
Queue Length 95th (ft)		#1231			#257			112		19	253	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		203			170			176		641	1234	
Starvation Cap Reductn		0			0			0		0	512	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		3.26			0.79			0.36		0.04	0.65	

Intersection Summary

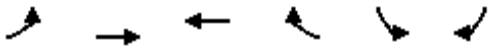
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 138
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 3.26
Intersection Signal Delay: 527.1 Intersection LOS: F
Intersection Capacity Utilization 76.7% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 257: Main St & Chairman Blake Lane

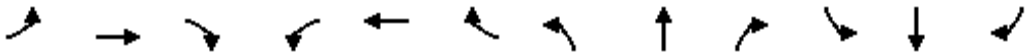


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	125	599	444	80	103	270
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	139	666	493	89	114	300
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	582				1481	538
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	582				1481	538
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	86				4	45
cM capacity (veh/h)	992				119	543

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	804	582	414
Volume Left	139	0	114
Volume Right	0	89	300
cSH	992	1700	273
Volume to Capacity	0.14	0.34	1.52
Queue Length 95th (ft)	12	0	602
Control Delay (s)	3.3	0.0	284.3
Lane LOS	A		F
Approach Delay (s)	3.3	0.0	284.3
Approach LOS			F

Intersection Summary			
Average Delay	66.9		
Intersection Capacity Utilization	99.0%	ICU Level of Service	F
Analysis Period (min)	15		

Condition 5



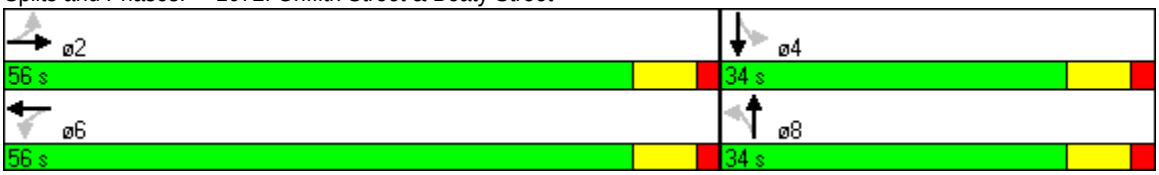
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	334	572	8	4	378	32	15	35	4	57	44	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.988			0.991			0.901	
Flt Protected	0.950			0.950				0.986			0.993	
Satd. Flow (prot)	1743	1831	0	1814	1886	0	0	1847	0	0	1700	0
Flt Permitted	0.424			0.282				0.864			0.938	
Satd. Flow (perm)	778	1831	0	538	1886	0	0	1619	0	0	1606	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	371	636	9	4	420	36	17	39	4	63	49	310
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	645	0	4	456	0	0	60	0	0	422	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	56.0	56.0	0.0	56.0	56.0	0.0	34.0	34.0	0.0	34.0	34.0	0.0
Total Split (%)	62.2%	62.2%	0.0%	62.2%	62.2%	0.0%	37.8%	37.8%	0.0%	37.8%	37.8%	0.0%
Maximum Green (s)	49.0	49.0		49.0	49.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	43.8	43.8		44.3	44.3			25.5			24.1	
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.31			0.29	
v/c Ratio	0.89	0.66		0.01	0.45			0.12			0.89	
Control Delay	43.5	17.7		9.2	13.1			22.7			51.9	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	43.5	17.7		9.2	13.1			22.7			51.9	
LOS	D	B		A	B			C			D	
Approach Delay		27.1			13.1			22.7			51.9	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	170	238		1	142			24			227	
Queue Length 95th (ft)	#358	354		6	212			53			#396	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	487	1147		340	1193			579			548	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.76	0.56		0.01	0.38			0.10			0.77	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 81.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 29.0 Intersection LOS: C
Intersection Capacity Utilization 82.3% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

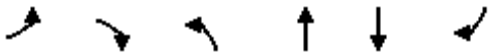
Splits and Phases: 1072: Griffith Street & Beaty Street



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	35	402	176	60	365	6	54	15	16	1	30	19
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	437	191	65	397	7	59	16	17	1	33	21
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.77			0.77	0.77	0.77	0.77	0.77	
vC, conflicting volume	403			628			1176	1142	533	1165	1235	400
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	403			367			1079	1035	243	1064	1155	400
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			93			47	90	97	99	76	97
cM capacity (veh/h)	1155			917			110	160	612	128	136	650

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	666	468	92	54
Volume Left	38	65	59	1
Volume Right	191	7	17	21
cSH	1155	917	139	194
Volume to Capacity	0.03	0.07	0.66	0.28
Queue Length 95th (ft)	3	6	91	27
Control Delay (s)	0.9	2.0	71.0	30.6
Lane LOS	A	A	F	D
Approach Delay (s)	0.9	2.0	71.0	30.6
Approach LOS			F	D

Intersection Summary			
Average Delay	7.6		
Intersection Capacity Utilization	58.1%	ICU Level of Service	B
Analysis Period (min)	15		



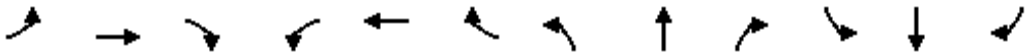
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	101	271	365	405	434	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.977	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1820	0
Flt Permitted	0.950		0.143			
Satd. Flow (perm)	1770	1583	266	1863	1820	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	112	301	406	450	482	97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	112	301	406	450	579	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	32.0	32.0	27.0	78.0	51.0	0.0
Total Split (%)	29.1%	29.1%	24.5%	70.9%	46.4%	0.0%
Maximum Green (s)	25.0	25.0	20.0	71.0	44.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	23.5	23.5	63.7	63.7	36.9	
Actuated g/C Ratio	0.24	0.24	0.65	0.65	0.38	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.26	0.79	0.80	0.37	0.84	
Control Delay	33.9	52.2	33.0	9.0	40.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	33.9	52.2	33.0	9.0	40.1	
LOS	C	D	C	A	D	
Approach Delay	47.2			20.3	40.1	
Approach LOS	D			C	D	
Queue Length 50th (ft)	59	184	171	128	342	
Queue Length 95th (ft)	115	#330	#345	184	485	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	503	450	522	1426	881	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.22	0.67	0.78	0.32	0.66	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 97.5			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.84			
Intersection Signal Delay: 32.5		Intersection LOS: C	
Intersection Capacity Utilization 66.7%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	25	20	24	21	55	12	27	36	10	8	99	95
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	28	22	27	23	61	13	30	40	11	9	110	106

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	77	98	81	224
Volume Left (vph)	28	23	30	9
Volume Right (vph)	27	13	11	106
Hadj (s)	-0.10	0.00	0.03	-0.24
Departure Headway (s)	4.6	4.7	4.6	4.2
Degree Utilization, x	0.10	0.13	0.10	0.26
Capacity (veh/h)	719	712	739	819
Control Delay (s)	8.1	8.4	8.1	8.6
Approach Delay (s)	8.1	8.4	8.1	8.6
Approach LOS	A	A	A	A

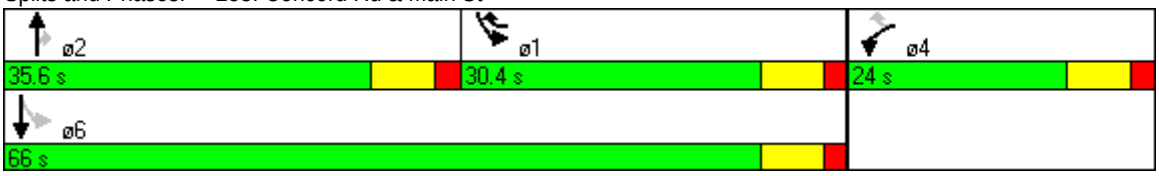
Intersection Summary				
Delay	8.4			
HCM Level of Service	A			
Intersection Capacity Utilization	28.5%	ICU Level of Service	A	
Analysis Period (min)	15			

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	187	441	208	120	336	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.974
Satd. Flow (prot)	1770	1583	1863	1794	0	1814
Flt Permitted	0.950					0.667
Satd. Flow (perm)	1770	1583	1863	1794	0	1242
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	208	490	231	133	373	328
Shared Lane Traffic (%)						
Lane Group Flow (vph)	208	490	231	133	0	701
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	24.0	30.4	35.6	35.6	30.4	66.0
Total Split (%)	26.7%	33.8%	39.6%	39.6%	33.8%	73.3%
Maximum Green (s)	17.0	23.4	28.6	28.6	23.4	59.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.3	41.5	16.0	16.0		45.2
Actuated g/C Ratio	0.17	0.58	0.22	0.22		0.63
v/c Ratio	0.69	0.53	0.56	0.33		0.73
Control Delay	43.1	11.9	32.5	28.6		16.3
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	43.1	11.9	32.5	28.6		16.3
LOS	D	B	C	C		B
Approach Delay	21.2		31.1			16.3
Approach LOS	C		C			B
Queue Length 50th (ft)	90	110	96	52		157
Queue Length 95th (ft)	182	241	179	108		291
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	454	918	802	772		1204
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.46	0.53	0.29	0.17		0.58

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 71.6			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.73			
Intersection Signal Delay: 21.3		Intersection LOS: C	
Intersection Capacity Utilization 72.0%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 258: Concord Rd & Main St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	242	34	9	7	55	26	57	69	12	5	32	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.960			0.989			0.861	
Flt Protected		0.959			0.996			0.980		0.950		
Satd. Flow (prot)	0	1806	0	0	1772	0	0	1842	0	1796	1628	0
Flt Permitted		0.097			0.996			0.980		0.412		
Satd. Flow (perm)	0	183	0	0	1772	0	0	1842	0	779	1628	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	269	38	10	8	61	29	63	77	13	6	36	441
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	317	0	0	98	0	0	153	0	6	477	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		15.0	20.0	
Total Split (s)	95.0	95.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	15.0	110.0	0.0
Total Split (%)	63.3%	63.3%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%	10.0%	73.3%	0.0%
Maximum Green (s)	88.0	88.0		13.0	13.0		13.0	13.0		8.0	103.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		88.2			11.6			13.0		90.9	90.9	
Actuated g/C Ratio		0.65			0.08			0.10		0.67	0.67	
v/c Ratio		2.69			0.65			0.87		0.01	0.44	
Control Delay		799.8			81.8			101.7		7.8	12.4	
Queue Delay		0.0			0.0			0.0		0.0	0.8	
Total Delay		799.8			81.8			101.7		7.8	13.2	
LOS		F			F			F		A	B	
Approach Delay		799.8			81.8			101.7			13.1	
Approach LOS		F			F			F			B	
Queue Length 50th (ft)		~367			84			134		2	192	
Queue Length 95th (ft)		#633			#169			#301		7	262	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		118			169			176		578	1231	
Starvation Cap Reductn		0			0			0		0	451	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		2.69			0.58			0.87		0.01	0.61	

Intersection Summary

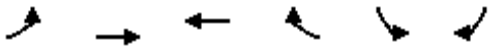
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 136.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.69
Intersection Signal Delay: 269.7 Intersection LOS: F
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

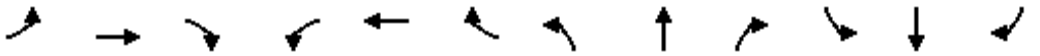
Splits and Phases: 257: Main St & Chairman Blake Lane



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	77	336	539	29	9	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	86	373	599	32	10	133
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	631				1159	615
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	631				1159	615
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				95	73
cM capacity (veh/h)	951				197	491

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	459	631	143
Volume Left	86	0	10
Volume Right	0	32	133
cSH	951	1700	445
Volume to Capacity	0.09	0.37	0.32
Queue Length 95th (ft)	7	0	34
Control Delay (s)	2.6	0.0	16.9
Lane LOS	A		C
Approach Delay (s)	2.6	0.0	16.9
Approach LOS			C

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		



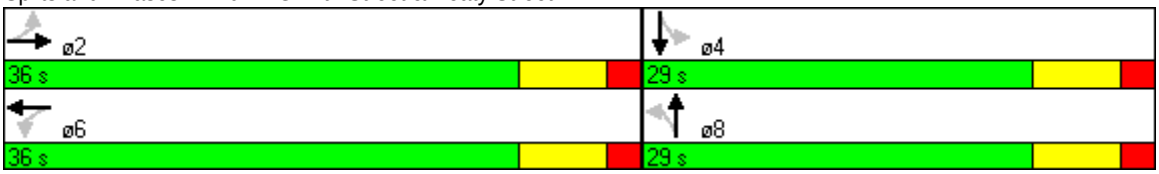
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	204	554	24	8	884	29	58	28	5	56	60	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.995			0.992			0.892	
Flt Protected	0.950			0.950				0.969			0.995	
Satd. Flow (prot)	1743	1824	0	1814	1900	0	0	1817	0	0	1686	0
Flt Permitted	0.135			0.235				0.477			0.955	
Satd. Flow (perm)	248	1824	0	449	1900	0	0	895	0	0	1619	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	227	616	27	9	982	32	64	31	6	62	67	508
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	643	0	9	1014	0	0	101	0	0	637	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	36.0	36.0	0.0	36.0	36.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	55.4%	55.4%	0.0%	55.4%	55.4%	0.0%	44.6%	44.6%	0.0%	44.6%	44.6%	0.0%
Maximum Green (s)	29.0	29.0		29.0	29.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

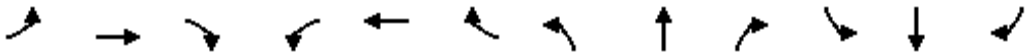
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	29.6	29.6		30.1	30.1			23.3			22.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.36			0.34	
v/c Ratio	2.01	0.77		0.04	1.15			0.31			1.16	
Control Delay	503.6	23.1		10.4	102.5			18.5			116.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	503.6	23.1		10.4	102.5			18.5			116.3	
LOS	F	C		B	F			B			F	
Approach Delay		148.5			101.7			18.5			116.3	
Approach LOS		F			F			B			F	
Queue Length 50th (ft)	~145	203		2	~487			28			~308	
Queue Length 95th (ft)	#229	#352		9	#699			65			#489	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	113	831		208	880			321			548	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	2.01	0.77		0.04	1.15			0.31			1.16	

Intersection Summary

Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.01
Intersection Signal Delay: 117.5 Intersection LOS: F
Intersection Capacity Utilization 109.6% ICU Level of Service H
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1072: Griffith Street & Beaty Street

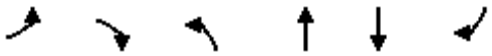




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	33	462	124	55	361	6	150	18	56	1	48	69
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	36	502	135	60	392	7	163	20	61	1	52	75
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.73			0.73	0.73	0.73	0.73	0.73	
vC, conflicting volume	399			637			1258	1160	570	1227	1224	396
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	399			321			1169	1035	229	1127	1123	396
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			93			0	87	90	99	62	89
cM capacity (veh/h)	1160			907			72	154	593	100	136	654

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	673	459	243	128
Volume Left	36	60	163	1
Volume Right	135	7	61	75
cSH	1160	907	98	252
Volume to Capacity	0.03	0.07	2.49	0.51
Queue Length 95th (ft)	2	5	558	66
Control Delay (s)	0.8	1.9	769.1	33.2
Lane LOS	A	A	F	D
Approach Delay (s)	0.8	1.9	769.1	33.2
Approach LOS			F	D

Intersection Summary			
Average Delay	128.3		
Intersection Capacity Utilization	64.7%	ICU Level of Service	C
Analysis Period (min)	15		



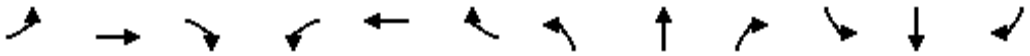
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	163	351	394	385	355	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.981	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1827	0
Flt Permitted	0.950		0.172			
Satd. Flow (perm)	1770	1583	320	1863	1827	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	181	390	438	428	394	66
Shared Lane Traffic (%)						
Lane Group Flow (vph)	181	390	438	428	460	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	39.0	39.0	29.0	71.0	42.0	0.0
Total Split (%)	35.5%	35.5%	26.4%	64.5%	38.2%	0.0%
Maximum Green (s)	32.0	32.0	22.0	64.0	35.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	29.3	29.3	59.4	59.4	30.5	
Actuated g/C Ratio	0.30	0.30	0.60	0.60	0.31	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.34	0.83	0.81	0.38	0.82	
Control Delay	30.4	49.9	33.1	12.0	44.9	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	30.4	49.9	33.1	12.0	44.9	
LOS	C	D	C	B	D	
Approach Delay	43.7			22.7	44.9	
Approach LOS	D			C	D	
Queue Length 50th (ft)	95	243	197	147	286	
Queue Length 95th (ft)	160	#403	#377	212	412	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	622	556	552	1272	699	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.29	0.70	0.79	0.34	0.66	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 98.9			
Natural Cycle: 70			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.83			
Intersection Signal Delay: 34.4		Intersection LOS: C	
Intersection Capacity Utilization 65.6%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	86	65	71	65	24	10	61	113	49	29	178	24
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	96	72	79	72	27	11	68	126	54	32	198	27

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	247	110	248	257
Volume Left (vph)	96	72	68	32
Volume Right (vph)	79	11	54	27
Hadj (s)	-0.08	0.10	-0.04	0.00
Departure Headway (s)	5.4	5.8	5.3	5.3
Degree Utilization, x	0.37	0.18	0.36	0.38
Capacity (veh/h)	615	544	625	630
Control Delay (s)	11.5	10.1	11.3	11.5
Approach Delay (s)	11.5	10.1	11.3	11.5
Approach LOS	B	B	B	B

Intersection Summary				
Delay	11.3			
HCM Level of Service	B			
Intersection Capacity Utilization	42.5%	ICU Level of Service	A	
Analysis Period (min)	15			

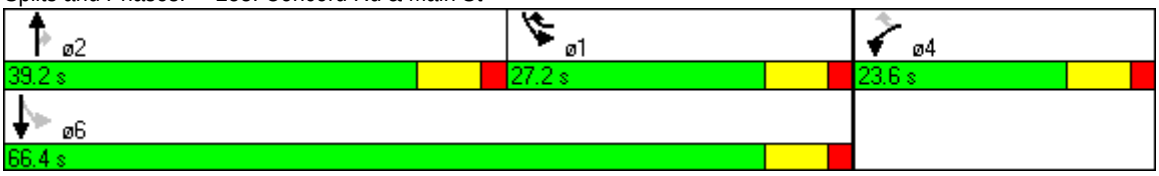
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	178	390	248	179	410	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.969
Satd. Flow (prot)	1770	1583	1863	1794	0	1805
Flt Permitted	0.950					0.555
Satd. Flow (perm)	1770	1583	1863	1794	0	1034
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	198	433	276	199	456	267
Shared Lane Traffic (%)						
Lane Group Flow (vph)	198	433	276	199	0	723
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	23.6	27.2	39.2	39.2	27.2	66.4
Total Split (%)	26.2%	30.2%	43.6%	43.6%	30.2%	73.8%
Maximum Green (s)	16.6	20.2	32.2	32.2	20.2	59.4
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.5	44.5	18.7	18.7		50.7
Actuated g/C Ratio	0.16	0.58	0.24	0.24		0.66
v/c Ratio	0.69	0.47	0.61	0.46		0.78
Control Delay	46.3	12.3	33.6	30.0		20.3
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	46.3	12.3	33.6	30.0		20.3
LOS	D	B	C	C		C
Approach Delay	23.0		32.1			20.3
Approach LOS	C		C			C
Queue Length 50th (ft)	104	111	137	95		172
Queue Length 95th (ft)	175	226	202	147		304
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	408	913	829	798		1050
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.49	0.47	0.33	0.25		0.69

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 24.3 Intersection LOS: C
Intersection Capacity Utilization 74.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 258: Concord Rd & Main St



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	456	84	8	17	68	30	20	30	4	29	42	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.965			0.991			0.866	
Flt Protected		0.960			0.993			0.982		0.950		
Satd. Flow (prot)	0	1811	0	0	1776	0	0	1849	0	1796	1637	0
Flt Permitted		0.173			0.993			0.982		0.373		
Satd. Flow (perm)	0	326	0	0	1776	0	0	1849	0	705	1637	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	507	93	9	19	76	33	22	33	4	32	47	382
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	609	0	0	128	0	0	59	0	32	429	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		15.0	20.0	
Total Split (s)	95.0	95.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	15.0	110.0	0.0
Total Split (%)	63.3%	63.3%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%	10.0%	73.3%	0.0%
Maximum Green (s)	88.0	88.0		13.0	13.0		13.0	13.0		8.0	103.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		89.1			12.5			9.9		97.4	97.4	
Actuated g/C Ratio		0.65			0.09			0.07		0.71	0.71	
v/c Ratio		2.89			0.80			0.45		0.06	0.37	
Control Delay		878.1			95.6			75.5		7.4	9.9	
Queue Delay		0.0			0.0			0.0		0.0	0.9	
Total Delay		878.1			95.6			75.5		7.4	10.8	
LOS		F			F			E		A	B	
Approach Delay		878.1			95.6			75.5			10.6	
Approach LOS		F			F			E			B	
Queue Length 50th (ft)		~837			123			55		9	154	
Queue Length 95th (ft)		#1105			#244			105		21	227	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		211			170			177		563	1240	
Starvation Cap Reductn		0			0			0		0	533	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		2.89			0.75			0.33		0.06	0.61	

Intersection Summary

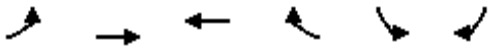
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 137.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.89
Intersection Signal Delay: 442.6 Intersection LOS: F
Intersection Capacity Utilization 71.9% ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 257: Main St & Chairman Blake Lane

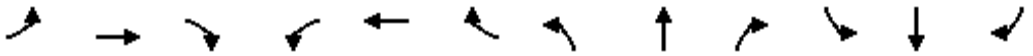


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	87	599	444	31	55	252
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	97	666	493	34	61	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	528				1369	511
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	528				1369	511
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				58	50
cM capacity (veh/h)	1039				146	563

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	762	528	341
Volume Left	97	0	61
Volume Right	0	34	280
cSH	1039	1700	373
Volume to Capacity	0.09	0.31	0.91
Queue Length 95th (ft)	8	0	237
Control Delay (s)	2.3	0.0	61.3
Lane LOS	A		F
Approach Delay (s)	2.3	0.0	61.3
Approach LOS			F

Intersection Summary			
Average Delay	13.9		
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

Condition 6



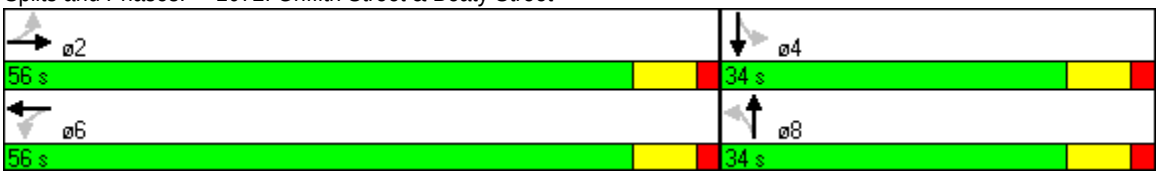
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	334	572	8	5	378	32	15	35	7	57	44	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.988			0.983			0.901	
Flt Protected	0.950			0.950				0.987			0.993	
Satd. Flow (prot)	1743	1831	0	1814	1886	0	0	1834	0	0	1700	0
Flt Permitted	0.424			0.282				0.871			0.937	
Satd. Flow (perm)	778	1831	0	538	1886	0	0	1619	0	0	1604	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	371	636	9	6	420	36	17	39	8	63	49	310
Shared Lane Traffic (%)												
Lane Group Flow (vph)	371	645	0	6	456	0	0	64	0	0	422	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	56.0	56.0	0.0	56.0	56.0	0.0	34.0	34.0	0.0	34.0	34.0	0.0
Total Split (%)	62.2%	62.2%	0.0%	62.2%	62.2%	0.0%	37.8%	37.8%	0.0%	37.8%	37.8%	0.0%
Maximum Green (s)	49.0	49.0		49.0	49.0		27.0	27.0		27.0	27.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

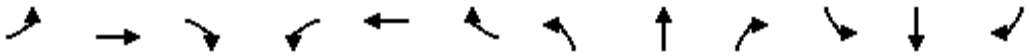
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	43.8	43.8		44.3	44.3			25.5			24.1	
Actuated g/C Ratio	0.54	0.54		0.54	0.54			0.31			0.29	
v/c Ratio	0.89	0.66		0.02	0.45			0.13			0.89	
Control Delay	43.5	17.7		9.4	13.1			22.8			52.1	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	43.5	17.7		9.4	13.1			22.8			52.1	
LOS	D	B		A	B			C			D	
Approach Delay		27.1			13.1			22.8			52.1	
Approach LOS		C			B			C			D	
Queue Length 50th (ft)	170	238		1	142			26			227	
Queue Length 95th (ft)	#358	354		7	212			56			#396	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	487	1147		340	1193			579			547	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	0.76	0.56		0.02	0.38			0.11			0.77	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 81.8
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.89
Intersection Signal Delay: 29.0 Intersection LOS: C
Intersection Capacity Utilization 82.6% ICU Level of Service E
Analysis Period (min) 15
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1072: Griffith Street & Beaty Street

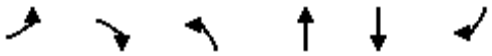




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	36	416	120	33	437	6	65	14	9	1	27	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	452	130	36	475	7	71	15	10	1	29	24
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.81			0.81	0.81	0.81	0.81	0.81	
vC, conflicting volume	482			583			1184	1149	517	1163	1211	478
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	482			369			1111	1067	288	1085	1144	478
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	96			96			39	91	98	99	80	96
cM capacity (veh/h)	1081			965			117	167	609	136	150	587

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	622	517	96	54
Volume Left	39	36	71	1
Volume Right	130	7	10	24
cSH	1081	965	134	223
Volume to Capacity	0.04	0.04	0.71	0.24
Queue Length 95th (ft)	3	3	101	23
Control Delay (s)	1.0	1.0	80.2	26.3
Lane LOS	A	A	F	D
Approach Delay (s)	1.0	1.0	80.2	26.3
Approach LOS			F	D

Intersection Summary			
Average Delay	7.9		
Intersection Capacity Utilization	57.7%	ICU Level of Service	B
Analysis Period (min)	15		



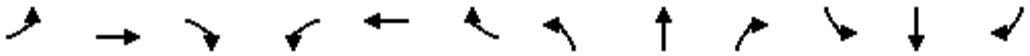
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	100	279	410	405	434	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.977	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1820	0
Flt Permitted	0.950		0.134			
Satd. Flow (perm)	1770	1583	250	1863	1820	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	111	310	456	450	482	97
Shared Lane Traffic (%)						
Lane Group Flow (vph)	111	310	456	450	579	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	31.0	31.0	29.0	79.0	50.0	0.0
Total Split (%)	28.2%	28.2%	26.4%	71.8%	45.5%	0.0%
Maximum Green (s)	24.0	24.0	22.0	72.0	43.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	23.7	23.7	66.5	66.5	37.5	
Actuated g/C Ratio	0.24	0.24	0.66	0.66	0.37	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.27	0.83	0.86	0.36	0.85	
Control Delay	35.0	57.6	40.4	8.7	42.2	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	35.0	57.6	40.4	8.7	42.2	
LOS	D	E	D	A	D	
Approach Delay	51.6			24.7	42.2	
Approach LOS	D			C	D	
Queue Length 50th (ft)	61	198	217	124	348	
Queue Length 95th (ft)	115	#355	#418	178	494	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	466	416	535	1395	829	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.24	0.75	0.85	0.32	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 100.4			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.86			
Intersection Signal Delay: 36.0		Intersection LOS: D	
Intersection Capacity Utilization 69.2%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	6	12	15	21	10	12	5	58	10	8	108	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	7	13	17	23	11	13	6	64	11	9	120	1

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	37	48	81	130
Volume Left (vph)	7	23	6	9
Volume Right (vph)	17	13	11	1
Hadj (s)	-0.20	-0.04	-0.03	0.04
Departure Headway (s)	4.2	4.4	4.2	4.2
Degree Utilization, x	0.04	0.06	0.09	0.15
Capacity (veh/h)	806	771	829	833
Control Delay (s)	7.4	7.6	7.6	8.0
Approach Delay (s)	7.4	7.6	7.6	8.0
Approach LOS	A	A	A	A

Intersection Summary				
Delay	7.8			
HCM Level of Service	A			
Intersection Capacity Utilization	20.1%	ICU Level of Service	A	
Analysis Period (min)	15			

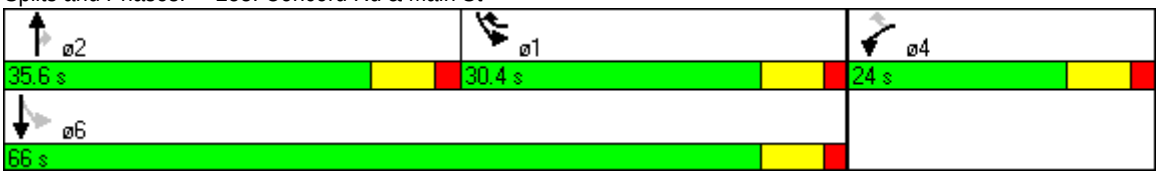
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	187	441	208	120	336	295
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.974
Satd. Flow (prot)	1770	1583	1863	1794	0	1814
Flt Permitted	0.950					0.667
Satd. Flow (perm)	1770	1583	1863	1794	0	1242
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	208	490	231	133	373	328
Shared Lane Traffic (%)						
Lane Group Flow (vph)	208	490	231	133	0	701
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	24.0	30.4	35.6	35.6	30.4	66.0
Total Split (%)	26.7%	33.8%	39.6%	39.6%	33.8%	73.3%
Maximum Green (s)	17.0	23.4	28.6	28.6	23.4	59.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

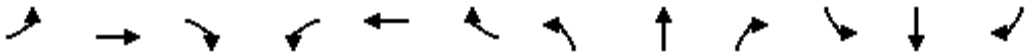
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.3	41.5	16.0	16.0		45.2
Actuated g/C Ratio	0.17	0.58	0.22	0.22		0.63
v/c Ratio	0.69	0.53	0.56	0.33		0.73
Control Delay	43.1	11.9	32.5	28.6		16.3
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	43.1	11.9	32.5	28.6		16.3
LOS	D	B	C	C		B
Approach Delay	21.2		31.1			16.3
Approach LOS	C		C			B
Queue Length 50th (ft)	90	110	96	52		157
Queue Length 95th (ft)	182	241	179	108		291
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	454	918	802	772		1204
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.46	0.53	0.29	0.17		0.58

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 71.6
Natural Cycle: 70
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.73
Intersection Signal Delay: 21.3 Intersection LOS: C
Intersection Capacity Utilization 72.0% ICU Level of Service C
Analysis Period (min) 15

Splits and Phases: 258: Concord Rd & Main St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	242	34	9	7	55	26	57	69	12	5	32	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.996			0.960			0.989			0.861	
Flt Protected		0.959			0.996			0.980		0.950		
Satd. Flow (prot)	0	1806	0	0	1772	0	0	1842	0	1796	1628	0
Flt Permitted		0.097			0.996			0.980		0.412		
Satd. Flow (perm)	0	183	0	0	1772	0	0	1842	0	779	1628	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	269	38	10	8	61	29	63	77	13	6	36	441
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	317	0	0	98	0	0	153	0	6	477	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		15.0	20.0	
Total Split (s)	95.0	95.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	15.0	110.0	0.0
Total Split (%)	63.3%	63.3%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%	10.0%	73.3%	0.0%
Maximum Green (s)	88.0	88.0		13.0	13.0		13.0	13.0		8.0	103.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		88.2			11.6			13.0		90.9	90.9	
Actuated g/C Ratio		0.65			0.08			0.10		0.67	0.67	
v/c Ratio		2.69			0.65			0.87		0.01	0.44	
Control Delay		799.8			81.8			101.7		7.8	12.4	
Queue Delay		0.0			0.0			0.0		0.0	0.8	
Total Delay		799.8			81.8			101.7		7.8	13.2	
LOS		F			F			F		A	B	
Approach Delay		799.8			81.8			101.7			13.1	
Approach LOS		F			F			F			B	
Queue Length 50th (ft)		~367			84			134		2	192	
Queue Length 95th (ft)		#633			#169			#301		7	262	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		118			169			176		578	1231	
Starvation Cap Reductn		0			0			0		0	451	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		2.69			0.58			0.87		0.01	0.61	

Intersection Summary

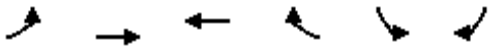
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 136.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.69
Intersection Signal Delay: 269.7 Intersection LOS: F
Intersection Capacity Utilization 73.6% ICU Level of Service D
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 257: Main St & Chairman Blake Lane



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	77	336	539	29	9	120
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	86	373	599	32	10	133
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	631				1159	615
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	631				1159	615
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				95	73
cM capacity (veh/h)	951				197	491

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	459	631	143
Volume Left	86	0	10
Volume Right	0	32	133
cSH	951	1700	445
Volume to Capacity	0.09	0.37	0.32
Queue Length 95th (ft)	7	0	34
Control Delay (s)	2.6	0.0	16.9
Lane LOS	A		C
Approach Delay (s)	2.6	0.0	16.9
Approach LOS			C

Intersection Summary			
Average Delay	2.9		
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	204	554	24	11	884	29	58	28	6	56	60	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.995			0.991			0.892	
Flt Protected	0.950			0.950				0.970			0.995	
Satd. Flow (prot)	1743	1824	0	1814	1900	0	0	1817	0	0	1686	0
Flt Permitted	0.135			0.235				0.479			0.955	
Satd. Flow (perm)	248	1824	0	449	1900	0	0	897	0	0	1619	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	227	616	27	12	982	32	64	31	7	62	67	508
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	643	0	12	1014	0	0	102	0	0	637	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	2	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	10.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	23.6	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	36.0	36.0	0.0	36.0	36.0	0.0	29.0	29.0	0.0	29.0	29.0	0.0
Total Split (%)	55.4%	55.4%	0.0%	55.4%	55.4%	0.0%	44.6%	44.6%	0.0%	44.6%	44.6%	0.0%
Maximum Green (s)	29.0	29.0		29.0	29.0		22.0	22.0		22.0	22.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	6.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Walk Time (s)	7.0	7.0								7.0	7.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)	5.0	5.0								15.0	15.0	
Pedestrian Calls (#/hr)	0	0								0	0	
Act Effct Green (s)	29.6	29.6		30.1	30.1			23.3			22.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.36			0.34	
v/c Ratio	2.01	0.77		0.06	1.15			0.32			1.16	
Control Delay	503.6	23.1		10.6	102.5			18.6			116.3	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	503.6	23.1		10.6	102.5			18.6			116.3	
LOS	F	C		B	F			B			F	
Approach Delay		148.5			101.4			18.6			116.3	
Approach LOS		F			F			B			F	
Queue Length 50th (ft)	~145	203		2	~487			29			~308	
Queue Length 95th (ft)	#229	#352		11	#699			65			#489	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	113	831		208	880			322			548	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	2.01	0.77		0.06	1.15			0.32			1.16	

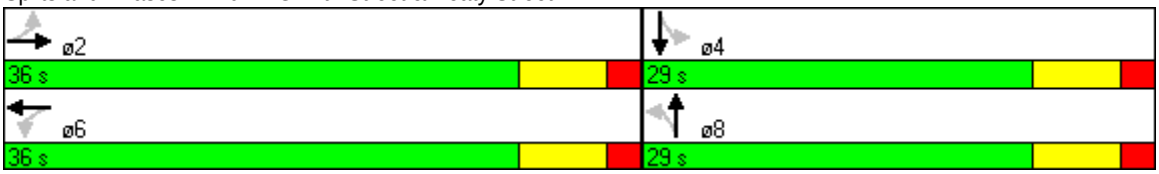
Intersection Summary

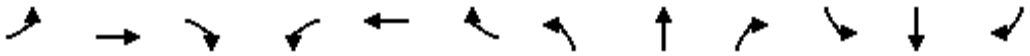
Area Type: Other
Cycle Length: 65
Actuated Cycle Length: 65
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.01
Intersection Signal Delay: 117.3 Intersection LOS: F
Intersection Capacity Utilization 109.6% ICU Level of Service H
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1072: Griffith Street & Beaty Street

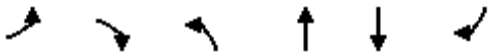




Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	36	510	136	50	375	6	101	15	36	1	47	70
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	39	554	148	54	408	7	110	16	39	1	51	76
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type		None			None							
Median storage veh)												
Upstream signal (ft)		1269			391							
pX, platoon unblocked				0.72			0.72	0.72	0.72	0.72	0.72	
vC, conflicting volume	414			702			1328	1229	628	1273	1300	411
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	414			393			1261	1124	290	1186	1222	411
tC, single (s)	4.1			4.1			7.1	6.5	6.2	7.1	6.5	6.2
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	97			94			0	88	93	99	56	88
cM capacity (veh/h)	1145			840			57	134	540	93	117	641

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total	741	468	165	128
Volume Left	39	54	110	1
Volume Right	148	7	39	76
cSH	1145	840	78	226
Volume to Capacity	0.03	0.06	2.11	0.57
Queue Length 95th (ft)	3	5	375	78
Control Delay (s)	0.9	1.8	627.2	40.0
Lane LOS	A	A	F	E
Approach Delay (s)	0.9	1.8	627.2	40.0
Approach LOS			F	E

Intersection Summary			
Average Delay	73.4		
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		



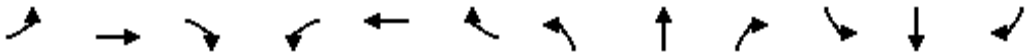
Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	163	379	403	385	355	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	120	0	75			0
Storage Lanes	1	1	1			0
Taper Length (ft)	25	25	25			25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850			0.981	
Flt Protected	0.950		0.950			
Satd. Flow (prot)	1770	1583	1770	1863	1827	0
Flt Permitted	0.950		0.165			
Satd. Flow (perm)	1770	1583	307	1863	1827	0
Right Turn on Red		No				No
Satd. Flow (RTOR)						
Link Speed (mph)	25			25	25	
Link Distance (ft)	391			696	533	
Travel Time (s)	10.7			19.0	14.5	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	181	421	448	428	394	66
Shared Lane Traffic (%)						
Lane Group Flow (vph)	181	421	448	428	460	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9	15			9
Turn Type		Perm	pm+pt			
Protected Phases	4		5	2	6	
Permitted Phases		4	2			
Detector Phase	4	4	5	2	6	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0	10.0	10.0	
Minimum Split (s)	23.0	23.0	14.0	23.0	23.0	
Total Split (s)	40.0	40.0	29.0	70.0	41.0	0.0
Total Split (%)	36.4%	36.4%	26.4%	63.6%	37.3%	0.0%
Maximum Green (s)	33.0	33.0	22.0	63.0	34.0	
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	
Lost Time Adjust (s)	-2.0	-2.0	-2.0	-2.0	-2.0	0.0
Total Lost Time (s)	5.0	5.0	5.0	5.0	5.0	4.0
Lead/Lag			Lead		Lag	
Lead-Lag Optimize?			Yes		Yes	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0	
Recall Mode	None	None	None	Min	Min	
Act Effct Green (s)	31.1	31.1	60.0	60.0	30.9	
Actuated g/C Ratio	0.31	0.31	0.59	0.59	0.31	

Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
v/c Ratio	0.33	0.87	0.85	0.39	0.83	
Control Delay	29.8	53.0	37.7	12.6	46.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	
Total Delay	29.8	53.0	37.7	12.6	46.8	
LOS	C	D	D	B	D	
Approach Delay	46.0			25.5	46.8	
Approach LOS	D			C	D	
Queue Length 50th (ft)	95	272	215	151	291	
Queue Length 95th (ft)	157	#444	#403	218	418	
Internal Link Dist (ft)	311			616	453	
Turn Bay Length (ft)	120		75			
Base Capacity (vph)	621	556	534	1215	660	
Starvation Cap Reductn	0	0	0	0	0	
Spillback Cap Reductn	0	0	0	0	0	
Storage Cap Reductn	0	0	0	0	0	
Reduced v/c Ratio	0.29	0.76	0.84	0.35	0.70	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 101.3			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 36.9		Intersection LOS: D	
Intersection Capacity Utilization 66.1%		ICU Level of Service C	
Analysis Period (min) 15			

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 260: Griffith Street & NC 115 (Main Street)



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	5	37	46	65	15	10	53	122	49	29	203	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	6	41	51	72	17	11	59	136	54	32	226	6

Direction, Lane #	EB 1	WB 1	NB 1	SB 1
Volume Total (vph)	98	100	249	263
Volume Left (vph)	6	72	59	32
Volume Right (vph)	51	11	54	6
Hadj (s)	-0.27	0.11	-0.05	0.05
Departure Headway (s)	5.0	5.4	4.7	4.8
Degree Utilization, x	0.14	0.15	0.33	0.35
Capacity (veh/h)	635	597	725	713
Control Delay (s)	8.8	9.4	10.0	10.4
Approach Delay (s)	8.8	9.4	10.0	10.4
Approach LOS	A	A	A	B

Intersection Summary				
Delay	9.9			
HCM Level of Service	A			
Intersection Capacity Utilization	39.7%	ICU Level of Service	A	
Analysis Period (min)	15			

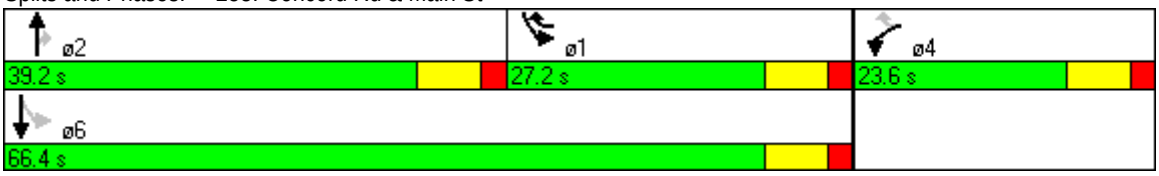
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	178	390	248	179	410	240
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	0	
Storage Lanes	1	1		1	0	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950					0.969
Satd. Flow (prot)	1770	1583	1863	1794	0	1805
Flt Permitted	0.950					0.555
Satd. Flow (perm)	1770	1583	1863	1794	0	1034
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	198	433	276	199	456	267
Shared Lane Traffic (%)						
Lane Group Flow (vph)	198	433	276	199	0	723
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	23.6	27.2	39.2	39.2	27.2	66.4
Total Split (%)	26.2%	30.2%	43.6%	43.6%	30.2%	73.8%
Maximum Green (s)	16.6	20.2	32.2	32.2	20.2	59.4
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

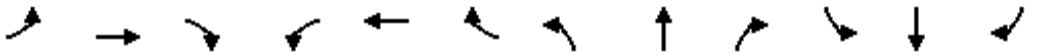
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.5	44.5	18.7	18.7		50.7
Actuated g/C Ratio	0.16	0.58	0.24	0.24		0.66
v/c Ratio	0.69	0.47	0.61	0.46		0.78
Control Delay	46.3	12.3	33.6	30.0		20.3
Queue Delay	0.0	0.0	0.0	0.0		0.0
Total Delay	46.3	12.3	33.6	30.0		20.3
LOS	D	B	C	C		C
Approach Delay	23.0		32.1			20.3
Approach LOS	C		C			C
Queue Length 50th (ft)	104	111	137	95		172
Queue Length 95th (ft)	175	226	202	147		304
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100		
Base Capacity (vph)	408	913	829	798		1050
Starvation Cap Reductn	0	0	0	0		0
Spillback Cap Reductn	0	0	0	0		0
Storage Cap Reductn	0	0	0	0		0
Reduced v/c Ratio	0.49	0.47	0.33	0.25		0.69

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 77.2
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.78
Intersection Signal Delay: 24.3 Intersection LOS: C
Intersection Capacity Utilization 74.8% ICU Level of Service D
Analysis Period (min) 15

Splits and Phases: 258: Concord Rd & Main St





Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	456	84	8	17	68	30	20	30	4	29	42	344
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		-3%			1%			-4%			-3%	
Storage Length (ft)	0		0	0		0	0		0	65		0
Storage Lanes	0		0	0		0	0		0	1		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.998			0.965			0.991			0.866	
Flt Protected		0.960			0.993			0.982		0.950		
Satd. Flow (prot)	0	1811	0	0	1776	0	0	1849	0	1796	1637	0
Flt Permitted		0.173			0.993			0.982		0.373		
Satd. Flow (perm)	0	326	0	0	1776	0	0	1849	0	705	1637	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		20			20			25			20	
Link Distance (ft)		524			395			649			496	
Travel Time (s)		17.9			13.5			17.7			16.9	
Peak Hour Factor	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 (vph)	507	93	9	19	76	33	22	33	4	32	47	382
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	609	0	0	128	0	0	59	0	32	429	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	0.98	0.98	0.98	1.01	1.01	1.01	0.97	0.97	0.97	0.98	0.98	0.98
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Split			Split			pm+pt		
Protected Phases		2!		4	4		3	3		1	6!	
Permitted Phases	2!									6!		
Detector Phase	2	2		4	4		3	3		1	6	
Switch Phase												
Minimum Initial (s)	10.0	10.0		7.0	7.0		7.0	7.0		8.0	10.0	
Minimum Split (s)	20.0	20.0		20.0	20.0		20.0	20.0		15.0	20.0	
Total Split (s)	95.0	95.0	0.0	20.0	20.0	0.0	20.0	20.0	0.0	15.0	110.0	0.0
Total Split (%)	63.3%	63.3%	0.0%	13.3%	13.3%	0.0%	13.3%	13.3%	0.0%	10.0%	73.3%	0.0%
Maximum Green (s)	88.0	88.0		13.0	13.0		13.0	13.0		8.0	103.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag	Lag	Lag		Lag	Lag		Lead	Lead		Lead		
Lead-Lag Optimize?	Yes	Yes		Yes	Yes		Yes	Yes		Yes		
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)				7.0	7.0		7.0	7.0				

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)				9.0	9.0		4.0	4.0				
Pedestrian Calls (#/hr)				0	0		0	0				
Act Effct Green (s)		89.1			12.5			9.9		97.4	97.4	
Actuated g/C Ratio		0.65			0.09			0.07		0.71	0.71	
v/c Ratio		2.89			0.80			0.45		0.06	0.37	
Control Delay		878.1			95.6			75.5		7.4	9.9	
Queue Delay		0.0			0.0			0.0		0.0	0.9	
Total Delay		878.1			95.6			75.5		7.4	10.8	
LOS		F			F			E		A	B	
Approach Delay		878.1			95.6			75.5			10.6	
Approach LOS		F			F			E			B	
Queue Length 50th (ft)		~837			123			55		9	154	
Queue Length 95th (ft)		#1105			#244			105		21	227	
Internal Link Dist (ft)		444			315			569			416	
Turn Bay Length (ft)										65		
Base Capacity (vph)		211			170			177		563	1240	
Starvation Cap Reductn		0			0			0		0	533	
Spillback Cap Reductn		0			0			0		0	0	
Storage Cap Reductn		0			0			0		0	0	
Reduced v/c Ratio		2.89			0.75			0.33		0.06	0.61	

Intersection Summary

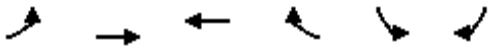
Area Type: Other
Cycle Length: 150
Actuated Cycle Length: 137.6
Natural Cycle: 150
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 2.89
Intersection Signal Delay: 442.6 Intersection LOS: F
Intersection Capacity Utilization 71.9% ICU Level of Service C
Analysis Period (min) 15

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

! Phase conflict between lane groups.

Splits and Phases: 257: Main St & Chairman Blake Lane

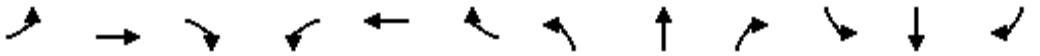


Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	88	599	444	31	55	252
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Hourly flow rate (vph)	98	666	493	34	61	280
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type		None	None			
Median storage veh)						
Upstream signal (ft)			524			
pX, platoon unblocked						
vC, conflicting volume	528				1372	511
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	528				1372	511
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	91				58	50
cM capacity (veh/h)	1039				146	563

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	763	528	341
Volume Left	98	0	61
Volume Right	0	34	280
cSH	1039	1700	372
Volume to Capacity	0.09	0.31	0.92
Queue Length 95th (ft)	8	0	238
Control Delay (s)	2.3	0.0	61.8
Lane LOS	A		F
Approach Delay (s)	2.3	0.0	61.8
Approach LOS			F

Intersection Summary			
Average Delay	14.0		
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		

Condition 4 With Improvements



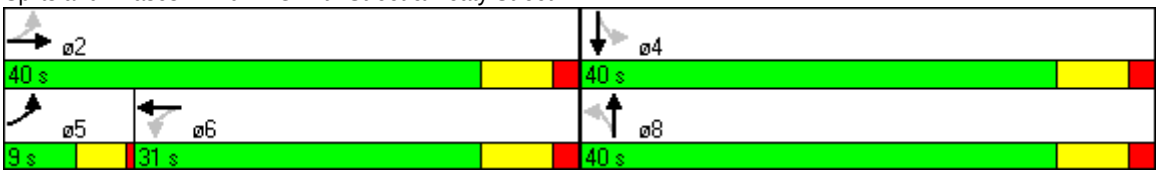
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	204	596	24	13	919	36	58	28	12	86	60	457
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Grade (%)		3%			-5%			-3%			-4%	
Storage Length (ft)	150		0	90		0	0		0	0		0
Storage Lanes	1		0	1		0	0		0	0		0
Taper Length (ft)	25		25	25		25	25		25	25		25
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.994			0.994			0.984			0.898	
Flt Protected	0.950			0.950				0.971			0.993	
Satd. Flow (prot)	1743	1824	0	1814	3606	0	0	1806	0	0	1694	0
Flt Permitted	0.143			0.188				0.549			0.931	
Satd. Flow (perm)	262	1824	0	359	3606	0	0	1021	0	0	1588	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		463			901			612			501	
Travel Time (s)		12.6			24.6			16.7			13.7	
Peak Hour Factor	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 (vph)	227	662	27	14	1021	40	64	31	13	96	67	508
Shared Lane Traffic (%)												
Lane Group Flow (vph)	227	689	0	14	1061	0	0	108	0	0	671	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.02	1.02	1.02	0.97	0.97	0.97	0.98	0.98	0.98	0.97	0.97	0.97
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	pm+pt			Perm			Perm			Perm		
Protected Phases	5	2			6			8			4	
Permitted Phases	2			6			8			4		
Detector Phase	5	2		6	6		8	8		4	4	
Switch Phase												
Minimum Initial (s)	4.0	10.0		10.0	10.0		7.0	7.0		7.0	7.0	
Minimum Split (s)	8.0	23.6		22.1	22.1		20.6	20.6		29.0	29.0	
Total Split (s)	9.0	40.0	0.0	31.0	31.0	0.0	40.0	40.0	0.0	40.0	40.0	0.0
Total Split (%)	11.3%	50.0%	0.0%	38.8%	38.8%	0.0%	50.0%	50.0%	0.0%	50.0%	50.0%	0.0%
Maximum Green (s)	5.0	33.0		24.0	24.0		33.0	33.0		33.0	33.0	
Yellow Time (s)	3.5	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	0.5	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	-0.6	-0.6	0.0	-1.1	-1.1	0.0	0.0	-1.3	0.0	0.0	0.0	0.0
Total Lost Time (s)	3.4	6.4	4.0	5.9	5.9	4.0	7.0	5.7	4.0	7.0	7.0	4.0
Lead/Lag	Lead			Lag	Lag							
Lead-Lag Optimize?	Yes			Yes	Yes							
Vehicle Extension (s)	3.0	3.0		3.0	3.0		2.0	2.0		2.0	2.0	
Recall Mode	None	Min		Min	Min		None	None		None	None	
Walk Time (s)		7.0								7.0	7.0	

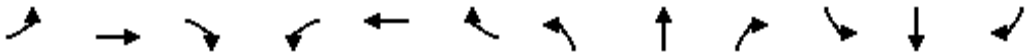
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Flash Dont Walk (s)		5.0								15.0	15.0	
Pedestrian Calls (#/hr)		0								0	0	
Act Effct Green (s)	36.6	33.6		25.1	25.1			34.3			33.0	
Actuated g/C Ratio	0.46	0.42		0.31	0.31			0.43			0.41	
v/c Ratio	1.01	0.90		0.12	0.94			0.25			1.02	
Control Delay	85.2	39.0		23.1	43.5			16.5			67.4	
Queue Delay	0.0	0.0		0.0	0.0			0.0			0.0	
Total Delay	85.2	39.0		23.1	43.5			16.5			67.4	
LOS	F	D		C	D			B			E	
Approach Delay		50.4			43.2			16.5			67.4	
Approach LOS		D			D			B			E	
Queue Length 50th (ft)	~70	311		5	268			33			~345	
Queue Length 95th (ft)	#203	#526		20	#395			69			#564	
Internal Link Dist (ft)		383			821			532			421	
Turn Bay Length (ft)	150			90								
Base Capacity (vph)	224	766		113	1131			438			655	
Starvation Cap Reductn	0	0		0	0			0			0	
Spillback Cap Reductn	0	0		0	0			0			0	
Storage Cap Reductn	0	0		0	0			0			0	
Reduced v/c Ratio	1.01	0.90		0.12	0.94			0.25			1.02	

Intersection Summary

Area Type: Other
Cycle Length: 80
Actuated Cycle Length: 80
Natural Cycle: 80
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 50.4 Intersection LOS: D
Intersection Capacity Utilization 93.1% ICU Level of Service F
Analysis Period (min) 15
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 1072: Griffith Street & Beaty Street



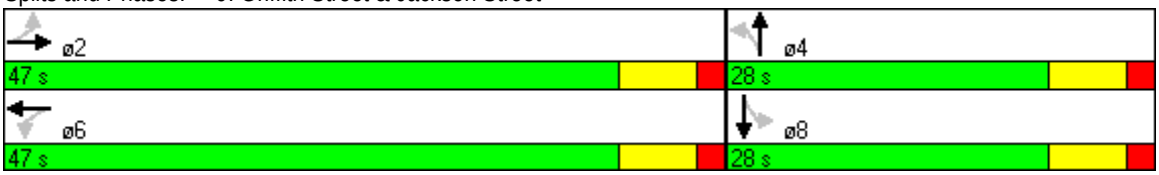


Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	33	462	203	78	361	6	197	20	70	1	54	69
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.961			0.998			0.967			0.925	
Flt Protected		0.998			0.991			0.967				
Satd. Flow (prot)	0	1787	0	0	1842	0	0	1742	0	0	1723	0
Flt Permitted		0.960			0.761			0.733			0.997	
Satd. Flow (perm)	0	1718	0	0	1415	0	0	1320	0	0	1718	0
Right Turn on Red			No			No			No			No
Satd. Flow (RTOR)												
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		368			391			685			543	
Travel Time (s)		10.0			10.7			18.7			14.8	
Peak Hour Factor	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 (vph)	37	513	226	87	401	7	219	22	78	1	60	77
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	776	0	0	495	0	0	319	0	0	138	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway 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
Turning Speed (mph)	15		9	15		9	15		9	15		9
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		2			6			4			8	
Permitted Phases	2			6			4			8		
Detector Phase	2	2		6	6		4	4		8	8	
Switch Phase												
Minimum Initial (s)	7.0	7.0		7.0	7.0		10.0	10.0		10.0	10.0	
Minimum Split (s)	23.0	23.0		23.0	23.0		23.0	23.0		23.0	23.0	
Total Split (s)	47.0	47.0	0.0	47.0	47.0	0.0	28.0	28.0	0.0	28.0	28.0	0.0
Total Split (%)	62.7%	62.7%	0.0%	62.7%	62.7%	0.0%	37.3%	37.3%	0.0%	37.3%	37.3%	0.0%
Maximum Green (s)	40.0	40.0		40.0	40.0		21.0	21.0		21.0	21.0	
Yellow Time (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
All-Red Time (s)	2.0	2.0		2.0	2.0		2.0	2.0		2.0	2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0	7.0	7.0	4.0
Lead/Lag												
Lead-Lag Optimize?												
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	Min	Min		Min	Min		None	None		None	None	
Act Effct Green (s)		34.9			34.9			19.1			19.1	
Actuated g/C Ratio		0.51			0.51			0.28			0.28	
v/c Ratio		0.89			0.69			0.86			0.29	
Control Delay		29.1			18.6			50.0			22.8	
Queue Delay		0.0			0.6			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Total Delay		29.1			19.1			50.0			22.8	
LOS		C			B			D			C	
Approach Delay		29.1			19.1			50.0			22.8	
Approach LOS		C			B			D			C	
Queue Length 50th (ft)		285			154			140			50	
Queue Length 95th (ft)		#519			260			#282			95	
Internal Link Dist (ft)		288			311			605			463	
Turn Bay Length (ft)												
Base Capacity (vph)		1032			850			417			542	
Starvation Cap Reductn		0			107			0			0	
Spillback Cap Reductn		0			0			0			0	
Storage Cap Reductn		0			0			0			0	
Reduced v/c Ratio		0.75			0.67			0.76			0.25	

Intersection Summary			
Area Type:	Other		
Cycle Length: 75			
Actuated Cycle Length: 68.3			
Natural Cycle: 75			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.89			
Intersection Signal Delay: 29.6		Intersection LOS: C	
Intersection Capacity Utilization 91.9%		ICU Level of Service F	
Analysis Period (min) 15			
# 95th percentile volume exceeds capacity, queue may be longer.			
Queue shown is maximum after two cycles.			

Splits and Phases: 9: Griffith Street & Jackson Street



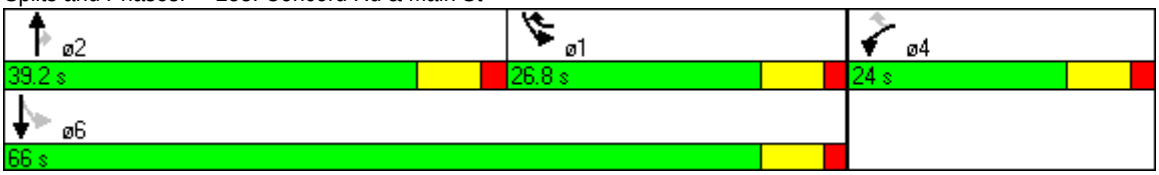
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	215	383	246	215	389	233
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Width (ft)	12	12	12	16	12	12
Storage Length (ft)	60	0		100	50	
Storage Lanes	1	1		1	1	
Taper Length (ft)	25	25		25	25	
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	1794	1770	1863
Flt Permitted	0.950				0.541	
Satd. Flow (perm)	1770	1583	1863	1794	1008	1863
Right Turn on Red		No		No		
Satd. Flow (RTOR)						
Link Speed (mph)	20		20			20
Link Distance (ft)	834		496			320
Travel Time (s)	28.4		16.9			10.9
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	239	426	273	239	432	259
Shared Lane Traffic (%)						
Lane Group Flow (vph)	239	426	273	239	432	259
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	0.85	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Turn Type		pm+ov		Perm	pm+pt	
Protected Phases	4	1	2		1	6
Permitted Phases		4		2	6	
Detector Phase	4	1	2	2	1	6
Switch Phase						
Minimum Initial (s)	7.0	7.0	10.0	10.0	7.0	10.0
Minimum Split (s)	23.3	14.3	23.4	23.4	14.3	21.4
Total Split (s)	24.0	26.8	39.2	39.2	26.8	66.0
Total Split (%)	26.7%	29.8%	43.6%	43.6%	29.8%	73.3%
Maximum Green (s)	17.0	19.8	32.2	32.2	19.8	59.0
Yellow Time (s)	5.0	5.0	5.0	5.0	5.0	5.0
All-Red Time (s)	2.0	2.0	2.0	2.0	2.0	2.0
Lost Time Adjust (s)	-0.3	-0.3	-0.4	-0.4	0.0	-0.4
Total Lost Time (s)	6.7	6.7	6.6	6.6	7.0	6.6
Lead/Lag		Lag	Lead	Lead	Lag	
Lead-Lag Optimize?		Yes	Yes	Yes	Yes	
Vehicle Extension (s)	1.0	2.0	3.0	3.0	2.0	3.0
Recall Mode	None	None	Min	Min	None	Min
Walk Time (s)	7.0		7.0	7.0		

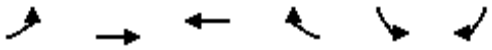
Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Flash Dont Walk (s)	9.0		9.0	9.0		
Pedestrian Calls (#/hr)	0		0	0		
Act Effct Green (s)	12.6	34.9	17.0	17.0	38.9	39.4
Actuated g/C Ratio	0.19	0.53	0.26	0.26	0.59	0.60
v/c Ratio	0.71	0.51	0.57	0.51	0.56	0.23
Control Delay	39.3	13.2	27.3	26.3	13.6	6.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.3	13.2	27.3	26.3	13.6	6.9
LOS	D	B	C	C	B	A
Approach Delay	22.6		26.9			11.1
Approach LOS	C		C			B
Queue Length 50th (ft)	88	95	94	81	81	42
Queue Length 95th (ft)	#195	218	185	164	154	84
Internal Link Dist (ft)	754		416			240
Turn Bay Length (ft)	60			100	50	
Base Capacity (vph)	486	828	964	929	923	1636
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.49	0.51	0.28	0.26	0.47	0.16

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 65.8
Natural Cycle: 65
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.71
Intersection Signal Delay: 19.5 Intersection LOS: B
Intersection Capacity Utilization 63.0% ICU Level of Service B
Analysis Period (min) 15
\# 95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

Splits and Phases: 258: Concord Rd & Main St





Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	125	599	444	80	103	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt			0.979		0.902	
Flt Protected		0.991			0.986	
Satd. Flow (prot)	0	1846	1824	0	1657	0
Flt Permitted		0.670			0.986	
Satd. Flow (perm)	0	1248	1824	0	1657	0
Right Turn on Red				No		No
Satd. Flow (RTOR)						
Link Speed (mph)		25	20		20	
Link Distance (ft)		763	524		238	
Travel Time (s)		20.8	17.9		8.1	
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	139	666	493	89	114	300
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	805	582	0	414	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Left	Left	Right	Left	Right
Median Width(ft)		0	0		12	
Link Offset(ft)		0	0		0	
Crosswalk Width(ft)		16	16		16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15			9	15	9
Turn Type	Perm					
Protected Phases		2	6		4	
Permitted Phases	2					
Detector Phase	2	2	6		4	
Switch Phase						
Minimum Initial (s)	7.0	7.0	7.0		10.0	
Minimum Split (s)	20.0	20.0	20.0		20.0	
Total Split (s)	92.0	92.0	92.0	0.0	38.0	0.0
Total Split (%)	70.8%	70.8%	70.8%	0.0%	29.2%	0.0%
Maximum Green (s)	85.0	85.0	85.0		31.0	
Yellow Time (s)	5.0	5.0	5.0		5.0	
All-Red Time (s)	2.0	2.0	2.0		2.0	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	7.0	7.0	7.0	4.0	7.0	4.0
Lead/Lag						
Lead-Lag Optimize?						
Vehicle Extension (s)	3.0	3.0	3.0		3.0	
Recall Mode	Min	Min	Min		None	
Act Effct Green (s)		84.7	84.7		31.0	
Actuated g/C Ratio		0.65	0.65		0.24	
v/c Ratio		0.99	0.49		1.05	
Control Delay		51.6	13.2		105.4	
Queue Delay		0.0	2.5		0.0	

Lane Group	EBL	EBT	WBT	WBR	SBL	SBR
Total Delay		51.6	15.6		105.4	
LOS		D	B		F	
Approach Delay		51.6	15.6		105.4	
Approach LOS		D	B		F	
Queue Length 50th (ft)		615	231		~379	
Queue Length 95th (ft)		#942	317		#584	
Internal Link Dist (ft)		683	444		158	
Turn Bay Length (ft)						
Base Capacity (vph)		818	1196		396	
Starvation Cap Reductn		0	469		0	
Spillback Cap Reductn		0	0		0	
Storage Cap Reductn		0	0		0	
Reduced v/c Ratio		0.98	0.80		1.05	

Intersection Summary			
Area Type:	Other		
Cycle Length: 130			
Actuated Cycle Length: 129.7			
Natural Cycle: 130			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 1.05			
Intersection Signal Delay: 52.3		Intersection LOS: D	
Intersection Capacity Utilization 106.5%		ICU Level of Service G	
Analysis Period (min) 15			

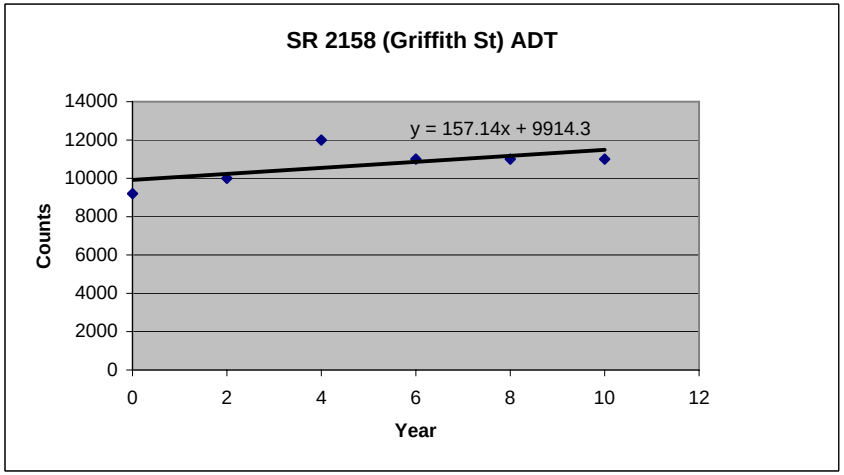
~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

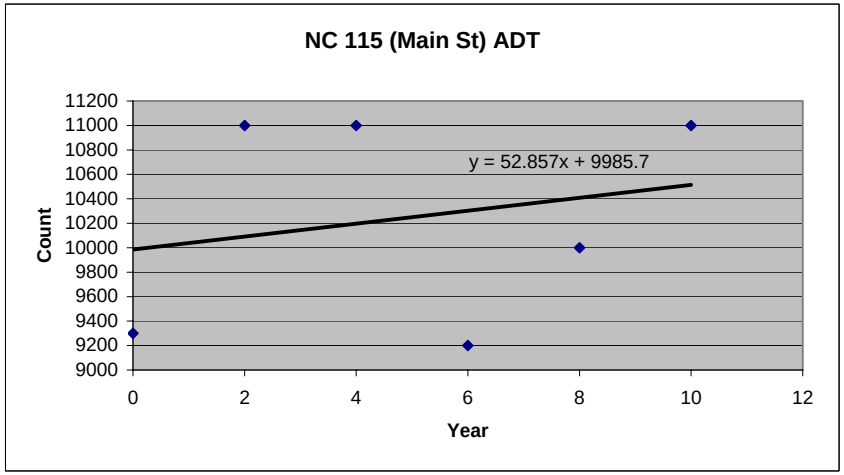
95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

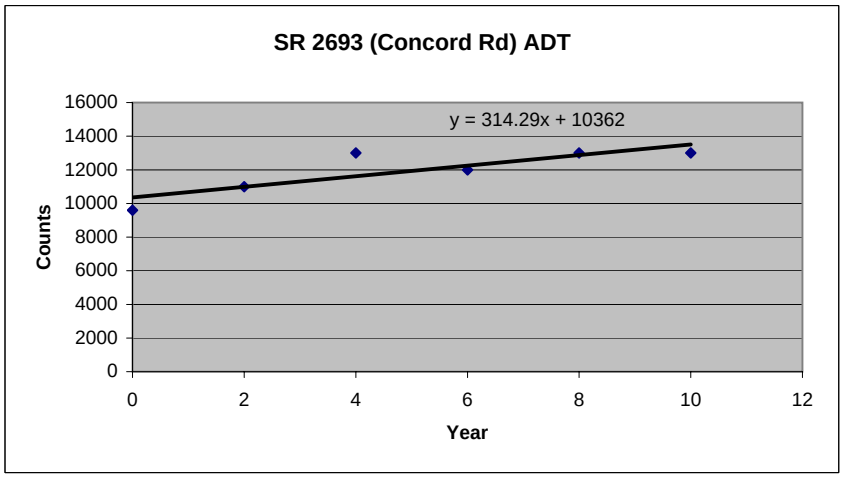
Splits and Phases: 6: Main St & Jackson St

Appendix F – Background Growth Factor Calculations

Street	Year									
	1998	2000	2002	2004	2006	2008	1998	2008		
Sloan / Beaty	4000	n/a	n/a	n/a	n/a	n/a				
Griffith	9200	10000	12000	11000	11000	11000	9914.3	11485.7	0.014821	Growth
Main	9300	11000	11000	9200	10000	11000	9985.7	10514.27	0.005171	Factor
Concord	9600	11000	13000	12000	13000	13000	10362	13504.9	0.026845	2.5
	0	2	4	6	8	10				







Appendix G – Parking Deficiencies

A	B	C	D	E	F	G	H	I	J	K	L	M	N		O	P	Q	R				S	T	U	V
Block	Office	Medical Office	Retail	Mixed Use	Service	Pre-School	Library	Restaurant	Hotel	Residential	Community	Theater	Government	Fire Station	Commuter	Warehouse	Vacant	Demand	Future	5 yr.	10 yr.	Parking	Surplus/	Surplus/	Surplus/
						(per employee)			(per unit)	(per unit)		(per seat)			(per rider)			(current)	Adjust.	projected	projected	Supply	Deficit	Deficit	Deficit
Daytime	2.85	4.00	2.00	2.35	2.75	1.49	2.00	5.00	1.00	1.00	0.63	0.15	2.50	1.00	0.83	0.40	2.81			Demand	Demand		(current)	(5 years)	(10 years)
1	1,302	1,215	0	46,000	0	0	0	5,000	0	18	0	0	0	0	0	0	0	160	0	160	160	231	71	71	71
2	0	0	0	34,371	0	0	0	0	0	0	2,500	260	0	0	41	0	0	155	0	164	163	205	50	41	42
3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	58,906	0	24	0	302	459	38	14	-264	-421
4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	16	16	16	16
5	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
6	2,118	0	0	0	0	0	0	0	0	0	6,370	0	0	0	0	0	0	10	0	10	10	46	36	36	36
7	35,017	0	2,337	3,060	0	0	0	8,428	0	26	0	0	0	0	0	0	15,000	180	52	201	222	297	117	96	75
8	18,901	0	8,524	0	0	0	0	0	0	0	0	0	0	0	0	0	5,566	71	16	77	83	123	52	46	40
9	0	0	0	22,000	0	25	0	0	0	0	0	0	0	0	0	0	0	89	0	89	89	213	124	124	124
10	812	0	0	0	0	0	0	0	0	0	33,400	0	0	0	0	0	0	23	0	20	23	53	30	33	30
11	24,605	0	2,500	0	0	0	7,279	0	0	0	0	0	0	0	0	0	0	90	0	90	90	93	3	3	3
12/13	40,286	8,528	19,691	44,863	0	0	0	7,965	18	3	0	0	15,744	10,000	0	0	3,624	404	10	444	544	313	-91	-131	-231
14	21,069	0	0	0	0	0	0	0	0	0	35,578	0	0	0	0	0	0	82	0	82	82	97	15	15	15
15	31,427	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	90	0	90	90	103	13	13	13
18	0	0	0	0	0	20	0	0	0	0	0	0	0	0	0	0	0	30	0	30	30	10	-20	-20	-20
TOTALS	**175,537**	**9,743**	**33,052**	**150,294**	**0**	**45**	**7,279**	**21,393**	**18**	**47**	**77,848**	**260**	**15,744**	**10,000**	**41**	**58,906**	**24,190**	**1,407**	**78**	**1,758**	**2,044**	**1,838**	**431**	**80**	**-206**
																		(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)	(stalls)

1. Block 2 express commuter ridership is increased by 3% per year, 41 riders as of April 2010 (5 year increase to 51riders = 9 additional spaces and 10 year changes to train ridership)

2. a)Block 3 potential new development in the 5 year scenario, 30,000 sf retail, 50,000 sf office, 75 residential (278 spaces). 574,397

b) in the 10 year senario, commuter rail station developed in block 3 with 188 riders (157 spaces), express bus ridership is now taken out of block 2.

3. Block 7 has 10 vacant residential units, these units are filled at 40% (5 year) and 80% (10 year) occupancy in future demand

4.a) Block 12/13 Mooney's Corner development included in current demand: 15,000 sf mixed use (36 spaces).

b) 5 year senario Town hall moves to block 10 in IB School building (33,400 sf) only using 7,000 sf (18 spaces), assume old Town Hall is reoccupied by use with similar parking generation ratios and fire hall stays

c) 10 year senario potential 10,000 sf retail (20 spaces) and 30,000 sf office (86 spaces) in front of Town Hall on parking lot, reduse parking supply by 26 spaces.

PARKING STUDY FOR THE CITY OF DAVIDSON

DAVIDSON, NORTH CAROLINA

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LEGEND:

- (#) BLOCK NUMBER
- STUDY AREA

ON STREET PARKING

- -100 +
- -99 through -1
- 0 throught 99
- +100

Date	ISSUED FOR:
.	.

Sheet Title:

SURPLUS/ DEFICIT (CURRENT)

File No	1108
Scale	NTS
Last Rev.	
Page	

NORTH

MAP Number:

MAP 5