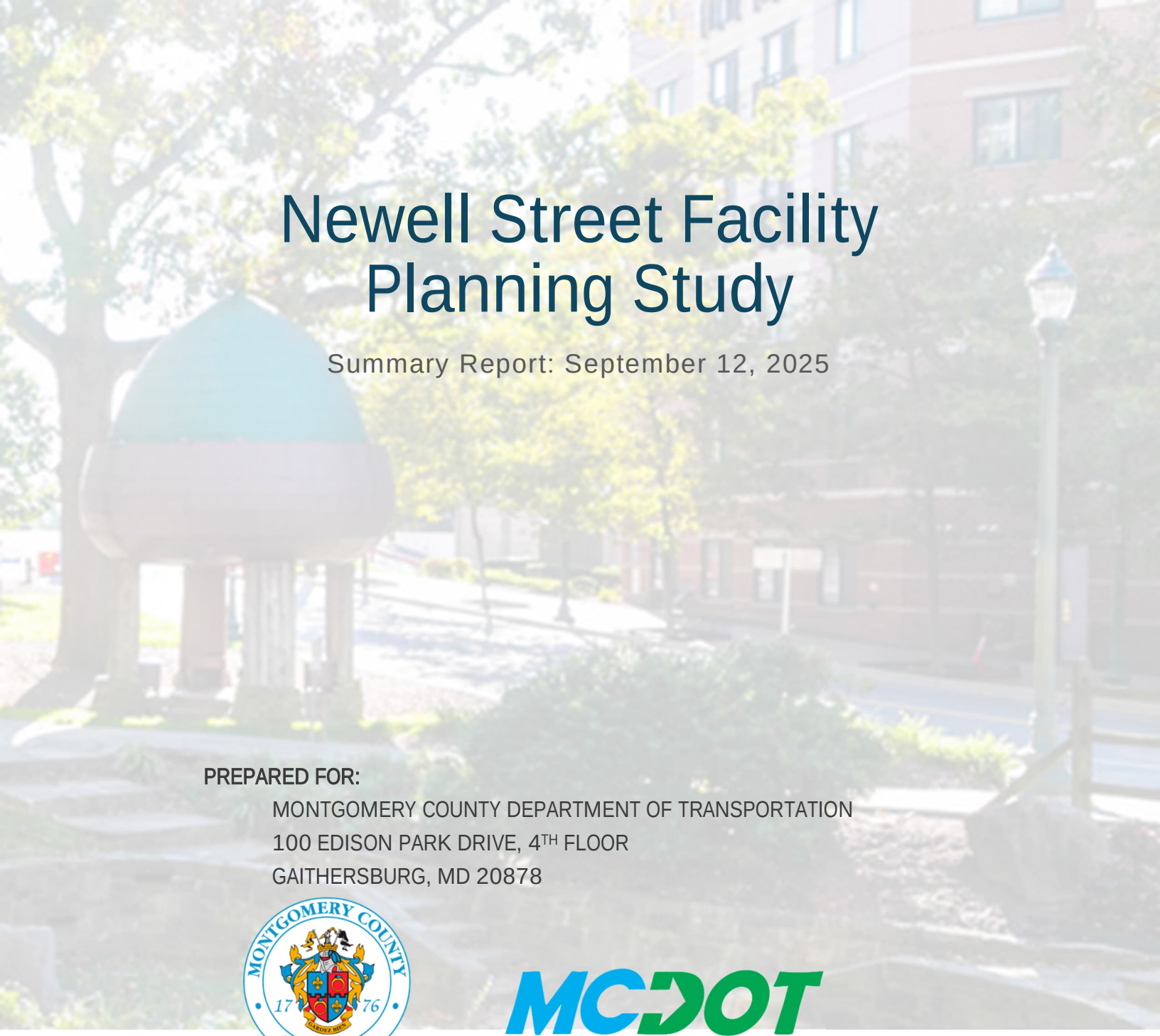

Newell Street Facility Planning Study

Summary Report: September 12, 2025

PREPARED FOR:

MONTGOMERY COUNTY DEPARTMENT OF TRANSPORTATION
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Executive Summary

During the COVID-19 pandemic, the temporary closure of Newell Street allowed for a revitalization of community use of the street and adjacent areas. These changes had large community support at the time, although the street was opened to traffic again once gathering restrictions were lifted and normal daily activity resumed. In response, the Montgomery County Department of Transportation (MCDOT) commissioned a facility planning study for the redevelopment of Newell Street. Newell Street is classified as a Commercial Shared Street in the Master Plan of Highways and Transitways. This classification is defined as a space that is shared by people using various modes of transportation. The project team explored feasible design alternatives that would meet both MCDOT goals and take into consideration community feedback.

The project team performed an initial site analysis to survey the area and establish existing conditions. Next, the team identified areas for improvement, taking into account the master plan for this block of Newell Street, adjacent properties and their uses, and the local historical features. After an initial design development, the team hosted two public meetings to present design concepts and solicit feedback from the community. Next, the community feedback was incorporated into the initial concepts to produce the final design alternatives presented in this report.

Four main design concepts were presented to the public at the two community meetings:

- Alternative 1: Narrowing the existing roadway and removing the Eastbound right turn lane to create more useable space for bicyclists and pedestrians
- Alternative 2: Reducing Newell Street to one lane of westbound traffic
- Alternative 3: Reducing Newell Street to one lane of eastbound traffic

- Alternative 4: Permanent street closure with integration into the adjacent Acorn Park redesign

A fifth no-build option was also considered. The project team also performed a traffic study to evaluate the four options based on their impacts to safety, pedestrian and cyclist infrastructure, and network-wide traffic operations.

The community is largely in support of closing Newell Street to vehicular traffic to reduce traffic accidents, increase pedestrian safety, and create one, large shared space comprised of the adjacent Acorn Park, the space currently comprising the roadway, and the Argent public open space. Those opposed to the road closure were concerned about the safety of the street and park at night, as well as disruptions to traffic patterns. The community was also in favor of making the area more accessible for bicycles, in line with the planned bicycle network for Silver Spring. Some community members expressed interest in using Newell Street with programming opportunities such as farmers' markets, wellness events, and food truck parking.

The properties adjacent to Newell Street include the Argent Apartments to the north and Acorn Park, owned and operated by the Maryland National Capital Park and Planning Commission, to the south. These properties could benefit and be enhanced by a redesign of Newell Street, although any design with the integration of adjacent properties must be coordinated with the respective property owners. Should M-NCPPC engage in a redesign of Acorn Park, the layout and function of Newell Street should be included in that design effort so as to create a unified plan for Acorn Park, Newell Street, and the open space adjacent to the Argent Apartments.

The project team recommends Alternative 1, which maintains two-way traffic but narrows the travel lanes on Newell Street to increase the available space for pedestrians and cyclists. In addition, removable bollards or gates could be placed at both ends of the street to allow the street to be fully closed for specific programming opportunities. This option fulfills the planning documents recommendations for a shared street, does not restrict traffic for the existing intersection at East-West Highway, and provides greater flexibility as it allows the street to be open or temporarily closed to traffic for programming events. A permanent street closure is not recommended at this time, as it causes a significant increase to vehicular traffic at adjacent intersections and M-NCPPC is developing a new South Silver Spring Urban Park one block south of the project site which may fulfill the community's desire for an expanded area for community gatherings and programming.

1.0 Project Overview

The project team, on behalf of the Montgomery County Department of Transportation, conducted a facility planning study for the redevelopment of Newell Street between Kennett Street and East-West Highway, located in Silver Spring, to explore options to enhance the streetscape, expand recreational space adjacent to Acorn Park, and improve the pedestrian experience while considering vehicular traffic (see Figure 1).

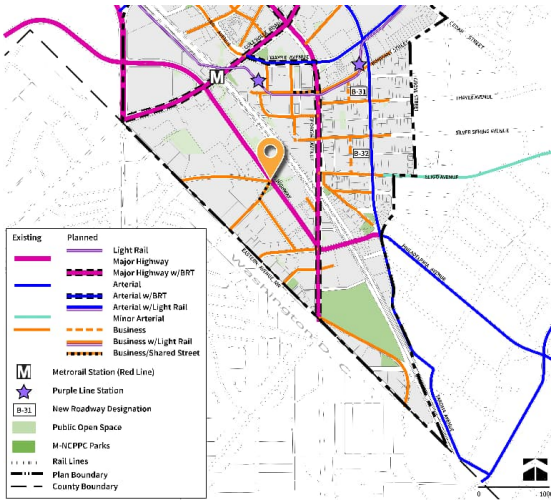


Figure 1: Newell Street Project Location

1.1 Project Purpose

The Silver Spring Master Plan defines this block of Newell Street as a “shared street.” The goal of this project is to create feasible design alternatives for the redevelopment of the Newell Street project area that meet MCDOT goals and are supported by the community (see Figure 2). Removing or restricting vehicular traffic along Newell Street provides the opportunity to implement improvements that are in line with MCDOT Vision Zero goals and create a shared space where different modes of transportation can be used comfortably. This study surveyed community members and created a platform to receive feedback about their priorities for the project site and preferences for different design concepts.

Figure 2: Shared Street Concept (*Complete Streets Design Guide, May 2024*)

1.2 Project Need

This study was conducted based on calls from the community for a reconsideration of the use of Newell Street following experiences during the COVID-19 pandemic. During the pandemic, the block of Newell Street between Kennett Street and East-West Highway was closed to provide additional space for outdoor gathering. Community members witnessed an increase in activity in the park and the activity was able to expand into the pedestrianized street. Since the end of the pandemic, the roadway has been reopened to traffic. This study investigated the potential impacts and community opinions about a possible permanent or occasional change to the design and function of Newell Street to restore some of the benefits seen during the pandemic-related closure of the street to vehicles.

2.0 Study Methodology

The process used to meet the project goals is outlined in Figure 3 below.

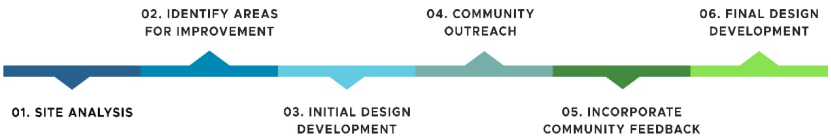


Figure 3: Study Methodology

The following is a brief overview of each of these steps in the study:

2.1 Site Analysis

The project team identified the master plan goals and street classification of the project site, and documented the three areas adjacent to the project site that would be considered in the proposed design: Argent Park, Acorn Urban Park, and the Discovery, Inc. walkway (see Figure 4). The Argent Apartments and Discovery, Inc. are privately owned properties; however, the Argent space is public open space, meaning while it is in private ownership, it is open to the public. Acorn Urban Park is publicly accessible space that is owned and maintained by the Montgomery National Capital Park and Planning Commission (M-NCPPC; see Figure 4). Mercado Consultants also surveyed the project area to document existing conditions.

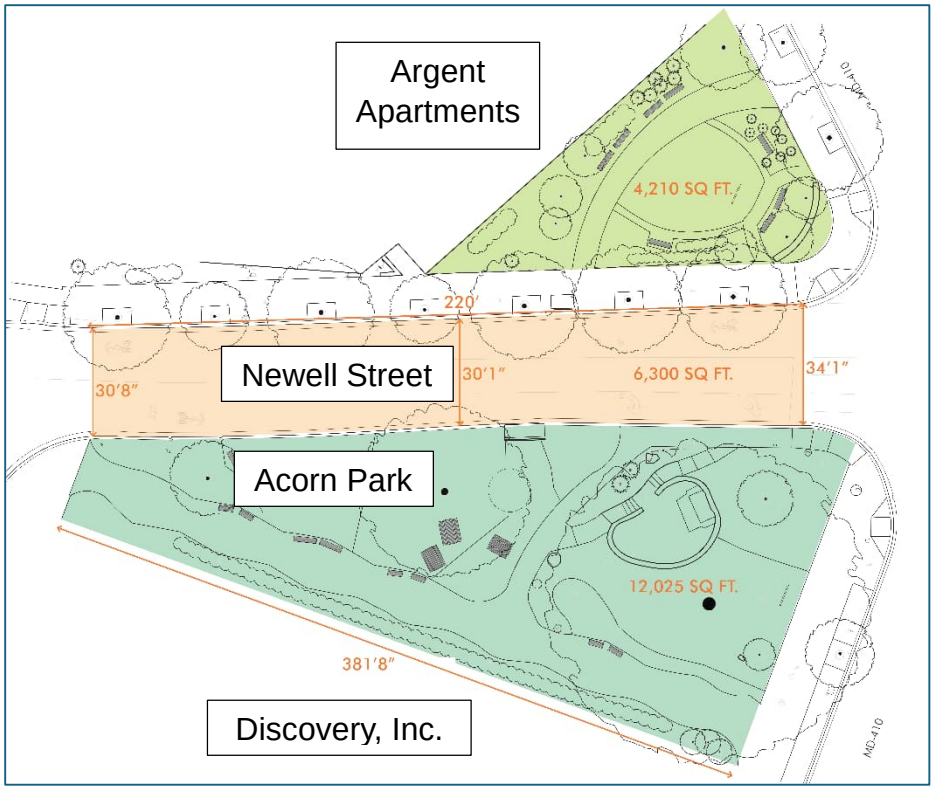


Figure 4: Project Site and Points of Interest in the Surrounding Area

2.2 Identify Areas for Improvement

The project team investigated the potential improvements related to the shared street concept, including:

- Reducing the number or width of vehicular lanes
- Relocating the existing curb line
- Adding bicycle lanes
- Expanding the pedestrian walkway into a shared use path
- Increasing available green space between motorists and non-motorists

2.3 Initial Design Development

Four different alternatives for the redesign of Newell Street were developed with varying extents of traffic operations and pedestrian/bicyclist connectivity between the three areas adjacent to the project site.

2.4 Community Outreach

The project team performed community outreach by hosting two community meetings. M-NCPPC representatives were in attendance and provided feedback at both meetings.

After creating four initial design approaches, a community meeting was held on October 10, 2023, to present the design concepts to the community, answer questions, and record

feedback. Contact information was also provided to residents to allow for additional comment submissions outside of the community meeting time. A second community meeting was held on July 11, 2024, to present six updated design concepts, followed by another comment period. Community members provided additional feedback and confirmed their preferred design alternatives. Refer to section 4.0 Community Feedback for more information.

2.5 Incorporate Community Feedback

The recorded community feedback directly influenced the final design concepts and recommendations. After the initial community meeting and period for comment submissions, the project team consolidated design ideas and developed new alternatives in response to feedback provided by the community. After the second community meeting, the project team narrowed down the options based on feedback received by residents to present the design alternatives included in this report.

2.6 Final Design Development for Study

After incorporating all of the community feedback, the project team prepared the enclosed design alternatives for this Planning Study, which are presented in Section 5. These alternatives include a preliminary cost estimate and a discussion of the pros and cons for each option.

A traffic study (see Appendix D) evaluating each alternative was performed to analyze how each one affects the following transportation goals:

- Vehicular operations at and near the Newell / East-West Highway intersection
- Pedestrian and bicycle safety and comfort
- Motor Vehicle safety
- Operational efficiency throughout the surrounding network

This study analyzed the vehicular level of service and intersection delay at seven intersections in the surrounding area, the Bicycle Level of Traffic Stress, and Pedestrian Level of Comfort for each design alternative. The combination of community feedback along with the results of the traffic study informed our final recommendation.

3.0 Existing Conditions

The project team performed an initial topographic survey of the site to identify existing conditions. Newell Street is classified as a Commercial Shared Street in the Master Plan of Highways and Transitways (MPHT). This classification is defined as a space that is shared by people using various modes of transportation. MPHT and the Complete Streets Design Guide considerations include a maximum vehicle speed of 15 mph, flexibility to close the street for special events, adding plantings and trees, creating shared streets for pedestrians and bicyclists, and distinguished pedestrian-only zones. The aspects of the shared street are enhanced by the residential Argent Apartments to the north, and Acorn Park to the south (see Figure 5).

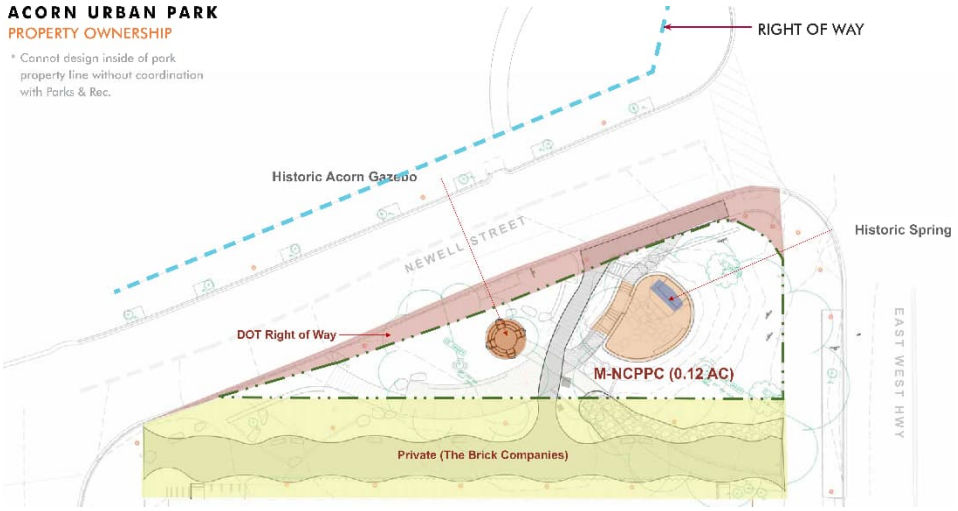


Figure 5: Newell Street Existing Property Lines

3.1 Newell Street

The existing Newell Street has two main travel lanes, with an additional turn lane in the eastbound direction (see Figure 6). There are pavement markings indicating bicyclists may use the full travel lane. The westbound side has a brick sidewalk with tree plantings and light poles between Newell Street and the Argent Apartments. A sidewalk connected to Acorn Park is along a portion of the eastbound side of Newell Street. Two curb inlets, one on each side of the road, are located approximately 80 feet from the intersection with East-West Highway.

Figure 6: Newell Street, Facing East

Traffic Study

Seven intersections were considered within the study area that would be affected by changes to the traffic pattern along Newell Street (see Table 1 and Figure 7). In order to evaluate impacts to vehicular traffic, the project team contracted a data collection vendor to collect turning movement counts in May 2025. An additional field visit was performed in June 2025 to supplement and verify existing traffic conditions, including lane

assignments and turning restrictions at Newell Street and adjacent roads. The project team also reviewed crash data from 2015 through 2023.

Table 1: Traffic Study Intersections

#	Intersection Name	Control Type
1	East West Highway @ Georgia Avenue @ 13th Street / Burlington Avenue	Signalized
2	13th Street @ Kennett Street	Stop Controlled on Kennett Street
3	13th Street @ Eastern Avenue	All-Way Stop Controlled
4	East West Highway @ Blair Mill Road @ Newell Street	Signalized
5	Newell Street @ Kennett Street	Stop Controlled on Kennett Street
6	Newell Street @ Eastern Avenue NW	All-Way Stop Controlled
7	Blair Mill Road @ Eastern Avenue NW	All-Way Stop Controlled

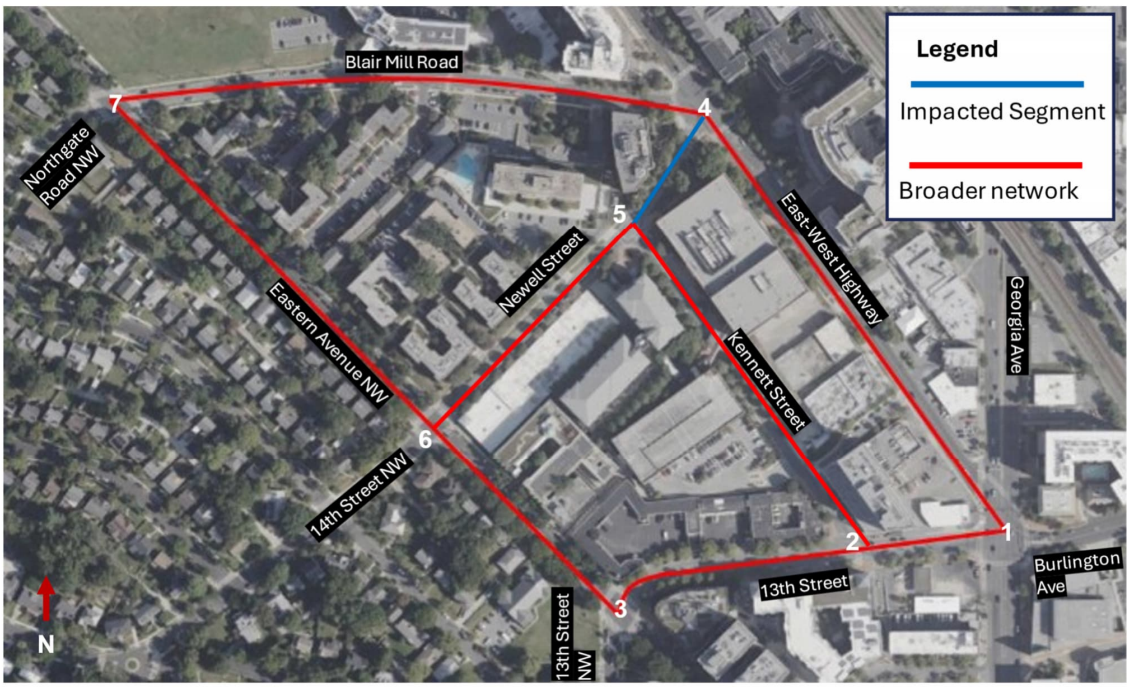


Figure 7: Study Area of the Newell Shared Street Traffic Study

The project team also considered the existing Bicycle Level of Stress and Pedestrian Level of Comfort within the same project area (see Figure 8 and Figure 9). The existing conditions along the section of Newell Street considered in this project are somewhat comfortable for pedestrians, but high stress for cyclists.

Figure 8: MCDOT Interactive Map of Bike Level of Stress

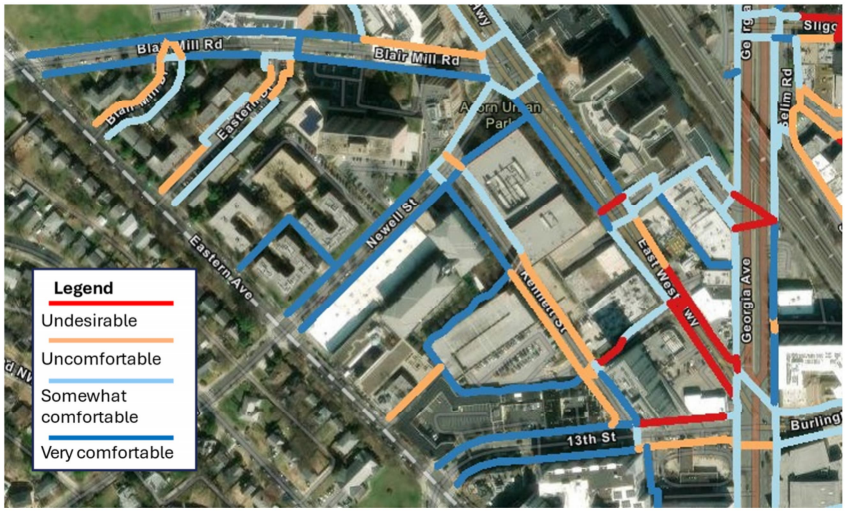


Figure 9: MCDOT Interactive Map of Pedestrian Level of Comfort

3.2 The Argent Apartments

The Argent apartments are located to the north of Newell Street, at the intersection with Blair Mill Road (see Figure 10). Residents regularly use the sidewalk and green space outside of the building and cross Newell Street to access Acorn Park and other points of interest (see Figure 11).

Figure 10: The Argent Apartments (Arrow), Facing West

Figure 11: Brick Sidewalk and Greenspace (Arrow) Adjacent to The Argent

3.3 M-NCPPC Acorn Park

Acorn Park is owned and maintained by M-NCPPC and has unique significance to the area with two main historical features. The park is the site of the original mica spring for which Silver Spring is named. In 1850, Francis Scott Blair, a prominent newspaper publisher with ties to the President at that time, came across the spring in 1840 and later established an estate there called “Silver Spring.” Blair had the acorn gazebo constructed in 1850 to pay homage to the oak tree where he proposed to his wife Eliza. The M-NCPPC eventually acquired the park to prevent the proposed Newell Street expansion from encroaching on the spring. A public-private partnership established in the 1990s renewed the park by facilitating an art installation and drawing more people to the site (see Figure 12).

Figure 12: Acorn Park, Facing Southwest

3.4 Discovery, Inc.

The existing aesthetic stone path south of Acorn Park is located on the Discovery, Inc. private property (see Figure 13). Integration or changes to the existing pathway into the project area will require coordination with the property owner.

Figure 13: Discovery, Inc. Stone Walkway, Facing West

4.0 Community Feedback

The following is a summary of community feedback accumulated during the study period. Appendix A: Community Feedback contains detailed accounts of comments received.

4.1 Initial Feedback – Community Meeting 1

The initial community meeting held on October 10, 2023 allowed participants to give the project team feedback about their priorities for the project site and reflect on some basic concepts (see Figure 14). Many of the participants were in support of providing bike lanes and pedestrian circulation but favored closing the street to cars either temporarily or permanently. Participants were also concerned about the safety of pedestrians crossing the street, as well as the safety and privacy of residents in the adjacent buildings.

Figure 14: Participants Reviewing Design Concepts at Community Meeting 1

Participants were also interested in the opportunity to incorporate park programming into the designs. Some suggestions included food trucks and outdoor classes, similar to what was available during the previous Newell Street closure during the COVID-19 pandemic.

4.2 Concepts Presented and Additional Feedback – Community Meeting 2

In response to the feedback received during Community Meeting 1, multiple designs of Newell Street were developed. These designs addressed concerns and requests that were introduced by community members throughout the previous feedback period. A meeting was held on July 11, 2024 to present five updated design concepts.

Concepts 1 and 2 highlighted the benefits of a permanent street closure that would expand/combine Acorn Park to the Argent public open space. Concept 3 explored the idea of a shared street, which would allow for bicycle and pedestrian traffic to exist in tandem with one-way vehicular traffic. Concepts 4 and 5 keep Newell Street open for two-way traffic but narrows the street cross-section and allows for temporary street closures to accommodate park activities and special events.

4.3 Key Findings

Through feedback gathered from community engagement efforts, it is apparent that the community is largely in support of closing Newell Street to vehicular traffic. Many community members favored the street closure because they believe that closing the road will reduce traffic accidents at the intersection and increase pedestrian safety, ultimately resulting in greater activation of the park. Residents of various nearby buildings noted that the park was used much more frequently when the road was closed during the pandemic, and that it became a community asset which was lost when the road reopened. While a large number of community members support the road closure, others are opposed due to concerns regarding the safety of the park at night and disruptions to traffic patterns. A number of individuals noted that when the road was closed during the pandemic, there was disruptive activity occurring in the park at late hours of the night that

was disturbing to residents of the adjacent buildings. If the park is able to permanently expand into Newell Street, further coordination will be necessary to ensure that the park remains safe at night and does not become disruptive to the neighboring buildings.

The strategic plan for Downtown Silver Spring outlines a variety of goals, one of which is making the region more bike friendly. A number of community members voiced support for bike and scooter accessibility throughout the site to contribute to this broader goal. Many of these individuals were in favor of maintaining Newell Street as a road but closing it to vehicular traffic. This would allow for Newell Street to become a shared street for bikers and pedestrians and would make the park safer by reducing the speed of traffic.

A number of community members took interest in the potential for programming opportunities that might activate the space and facilitate greater community interconnectedness. Events like farmers' markets, wellness events, and food truck visits may motivate more people to use the park and provide people with opportunities to interact with their neighbors. Such events are possible with the full and partial closure of Newell Street, though the type of event may look different depending on the level of traffic that is allowed across the site.

5.0 Proposed Design Concepts

5.1 No Build

One design option is not to implement improvements to Newell Street as it exists today. Based on community feedback and the Master Plan for the project site, this option is not recommended. There is space within the MCDOT right-of-way and community support to improve the design to be in line with the shared street classification. Community members wanted to see changes to the project site and were generally in favor of expanding non-motorist facilities along Newell Street, as well as having the option to close the street to traffic.

5.2 Alternative 1 – Narrowing Newell Street with Two-Way Traffic with Removal of Eastbound Right Turn Lane

Alternative 1 maintains two-way vehicular access on Newell Street but removes a turn lane and narrows the curb line to provide a wider pedestrian path and seating area within the existing MCDOT right-of-way. The proposed design includes the potential for bike lanes in either direction along Newell Street (see Figure 15 and Figure 16). Reducing the curb radius at the intersection with East-West Highway can also create more space for pedestrian travel and leisure. Design elements can be implemented to integrate the Newell Street pedestrian area with Acorn Park by using paint, graphics, landscaping, or site furnishings.

Figure 15: Alternative 1A Design Concept with one bike lane

Figure 16: Alternative 1B Design Concept without bike lanes

Traffic Study

The proposed option does not negatively impact existing pedestrian or bicycle infrastructure, and would likely maintain the existing Pedestrian Level of Comfort and Bicycle Level of Traffic Stress under normal operations.

This alternative maintains two-way traffic on Newell Street and has only minor operation impacts since it does not necessitate redistribution of traffic volumes. Operations would be consistent with the existing traffic conditions, even with the removal of the right turn lane onto East-West Highway.

Flexible Road Closures

Alternative 1 also allows Newell Street to be temporarily closed through the use of temporary bollards or gates that can be closed during temporary community programming events. Examples of temporary bollards include large, moveable planters, traditional cylindric steel barriers, or other movable hardscaping (see Figure 17). During these events, the impacts to traffic operations in the surrounding roadway network would be similar to a full road closure (see Alternative 4); however, these events could be limited to weekends or off-peak hours to avoid major traffic disruptions.

Figure 17: Example of Moveable Planter to Temporarily Close Street

Design Considerations

Alternative is the most flexible design option and allows Newell Street to be opened or closed to vehicular traffic on a temporary basis. Changing the existing curbline of the roadway would also require relocation of utilities, including the two existing curb inlets.

A formal integration with Acorn Park would require design and permitting coordination with M-NCPPC, while maintaining a project area within the existing right-of-way would not.

5.3 Alternative 2 – Narrowing of Newell Street with One-Way Westbound Traffic

The second design concept would significantly reduce the width of Newell Street and limit vehicular traffic to the Westbound direction. Moving the curb line on the south side of Newell Street would allow for the installation of bicycle lanes and a larger pedestrian path to create the shared street vision laid out in the master plan. Additional design elements can be implemented to integrate the Newell Street pedestrian area with Acorn Park by using paint, graphics, landscaping, or site furnishings (see Figure 18).

Figure 18: Alternative 2 Design Concept

Traffic Impacts

Restricting vehicular traffic to one-way would eliminate opposing traffic conflicts on Newell Street and could positively affect Pedestrian Level of Comfort and Bicycle Level of Traffic Stress. This alternative creates the opportunity to use wider pedestrian paths or separated bicycle infrastructure along Newell Street. There is a reduction in conflict points between vehicles and pedestrians and can potentially reduce turning movement and head-on crashes at the East-West Highway intersection.

Removing one direction of traffic on Newell Street also requires volume redistribution within the vehicular travel network. The intersection of Newell Street, East-West Highway, and Blair Mill Road (Intersection 4) saw some improvements in delay times and V/C ratio, but the delay at Georgia Avenue and 13th Street (Intersection 1), an intersection already near capacity, increased. This alternative introduces delay increased for left-turns at side

streets, increased queue lengths, and added demand at previously uncongested intersections. Please refer to Appendix D for the full traffic study.

Design Considerations

This design option designates space for motorists, bicyclists, and pedestrians in a shared street configuration. Changing the existing curbline of the roadway would also require relocation of utilities, including the two existing curb inlets.

A formal integration with Acorn Park would require permitting and coordination with M-NCPPC, while maintaining a project area within the existing right-of-way would not.

5.4 Alternative 3 – Narrowing of Newell Street with One-Way Eastbound Traffic

This design concept is similar to Alternative 2, with the main difference being the direction of one-way traffic along Newell is limited to the Eastbound direction, towards East-West Highway. Just as in Alternative 2, this change would lend itself to a shared street design as shown in Figure 18.

Traffic Impacts

Limiting traffic to one-way eastbound on Newell Street could positively affect Pedestrian Level of Comfort and Bicycle Level of Traffic Stress by reducing vehicle conflicts. This alternative also creates the opportunity to use wider pedestrian paths or separated bicycle infrastructure within the existing MCDOT right-of-way.

Rerouting the westbound direction of traffic from Newell Street requires volume redistribution within the vehicular travel network shift volumes to create additional demand on nearby intersections with limited capacity. This alternative introduces delay increased for left turns at side streets, increased queue lengths, and added demand at previously uncongested intersections. Most significantly, the intersection at Georgia Avenue and 13th Street (Intersection 1) westbound through movements being further increased past capacity. Please refer to Appendix D for the full traffic study.

Design Considerations

This design option designates space for motorists, bicyclists, and pedestrians in a shared street configuration. Changing the existing curbline of the roadway would also require relocation of utilities, including the two existing curb inlets.

A formal integration with Acorn Park would require permitting and coordination with M-NCPPC, while maintaining a project area within the existing right-of-way would not.

5.5 Alternative 4 - Permanent Closure of Newell Street

The first design concept consists of permanently closing Newell Street to vehicular traffic and potentially expanding the adjacent Acorn Park. This would create a pedestrian and bicyclist-friendly space with a network of shared-use paths and also remove one street crossing. The removal of the roadway and installation of vegetation and grassy areas would reduce the amount of impervious area and thereby reduce stormwater runoff.

Design elements can be implemented to integrate Newell Street with Acorn Park and the Argent open space, or to emphasize the historic elements of Acorn Park, such as the spring. The expanded green space and the addition of a wider shared-use path or plaza would also provide a location for various community programs and functions (see Figure 19 and Figure 20 for potential design concepts).

Figure 19: Alternative 4A - Newell Street Closure Design Concept

Figure 20: Alternative 4B - Newell Street Closure Design Concept

Traffic Impacts

All vehicular movements to/from Newell Street would be redistributed to other roads within the project area network. This would improve both the Pedestrian Level of Comfort and Bicycle Level of Stress. While this would eliminate crash potential and conflict points between vehicles and pedestrians, this alternative produces the most significant operational impacts. This would increase volumes for two conflicting vehicle movements at the intersection of Georgia Avenue at 13th Street and East-West Highway (Intersection 1), an intersection which is already near capacity. The longer queues and delays created by this alternative could also contribute to undesirable driver behaviors such as entering the intersection during yellow or red phases. Most unsignalized intersections were not impacted, however, some minor intersections had increased turning volumes which lead to increased delays. For a comparison of the Measures of Effectiveness (MOEs) including Level of Service (LOS), average delay, volume to capacity (v/c) ratios, and 50th and 95th percentile queues for each movement at every intersection, please refer to Appendix D.

Design Considerations

By removing the roadway and vehicular traffic, the project site becomes a more bicyclist and pedestrian-friendly area. Removal of the roadway would also require relocation of utilities, including the two existing curb inlets.

Additionally, any integration of adjacent properties would require coordination and approval of private property owners and M-NCPPC. The need for Parks programming at this location is lessened with the ongoing development of the South Silver Spring Urban

Park, located approximately 500 feet further south of the project site, between Kennett Street and East-West Highway (see Figure 21).

Figure 21: Proposed South Silver Spring Urban Park

6.0 Cost Comparison

The following is a cost summary for the four design alternatives presented. Alternative 4, closing Newell Street to all traffic, has the highest associated cost as it will require additional construction efforts to transform the existing roadway into a park. The lowest cost option is for Newell Street to remain open to two-way traffic (Alternative 1), which focuses on limited modifications to the existing roadway while incorporating pedestrian and bicycle safety improvements in line with MCDOT's Vision Zero goals. Utility relocations and Maintenance of Traffic will be required for all options.

	Alternative 1	*Alternatives 2 and 3*	*Alternative 4*
SUBTOTAL	$ 391,000	$ 507,000	$ 699,000
40% CONTINGENCY	$ 156,000	$ 203,000	$ 280,000
TOTAL	**$ 547,000**	**$ 710,000**	**$ 979,000**

7.0 Recommended Design Option

The project team recommends Alternative 1, which maintains two-way traffic on Newell Street. The proposed design concepts narrow the travels lanes to increase the available space for pedestrians and cyclists. This option is in line with the shared street classification outlined in the master plan for the lowest estimated cost and minimal disruption to traffic operations in the surrounding network. Alternative 1 also offers the most flexibility as it could allow for the option to open or close the street to traffic for temporary events with the addition of bollards, moveable planters, or hardscaping. A permanent street closure is not needed at this time, as the new South Silver Spring Urban Park being developed by M-NCPPC one block south of the project site may fulfill the community's desire for an expanded area for community gatherings and programming. Should MNCPPC engage in a redesign of Acorn Park, the layout and function of Newell Street should be included in that design effort so as to create a unified plan for Acorn Park, Newell Street, and the open space adjacent to the Argent Apartments.

Appendix A: Community Feedback

NEWELL STREET COMMUNITY MEETING #1

MC CULTURAL ARTS CENTER

OCTOBER 10, 2023

PRESENTATION

Matt Johnson:

"Good evening, everyone, thank you so much for coming this evening. My name is Matt Johnson, I'm a Capital Project Manager with the Montgomery County Department of Transportation. I'm joined this evening by a few colleagues from ParkerRodriguez, our consultant. We have Dan Avrit and Suhang Liu, and we also have Michael Mercada who is another one of our consultants, and in the back, we have Michael Mitchell, also from DOT, and Jonathan Newman from the Regional Services Center. Thank you so much to everyone for joining us. I'm just going to give a brief introduction to the project and then I'm going to let Dan take it over from there. I'm sure you're all familiar with Newell St., it's only about a block and a half from here. This is my contact information; this will appear again at the end of the screen. This presentation and all of the meeting materials that you see here are available on our project webpage, so if you go to MCDOT, the bikeways page is where it's currently housed, this is not a bike project necessarily but that's where it's currently housed. You can find a link to all of this information, so you can take pictures of it, you can take notes, that's great, but it is available online so you can also get it that way.

I just want to make sure we set the stage and that we're all on the same page here, so as I'm sure most of you are aware, during the pandemic, Newell St. was closed to traffic to create more space for outdoor social gathering and social distancing, and has subsequently been reopened to cars. This study kind of came out of that, based on trying to have a better understanding of maybe what the future of Newell St. should look like. Do we want to go back to a situation like what we had during the pandemic like where we had it closed to traffic some of the time or all of the time? Do we want to leave it open to cars? Do we want to reconfigure it? So, we don't have the answers to those questions yet, we're not going to give you the answer to those questions tonight because we're not at that stage of the process yet. What we are doing right now is we are starting a study. So, you'll see some concepts over here, these are rough sketches. Think of these as back of the napkin sketches after a conversation. These are mainly to give you something to reflect on and talk about. Because if we showed up with nothing, it might be hard for you to imagine the different scenarios that we're talking about. So, this gives us something to talk about, none of these have been vetted, none of these have gone through the study process yet, they haven't been subject to public comment yet. This is part of why you're here, is to give us your feedback. If you have any of these that you really like, or any of these that you really hate, we want to hear that. But if you think that it's maybe mostly in the right direction but you think that something else could be different or you would like a little change here or there, that's the kind of great feedback that we could have right now.

So, we will be having another meeting probably in about six months, after this study is completed to get more feedback, and that will be kind of the end of the study phase. We don't have any money currently for design, so this is not something that is eminently happening, this is not something that you have to

worry about showing up tomorrow. There's no money for design, there's no money for construction right now. This is just a study to look at how things are. We're going to have a question-and-answer period at the end, so if you don't mind holding those. And so, with that, this image on the screen here shows sort of some context about where Newell St. is. I'm sure that most of you are familiar with that, we're in the neighborhood, in fact. We're down here, in this building right here, just for context so you're oriented. And with that I am going to turn it over to Dan to give the rest of the presentation and then I'll come back for questions at the end."

Dan Avrit:

"Hi I'm Dan Avrit, so I'm with ParkerRodriguez, we're a landscape architecture and urban planning firm, and we were contacted by MCDOT to kind of look at the overall, what could happen here. We stepped back and we started looking at the Silver Spring Master Plan and what they had laid out. So, this first slide has roadway classifications. You can see kind of the magenta lines are some of the major lines, some of them have BRT. You can see the purple line sweeping through. You see Metro and where the train comes through, and then our site is here. Currently it is classified as a business shared street, so it's a small street. And then you'll see as we move through here in the Silver Spring Master Plan for Urban Parks, part of the green loop connectors. So, there's the inner loop and the outer loop that's part of the overall master plan. So, these are meant to be more green streets, bike lanes, and really part of the open space circulation around Silver Spring that will be implemented over time. So, you'll start to see these different concepts become realized in the future, including some connections. So again, Newell St. is at the highlighted location. If we look at the overall park system, there's a series of smaller parks around here, and Newell St. you know, when it was closed it started to feel like maybe a larger park, a little bit more of a larger node that becomes significant within the neighborhood. But it's interesting to see how this kind of fits in with the overall downtown master plan in terms of a park system.

So, within that, if we focus in on just this quadrant of Silver Spring, you can see how these open spaces tie in together. There's proposed protected crossings that are meant to come in. This is part of that green street connector. There's new pedestrian links that are planned, like to the Blairs. There are new connectors that are planned kind of mid-block in here. You can see part of this is actually realized, others are planned, so those will get implemented over time. It all depends on how these different properties redevelop and what stage they are. It could be a few years, it could be fifteen, twenty years. That's why they do a master plan, so that in the end, it all kind of makes sense together, and that's part of what we're looking at, is how does Newell St. really fit within that? Is it important as a street? I think that's part of the community feedback that we'll get. Is it important more as an open space? It lends itself to looking at it in different ways.

So, when we look at it just as it is today, right now 410 is here and Blair Mill Road comes in, and they converge at a point. From a traffic engineer standpoint, they're not going to like that. So really, they would like to have a separated intersection, obviously it creates traffic timing issues in there. And you can see there's two lanes each way on 410. Blair Mill Road is a two-way street. Newell St., kind of to the west of Kennett St. and on Kennett St., those have parking indicated by the yellow and you can see the cars marked out there. So, this block does not have any parking on it. It's strictly a pass-through road. If we look at that a little bit close you can kind of see that these are shared lanes on Newell St. You can see the turn lanes turning right onto East West Highway, or 410. And here's some of the existing photos just

since we're not out there on the site. So, what's interesting is that Acorn Park comes right to the curb there, which kind of forms a blunt end to that park. I think when the road was closed there was a little bit more flow in and out of the park. From our standpoint, they basically asked us, what do you see in the park and from a potential perspective?

We started to look at this and the way it starts to interact. So, we cut some street sections through here and you can see we noted the width of the lanes. Where you have the three lanes and the turn lane, they're about 8ft, 9ft lanes going east. And then coming west on Newell St. it's about a 12ft and 6in. lane with the shared bike lane that's part of that. Basically, the bike lane at the turn lane is shared with that turn lane. Here's some major pedestrian circulation. So, there is no pedestrian circulation on the north side of Newell St. Pedestrian circulation is along this side and then on through Acorn Park, currently. It's really kind of a park circulation along that side. On the other side of Newell St., on the north side, it's more of a traditional sidewalk and there's beautiful London Planes that line that. You can kind of see in view two the park sidewalk through Acorn Park. And then this view three, which is indicated by the number three in here, you can see where the existing walkways along the curb, and then it turns in at the Acorn Pavilion.

Overall, this is kind of broken into three pieces. Acorn Park currently is a little over a quarter of an acre. It's three hundred and eighty-one feet long, so it's a football field long just kind of size wise. The current street is about 6300 sq. ft. And then Argent Park on the north side is about 4200 sq. ft. So, it ends up becoming almost a half-acre if you look at all of those together. So, we said, there's something that's kind of nice about linking these across, you actually get a pretty significant open space instead of these smaller, kind of little pocket parks it could become a significant open space. Looking at the topo, this is a side of the spring, and the spring is located here for Silver Spring, and that's kind of a nice feature, it is at kind of a low point, so the road sweeps down and then sweeps back up to East West Highway. It forms kind of a nice enclosure to that space. The slope of the street is not tremendous, but it is sloped. Traditional, kind of what you would consider flat for sidewalks is 2%, this is about 4%. It is sloping down, so it makes it a little hard to use just as a flat space as it is today, but there are uses that you could put within that. We think we could utilize most of that space if we wanted to go with that route.

Looking at existing trees, there are actually some really nice trees. There's a beautiful big pin oak that's at the heart of Acorn Park. There's a white oak right behind the pavilion, again a nice tree. There's a magnolia at this corner, a honey locust out on East West Highway, 410. And another white oak, a smaller white oak, was planted very recently at the west end of Acorn Park. And then we have these London Planes that kind of line the street along the north side of Newell St. Here's some of those trees today. So, we think those are real resource, they're actually really kind of a defining element, I think, of this space. Again, kind of that view, and you can see that if you look at the overall space, it's actually quite nice, and then the street kind of bisects that space. There was a plan that was prepared for Acorn Park as part of a renovation that brought a walkway along the curb of Newell St. I believe there was a boardwalk that swept through and tried to engage the spring, and kind of minimal grading around the existing trees here and here. I'm not exactly sure where that stands but it kind of got stalled as far as I can tell.

So, what are the objectives of this space? Really, it's to bring the community together. If this space is to be redeveloped— create and encourage social interaction; allow places for people to just come and enjoy open space individually; together; provide a variety of function for different ages and different mobility; provide safe and pleasant pedestrian connectivity between the parks. So, we're really trying to

enhance, you know, this should be an enhancement for the neighborhood, and kind of pull in as much as we can and really make this a unique living opportunity. We'll have some examples of photos you can see, but provide some games, farmer's markets, food trucks. Really be able to program it and have it have a life at different times of the week and throughout the year. Provide a unique destination within Silver Spring, which compliments the existing Acorn Park. This really should be celebrated. It deserves more significance than maybe it has today. And then we want to help define the character, identity, and help celebrate the legacy.

We want to support public transportation and bicycling through that space like it is today, and then integrate sustainable practice in the landscape, and that's not just the environment, you know, sustainability also means the neighborhood. If it's not sustainable for the neighborhood in terms of people enjoying it, it's not going to be loved and it's going to be forgotten. That's kind of the legacy of parks, is if they're designed and they're loved, they really become sustainable because the community gets behind that. So, we went through a couple of schemes, and we kind of started with light interventions potential and then we looked at, what if we took our blinders off and looked at something really different?

So, this first scheme, we're looking at blocking off, similar to what we did during the pandemic, block off the east bound lane, create a one-way street with a shared lane on the north side with a dedicated bike lane on that south side. So, it really promotes bicycle activity, and then it allows in the yellow, for a shared pedestrian space in the street and expand Acorn Park to allow that side of the park to breathe. Again, the park goes right to the curb and it doesn't allow you to circulate on that side of the park. So, we thought this expansion of Acorn Park allows it to go back and become a street potentially in the future. It also doesn't create a lot of intervention right from the beginning. Some of those examples of what we could do is kind of through paint and intervention. So, we could still maintain the street, bring out some street furniture, do some kind of fun things whether it's built in, and really make the pedestrians feel safe on that side. And then have fun and make it creative, make it a fun space, something that's memorable and then ties in with the overall. These are just images; they're not meant to be realistic proposals. It's really just to give you an idea of what these spaces could possibly be.

Concept 2 said well, what if we just expanded Acorn Park permanently? We put a new curb, that's kind of represented by the golden line around here. That expands the park, still maintains the shared travel way on the north as a one way heading west, and it creates that dedicated bike lane on the south side of Newell St. connecting out to East West Highway. We think that this allows more flexibility to it, just expands the park, the curb provides a little bit more protection for pedestrians within the park and you know, expands the park but still maintains vehicular circulation. Some examples of that, again, these are just concepts. This one is a little bit more hardscaped, a little more urban, allows more flexibility. You could have food trucks in there, you could have different programmed activities, and maybe more as kind of an urban park.

Concept 3 would be similar to what was done during the pandemic, where you close the street with artistic barricades at the ends, really demarcates it in a definitive way, that people know that the street is definitely closed not with the temporary barriers, but ways that everything could be pulled up and it also doesn't require a lot of investment. We could do this fairly quick; it could be something that's phased. So, you could start with closing the street, maintain bike lanes on the north side and then as the community starts to live with it for a little bit, you decide what you permanently want to do with Newell

St. And here are some of those examples. You can have a lot of effects with just treating the paved surface artistically, bringing in some planters. Again, it's not a tremendous investment, and it really allows people to see how the space could possibly be used and start to live with it, and not have it be like what was done during the pandemic, which was something that was done very temporarily, it could be pulled up very quickly. This is a little bit more permanent, but again, all temporary, nothing is a tremendous investment, and the community could decide in ten years that maybe this was a bad idea, we really want circulation in here.

This last concept is, let's really connect Argent Park to Acorn Park, and really make this a park, really make it more of a destination. Again, like I was saying earlier, it's about a half-acre between the two. Argent Park is a public/private space, is maintained by the residential community, but really, I think this would function as kind of a larger public space. That would mean doing a new curb line that ends Newell St. here and then connects there. One thing that's positive from a traffic standpoint is Blair Mill Road and East West Highway are one intersection, and you don't have the conflict with traffic. Bikes in this scenario could maybe circulate to the park a little bit more seamlessly. I think there's a lot more flexibility as to where bike lanes could go, so I think there are a lot more possibilities here. We didn't really put a lot of diagrams as to how circulation would occur because I think at this point you could take any preconceived notions that you have and really design it as a destination park. And I think in this case, you would really rethink it, create the kind of space you really want. I think it could be a lot more green, you could tie everything together, you aren't trying to have some vehicular circulation or trying to keep the street in place. You really design this place as a cohesive, overall experience, and that's kind of the extreme, I guess I would say.

So, I think there's a lot of opportunities here. Again, like Matt was saying, it's a study, and it's really open for public input. And then we'll kind of cobble all that together and based on the public input we can start to generate some other ideas. And what we've done is, I don't know if Matt you want to talk about it, but we've provided a bunch of boards here. We have kind of a preference survey, and what you can do is you can put a green dot on what you like, red dot on what you do not like, and then we have comment cards up here. If you have comments, please give us all of your comments. I think you can also give comments on the website. There's also post-it notes if you have comments on a particular plan and you want to post on that. There are pens up here and there's a sign-in sheet and you can leave an email if you want. Again, we would love to hear your comments, we're here just to facilitate it."

Q + A

Community Member 1:

"Hello. So, I live at 8045 Newell, some of my neighbors are here. And I think that unlike some people in my building, I thought that when the street was closed, it was great. A lot of people had problems with it, but I guess one question that I have is, is doing nothing an option? I do appreciate you getting into this, but I guess I'm wondering if doing nothing is an option. And then my biggest question is, because you did mention a master plan, I'm sure you know that there's a park that's going to be built like half a block away on East West Highway, the demolition has already started, and I know that it has many uses planned. But I guess I'm kind of wondering, even though I do favor green space, why money would be spent to do something in such close proximity to that? And then sort of related to that is in the master

plan there are potential uses for the old discovery building, the storage unit may be expanded either as a storage unit and/or an apartment building, so we'll be seeing a lot more traffic and the street will potentially be closed. So, while there's a master plan, I'm wondering if you're taking all that into account and how that would all be [addressed]."

Matt Johnson:

"Yes so, just to repeat the question to make sure I get it and if I missed anything just correct me. The first is, is doing nothing an option? Doing nothing is always an option. We didn't create a board for that because we already know what that looks like, right? There's no money to do anything other than study this right now. So, if nothing else happens, then nothing is going to happen. We don't have any money so nothing would happen unless there is a big community support for this in which case then we find money to move forth with this. If there's not support for this, then it's going to stay exactly like it is today. So, doing nothing is always an option. Your second question was about, sort of related to why we would build a park here when there's another park being constructed nearby. The idea here is not necessarily to build a park, the idea here is to reimagine the space based on the community experience that we had during the pandemic, and there was support from some people for maintaining that. There was opposition from people for maintaining that as well, but it brought up this larger conversation of what should we do with this space? Is there a better use for Newell? And maybe it's still open for traffic, maybe we need the right turn lane, maybe we can make it a little smaller. Maybe we can put a sidewalk in, maybe we reconfigure the park a little bit to make it work better. There are different options, and then what I would say in terms of, you know, do we need this park when we have another park – we have these two small parks, and a lot of times tiny little spaces like that don't work that well but when you combine them or you connect them and make them a little bit bigger, then those parks and those public spaces work a little bit better. So, the whole is greater than the sum of the parts, but again, we're just very early. And your last question was about development and traffic. What I would say is that yes, we're absolutely considering what's in the development pipeline, what the master plan anticipates, but we're also cognizant of the fact that if you build a city for cars, you get cars, right? There are lots of places you can drive in Silver Spring, there are lots of roads, we don't want to create traffic problems, and in fact, closing this block of Newell Street might actually make traffic work better as Dan kind of alluded to because instead of having this weird three phase signal at East West Highway and Blair Mill, and Newell, you'll just have a regular two phase signal, so you might actually get more traffic through that way, counterintuitively, you might actually get more traffic through that way. I know it's kind of a bad idea in planning circles to bring up anything about Manhattan, but I'll just say that when they closed Broadway through the Square, traffic actually got better. People were really worried that, you're going to close Broadway, we can't drive down Broadway anymore, but it actually made traffic move better because there were fewer signal phases. So, we are aware of that, we will take that development into consideration."

Community Member 2:

"I would consider any of these an improvement, you know, the best space is the one that gets built and all that. That said, I would strongly favor the fourth option. I think what you said toward the end is kind

of key, where we'll have this, probably still a popular park, a bigger park by where the old tire building is, but it's all pedestrian walk, there's not a street between those, so I think it'll help activate both spaces more. And as someone who during the pandemic, when Acorn Park went from almost never being used to being used a lot to now almost never being used again, and that's frankly because that space is not there. I have friends with children who used to come by and now they don't because they don't want their kid running out into traffic and what have you. I think having it completely closed off is a much larger benefit than any of the cost of that. I'll also point out that we are a half mile from the biggest bus stop in the region, the Metro, and soon to be a Purple Line station, so that will help. Even if it doesn't happen, we are still one of the most transit successful places in the country. The only other thing I'll say is from a pedestrian safety aspect is, you know, I walk in the area and don't own a car so I walk everywhere, and I kind of know that I'm taking my life into my hands [in that intersection], not necessarily with just Newell Street, but having to watch that third street, whichever the third street is, your head needs to be on a swivel, so I think that's another argument for it"

Community Member 3:

"I think that's one of the big points, is [that intersection is] easily the second worst intersection in the area, and I would go as far to say maybe the third or fourth worst intersection in all of Montgomery County. I just can't imagine making that intersection make any sense if the street remains open. I've seen a lot of accidents, I've seen a lot of people with near misses on that road, I saw a car get basically flipped in the air because it tried to U-turn because I guess it thought it was a roundabout, there's so much asphalt there. You can't do anything with that intersection, you can't do anything with the road or East West Highway as a whole unless you make that intersection a little bit simpler. Otherwise, you have this four-way road that smushes down into two lanes, but you need all four of those lanes in each direction in order to have all the turn lanes that you need on this road. I think that the curb line you drew in the fourth option kind of is like my dream because it allows you to really simplify that intersection. I think that alone would make this entire street way, way better. Not [just] Newell Street, but all of East West Highway would be way more pleasant."

Matt Johnson:

"Thank you for that comment, and what I will say is that it's even more complicated because Blair Mill used to go straight across over to Prince George's, so a long time ago that was the case, so it used to be a five-way intersection instead of a four."

Dan Avrit:

"I might also add, you know, in terms of pedestrians I didn't point it out, but there's actually a proposed pedestrian link that comes through here in the future, which is going to make this pedestrian connectivity across here even more important I think in the future."

Community Member 4:

"I support the fourth option. I lived in 8045 Newell for about a year during the pandemic and it was just so much nicer to have that street blocked off and people actually used Acorn Park. No one uses Acorn Park now; you go past it and it's a ghost town. I think it did actually make traffic better, you didn't have cars kind of like [coming off] East West Highway and coming into that part of the neighborhood. But I guess as a question too, is there any room for some sort of interim treatment? I mean just like bringing it back to what it was during the pandemic would be such an improvement."

Matt Johnson:

"I think it's premature to [talk about that] at this point, I think based on what we hear from this engagement process, which is going to last about 6-8 months, if there's a huge upswelling of support for doing something in the interim, I think we could take it back to our leadership and say we think the community would support doing something in the near term, and maybe also something in the long term, like if we ever have money to actually rebuild the street and expand the park and do something even bigger. That is certainly something that could be considered, but at this point since we haven't even done the study yet, that's premature, but it's a great suggestion."

Community Member 4:

"You know it's just a little frustrating that something that happened basically overnight during the pandemic requires realistically like what, a year and a half? Of study, finding the money, building the thing."

Community Member 3:

"I know that I've already commented, but the fact that we're even having this meeting I think it's pretty obvious that like everyone – I've never met anyone who wasn't like pretty much completely in support of this. I went to every meeting about this park when they were thinking of reopening it, and basically it was excuse number one, excuse number two, excuse number three. And then they were like, 'It doesn't matter, it's illegal for this park to exist. We have to demolish it; it has to exist as a road.' And now we're having another meeting where we're like maybe it's going to be a park again. I think there's no other way to interpret that other than that the response must be overwhelmingly negative."

Matt Johnson:

"Those decisions were made by a different division, I wasn't involved in those, I'm in our Capital Projects team. What I would say is we heard it from both sides and we were in a very unique situation in 2020 and 2021, where we had a situation that really hadn't occurred in a century, [being] the global pandemic. And we saw the traffic volumes across the region, across the country, drop precipitously, so it was an opportunity for us to reimagine the streets. Traffic is coming back now, we're starting to see that

like, I came here on the Metro and the Metro was crowded. But you know, people are going back to work more and more, so I think that when it was reopened to traffic, we weren't sure what the near-term future was going to hold, but we're having this conversation now, we did hear conversations from both sides."

Community Member 5:

"I live at 1200 Blair Mill, so right at the corner, I actually look down the intersection. And it's been amazing, the number of accidents and the near misses and the screeches that you hear at all hours since reopening that street. I think that people kind of lost all sense of how to manage that intersection, and so I'm glad that we're having this conversation. I also understand that a lot of different departments, I remember going down to the session that the Parks Department held in terms of that new park, and also, they didn't really understand what MDOT was doing or what was going on with the street, or what other departments were doing. But I highly encourage at some point, it would be great to have a joint meeting where we have folks from all of these departments and all these different meetings to kind of bring those together and have a conversation. But I also really acknowledge and thank you guys for sending around flyers, because I know that wasn't done in previous moments and I encourage you guys that as you're looking for feedback, put signage at the park, because I know that the only signage for the Parks Department [meeting] was put at the actual tire shop down the road that no one really walks by unless you really need to. So, I think it would be great just to have more communication and more signage there, letting folks know that you're studying this, to really get information from the folks that you know, don't look at the mail and just toss it to the side, or try to go to the park but don't use it anymore. But the park was a real salvation during the pandemic, and really brought a cohesive community element. So, I really appreciate the fact that you're also, I think in scenario three you mentioned bringing programming. Bringing farmers markets, bringing events that bring people to the park and really reintroduce people to the space, which I think is an essential piece to that to bring people back."

Community Member 6:

"I share a lot of the same sentiments with my neighbors here. I think any of these options would be better than nothing, I think that I would prefer the fourth option. I came in late so it sounds like there was maybe some discussion about how to activate the space. I know you said it was premature to talk about an interim option but I do think that would be really great because I know how long it could take to get Capital Projects done in this county. I think that my biggest thing was that during the pandemic it was so nice to have the food trucks there, and I know that a lot of that was handled by Tom Hucker's office, and I would kind of like that to be more of a function of the Parks Department, or whoever is like in charge of this project rather than like one staff member in a council member's office. So, I'm glad that there were, I guess, some discussions about how to activate that space, because I think that was a huge asset."

Community Member 7:

"So, this might not be the right place to ask this, but speaking of interim measures, and I had actually brought this to Transportation's attention and was basically, well – on Newell Street, at the corner of Newell and Kennett, facing toward East West Highway, is there any chance of getting a stop sign there? Because even our building, you come out of the garage and you just shoot around, people just shoot around the corner and the only stop sign is the one that's actually on Kennett right at the park. It's just a dangerous corner."

Matt Johnson:

"So that question would be directed to our traffic division because they manage the operations."

Community Member 7:

"I know, but they told me that they would only do that if it could be four-way and there's only two corners."

Matt Johnson:

"So if you ever have a request like that, not just that one but any request, you can email trafficops@montgomerycountymd.gov and that is the email that if you have a request for like lane remarking or a stop sign or signal phasing is weird, any of those requests go there, you get a log number, they will research it and follow up with you."

Community Member 7:

"So maybe just keep that in the back of your mind, because even if that block of Newell is closed, when people are coming around the other way and are shooting around the corner, [if] there's a lot more pedestrian traffic, it's more accidents [that could possibly happen]."

Matt Johnson:

"That's a great comment, and something we could look at as part of this is maybe, do we do some kind of treatment in the intersection to encourage people to slow down through engineering? You may have heard of the three "E"s, education, engineering, and enforcement. I'm on the engineering side so I always think engineering solutions are the best. I'm going to be biased, but doing things like maybe narrowing the intersection, or making it a raised intersection so you have to go over a speed hump, those kinds of treatments we could maybe consider something like that. That's a great comment."

VIDEO RECORDING OF MEETING

https://www.youtube.com/watch?v=BEjGw_7bRls

NEWELL STREET SHARED STREET FACILITY PLANNING STUDY

https://montgomerycountymd.gov/dot-dte/projects/NewellSt/index.html

NEWELL STREET

COMMUNITY MEETING | OCTOBER 10, 2023

SUMMARY OF COMMUNITY MEMBER REACTIONS TO CONCEPTS

*17 community members in attendance

CONCEPT 1:
ONE WAY SHARED STREET
- Positive Reactions - 0
- Negative Reactions - 7

CONCEPT 2:
ONE WAY SHARED STREET
& EXPAND PARK
- Positive Reactions - 2
- Negative Reactions - 5

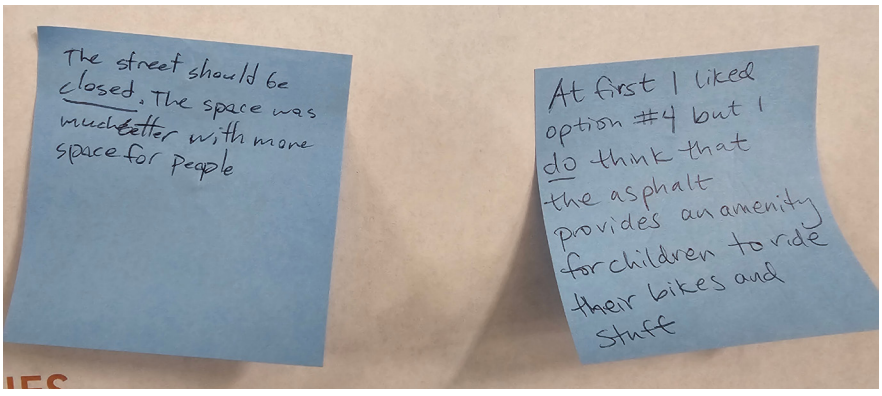
CONCEPT 3:
PEDESTRIAN STREET
WITH BIKE LANE
- Positive Reactions - 8
- Negative Reactions - 0

CONCEPT 4:
CONVERT STREET TO A
PERMANENT PARK
- Positive Reactions - 11
- Negative Reactions - 0

COMMENTS LEFT ON CONCEPT 3 BOARD (STICKY NOTES):

"That street should be closed. The space was much better with more space for people"

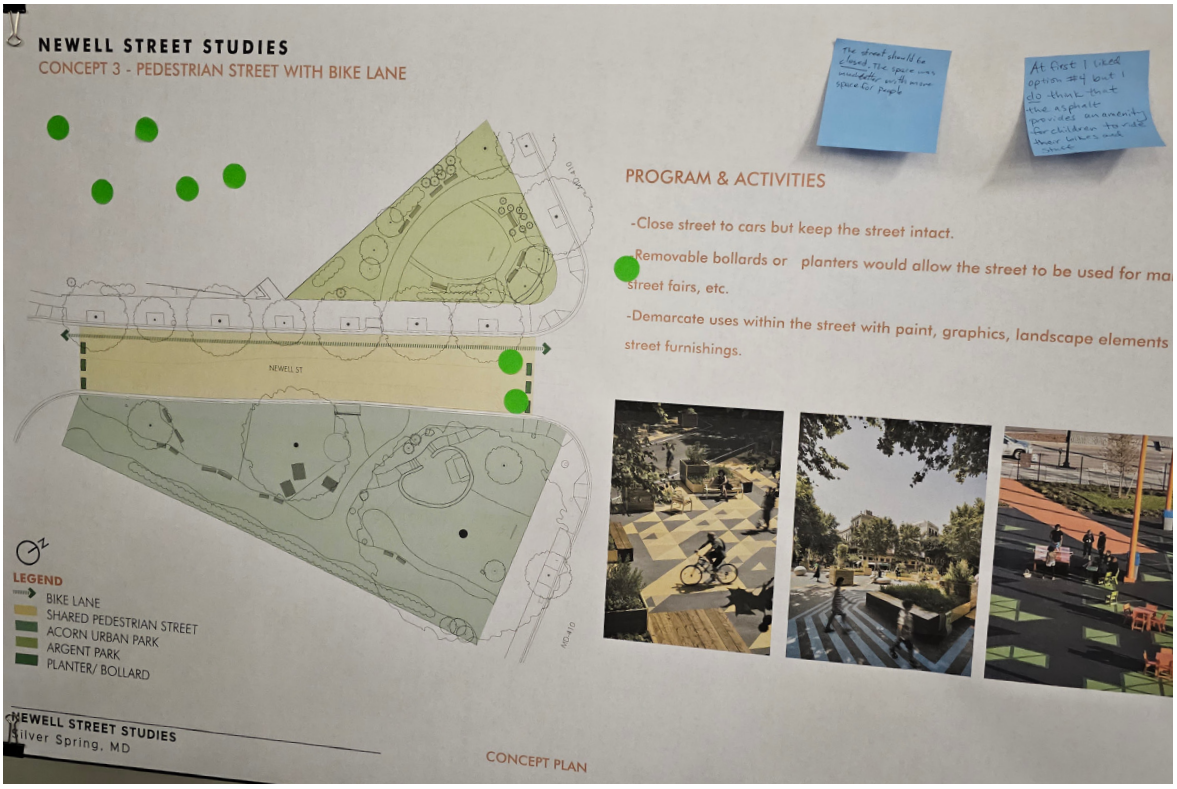
"At first I liked option #4 but I do think that the asphalt provides an amenity for children to ride their bikes and stuff"



CONCEPT 1: ONE WAY SHARED STREET

CONCEPT 2: ONE WAY SHARED STREET & EXPAND PARK

CONCEPT 3: PEDESTRIAN STREET WITH BIKE LANE



CONCEPT 4: CONVERT STREET TO A PERMANENT PARK

MEETING COMMENTS (OCTOBER 10, 2023)

NUMBER	DATE	COMMENTER	SUMMARY OF COMMENTS
1	10.10.2023	Community Member 1	Enjoyed the street being closed during the pandemic, but was concerned about how traffic patterns would be impacted if Newell Street is closed. Also was curious about how the potential design of Newell Street would fit into the master plan for the region.
2	10.10.2023	Community Member 2	Strongly favors Concept 4 because it would be safer for pedestrians, especially children. Also supports this option because of the potential for the closure of Newell Street to activate the use of Acorn Park.
3	10.10.2023	Community Member 3	Supports Concept 4 because a new curb line would simplify the intersection that Newell Street leads into, potentially making it safer for pedestrians and drivers.
4	10.10.2023	Community Member 4	Strongly supports Concept 4 because having the street closed to vehicles activates Acorn Park, as demonstrated during the pandemic. Would also be in favor of an interim solution while waiting for the possible design and construction of Newell Street to be completed.
5	10.10.2023	Community Member 5	Enjoyed the street being turned into an extension of the park during the pandemic because it became a place that brought the community together. Supports programming such as farmers markets and other events that would draw people back into the space. Suggested more joint meetings so that there is better communication between different departments.
6	10.10.2023	Community Member 6	Prefers Concept 4 because of how the street closure during the pandemic activated the space, and supports programming such as food trucks. Is also in support of an interim option if possible.
7	10.10.2023	Community Member 7	Concerned about traffic patterns and the potential of more accidents if there is heavier pedestrian traffic without any measures taken to address current traffic issues.

OVERALL SUMMARY OF COMMENTS

- Concept 4: Convert Street to a Permanent Park: 4 people in strong support
- Street closed to cars: supported by 5 people
- Concerns about traffic pattern: 2 people
- Interest in park programming: 2 people
- Support of interim solution: 2 people
- Interest in how the new design fits into the master plan: 1 person

NEWELL STREET COMMUNITY MEETING #2

JULY 11, 2024

PRESENTATION

Matt Johnson:

Thank you for joining us. My name is Matt Johnson. I'm a capital project manager with the Montgomery County Department of Transportation. Unfortunately we cannot make the microphone work so I'm going to try and project as best I can and Dan will as well This is Dan Avritt with Parker-Rodriguez Architects. He's going to give the presentation. I'm going to introduce things and if you have questions we'll take those at the end. These boards will remain up after the presentation so you can come up and have a look. We are also joined by some colleagues from Montgomery County Parks uh I don't know if they want to be incognito or not but this is Patricia McManus from Montgomery Parks and we're not here to talk about the park but since we're adjacent to the park they are uh observing and participating with us on that presentation. So we're here this evening to talk about Newell Street. I'm sure you're all familiar with Newell Street I'm sure most of you are living or working close to Newell Street um and we want to just talk about what the future um might hold. This is my contact information you can find it also on the project webpage um feel free to email me or uh telephone me uh with the uh any questions or comments you have about the project. This is just a facility planning study so we're just looking at what the possible future might look like. But there's currently no money in the in the budget for any design work or any construction work so anything you see here is for the purpose of sort of determining what generally should the future of Newell Street look like. Not this specific design or this specific design or you know is the street going to be 20 feet wide or 21 ft wide or where is this bench going to go. We're not at that stage yet we're just looking conceptually at what's the direction that the community wants us to go with Newell Street. And I will point out that we don't have a poster up here that says leave it alone. But no-build is always an option right leaving it exactly the way it is today is an option but you know what that looks like so we're not showing it with a display board but that is always an option. So we did have a community meeting. I'm not going to read all this text um but this presentation is available on the website if you want to go look at it. Back in October we had a community meeting not in this building but in the building next door, which unfortunately was not available this evening, and we got feedback conceptually from the community on some ideas and then we took those ideas, we refined them a little bit, and we did some more design work to kind of look at what the different options could be. Again we don't have any design money; there's nothing concrete; nothing has been decided on. What you tell us at this meeting and after this meeting will impact what the future of Newell Street might look like because we will take this feedback to help us determine what the preferred uh Community preferred alternative is. It will be up to the elected officials -- the County Executive and the County Council -- to find money to put in the budget to actually do any design work or any construction work. That's not in the budget at this time. So um this is the context. I'm sure most of you are familiar with the area but we do have um uh Newell Street -- the actual study area here highlighted in Orange. We have the Argent Apartments -- that's where the number seven is -- across the street. We have Acorn Park here which is where the original Silver Spring from Silver Spring is uh number one here. And we have some other areas that are highlighted. Again this presentation is available on our website if you want to look at things in

more detail. And I'm going to turn over to Dan now to take over, but I'll be here to answer any questions at the end as well.

Dan Avrit:

So uh kind of start with what Matt was saying uh -- First of all nice to be here. I remember some faces from last time. But um we do want to be very clear. So what we're studying is what's in the right-of-way up here. So it's really this study. It just so happens that Argent Park and Newell Street and Acorn Park and this uh kind of the private walk in here; they all tie together so we're trying to look at this comprehensively and what could be. And uh so we kind of took a step back we said what are different options that would make this better. What we kind of heard from the first presentation was uh people liked the idea of this being a park. It worked well during COVID. Families came out, there were kids out, you could actually use these spaces. Right now you've kind of have two small parks divided by a street. It doesn't feel safe for kids; doesn't feel like it's usable or user-friendly; and you kind of see that in COVID, it got used. And now that the Street's open, it's no longer used as much or certainly not to the extent that it was uh before and certainly not by kids I think. So we kind of stepped back; we said there's a lot of opportunities here, and I think we presented that last time was there's a lot of opportunities to uh in the park. Currently um Montgomery County Parks has a plan for the park. And uh you know they always had to work within the constraints of Acorn Park. And there wasn't you know the ability to kind of extend out into Newell Street or do some of the other you know more interesting things that we see as opportunities here. This will all get coordinated with Montgomery County Parks. Again it's kind of uh you know let's open our eyes and see what the possibilities are. And then we can kind of work you know together with Parks and uh you know with MCDOT do and they'll come up with a final design at a at a later date. These were the concepts we presented before. You can kind of see one was kind of that no option and uh doing minimal impact. One was you know close down the street and uh you know kind of link-- oh no these are kind of context. But uh yeah circulation-wise through the Park, it's separated. You have the street that uh you know separates the two parks um you know. The Street section through it you can kind of see what happens here. Right now we have two lanes of traffic and a turn lane. Or two lanes of traffic depending on where you kind of cut that section through that. So it's a lot of pavement especially where there's the turn lane. And it also creates a very large intersection, which I think is kind of the thing that makes this entire kind of environment uh at the intersection inhospitable. You've got two streets coming together and you have some kind of unclear traffic patterns and I think that's you know hard for people to navigate. So this is another opportunity to kind of clean up uh some of that traffic pattern. Which is I think where MCDOT said hey maybe we can do something here and you know make this better. These are the concepts we've presented uh before. So concept one was like a one-way shared street with bike lanes. One was you to kind of close it and kind of have shared bike lanes in the street with a one-way. This was a pedestrian street with bike lanes uh through it. And one was let's do a full park. And so you'll kind of see uh shades of these in all of the concepts to kind of develop it because there are you know we don't know that we can just close the street yet. There's a lot more study that needs to just go in from transportation and uh you know more community input. So after that first meeting we heard a lot of things that people liked the idea of this closed Street. In addition you know there was there was the idea of just make it park. But also some people said well there's it is kind of nice to have some paved area for kids to ride bikes around and you know to have other opportunities maybe Farmers Market can set up. So uh you know I think we wanted to kind of you know look at all different

options as we go through this. I'm not going to read through all this but you know here's kind of a summary of uh you know what we heard and kind of the reactions to the different scenarios. And I'll let you kind of go through that. But it's uh you know in large part kind of what we said. People like that but there was some concern about you know totally closing off. Some people would be okay with like a partial closure, uh but I think that's to be determined. So the proposed schemes we have here kind of are just to kind of just spur um you know uh discussion. So this is kind of the permanent closure: link Argent Park and Acorn Park across the street uh with some different scenarios. This was you know keep uh narrow Newell Street to like one way uh for cars. Another one was you know uh narrowing but keeping it two-way uh with the bike lanes. And then there's a kind of a temporary closure just use it, you know, as a-- keep the ability to have the street open. And then there's the no-build option uh which is you know uh is always an option if there-- especially if there's not funding. So this kind of took uh-- we kind of took our hats off and we said what if, you know, we tried to use the language of what's already out there in terms of the big sweep that comes through Argent Park. Use that as a connecting element to the Acorn Park. Kind of celebrate Acorn Park that's kind of constrained on this side with the existing street. You know keep the spring and then uh have some of what Montgomery Parks came up with uh and kind of bring that uh walkway into the spring. And this kind of becomes the nexus of this. And then there's another walkway that kind of leads out. We end up with you know a nice open play field. And then we were looking at uh maybe doing a little play space for kids up here. So this could become kind of a you know uh I don't want to say a tot lot, but you know we're doing a lot more kind of natural play or creative play for kids. And then uh this uh lawn here is actually part of a fire lane. So we need to provide fire lane access to the Argent. But we're disguising that with like a turf overlay that fire trucks can drive on but most time you're just going to see grass.

Matt Johnson:

And I just want to jump in real quick and note that these concepts within the park property are only illustrative. They're meant to show what possibly could happen but any anything that happens inside the park is would be the responsibility of Parks. We would work with Montgomery Parks. We only control the street space. But this is meant to show what a potential future could look like if we were combining these three spaces into one cohesive space. But again we don't-- Any designs you see in the park space are should be considered conceptual only and would require approval from Montgomery Parks and the Planning Board as well. Just wanted to clarify that.

Dan Avrit:

One thing we did in all these schemes is uh we kept the sidewalk, for the most part, the existing sidewalk on Newell Street and kept the street trees within there. We created a uh a sidewalk on one side and we created kind of a bike path uh on the other uh and combined some seating kind of to be worked out a little bit. But this so this was in trying to unify some of the existing design as well as connecting to the you know the adjacent Argent Park kind of make it a cohesive space. Here you can see the circulation through the space, uh see the historic spring, um kind of the play space. So there's lots of lots of circulation to the park and it kind of pulls people in. Right now I think there's a lot of people walk along the space of the building. We also want to get people a little bit further away from all the murals. You

can't quite appreciate them if you're up so close, so I think being able to kind of you know step back and see that that was another consideration. Again saving the large uh trees that are within the space and the street trees. Here's kind of that fire lane I was alluding to. That's their fire department connection we need to uh keep that just as a functional aspect of this. Option 2 uh kind of played on the uh you know some of the concept in the first one but uh one thing that uh was you just don't quite get or see in the space, is this idea of the silver spring and the spring that comes out. And one thing is this is really a well right here, you know, that it's sits in. So we're looking at you know and there's stairs that come down to it and you walk into it. But it doesn't have the same connotation as it once did. And you read about you know uh when they first saw the spring and they saw the mica coming out and it was just this beautiful thing. So we thought well maybe there's an opportunity to do something really bold and uh you know bring the spring out and kind of create a feature out of it. It can become part of the storm water management kind of uh feature and it kind of just alludes to this idea of the spring. It makes a bigger deal out of it. And get it you know really you could see the idea of the spring running out and you can kind of terminate it over here uh within the street. But the low point of the street is in here so it kind of gives a reason to why there's a low point in the street. And then uh similar to the previous schemes, the acorn would sit above it as uh you know as uh you know was originally founded there's a little plaza next to it there's some nice seating areas. This is this is more similar to the walkway that's out there today. And uh again preserving the street trees and then uh the existing sidewalk is preserved on this uh walkway over here. Argent Park comes in then we kind of created a you know a gathering space that could be a little bit more hardscape uh on this side which you know would be nice. And then one thing that's nice is this kind of dips down so it kind of sits in a nice little uh you know little dell, I would call it, within here. It just kind of creates a nice setting for that park and it separates it from the East-West Highway out here. So I think that could actually be uh you know there's an opportunity to kind of provide that separation uh keep pedestrian traffic out but still provide ease of access into the park uh for residents and uh you know people in the neighborhood. These were just ideas that you know we could do different things with like a little bit of terracing; provide some kind of informal seating within that uh as opposed to this like a big lawn. So there's you know different ways to kind of enjoy that that are kind of more formal with bench seating and less formal with kind of some terrace seating. And then of course we that tie into the fire lane that we'd have to preserve on the side. So I'll kind of go through these quickly. The diagrams are just meant to kind of articulate kind of circulation and you know the spring and the acorn and then some of the other use areas within that. Concept 3 was to uh preserve kind of the one-way street through that could be used. And also preserve uh a bike lane, a kind of a dedicated bike lane through it. So you still have circulation it would be right at the existing curb where the existing uh trees are. We try to knit this across as much as possible. It's almost like a, we call it a "woonerf", which is a shared street. So it's a very slow street and people you know you kind of you almost don't feel comfortable driving in it. But allows people, you know, to have access through there. And I think that's you know that's something it require a lot of study with MCDOT but you kind of have this shared Street and it uh-- The closest thing is if you've ever been down to the Wharf, and there's the drive that goes along the Waterfront. It's actually open and like especially early in the mornings and it's kind of this funny little street you can actually park on it in the mornings. But that would be kind of the idea is that it's a street that provides access but it's really just you know if it's convenient. Because you're probably going to have to you know wait for people to cross and it be narrow and uh you know feel like the bikes would have more uh right to be there than maybe a car but uh still keeps it open as a fire lane, etc. Then we kind of picked up on this idea of uh you know the spring and tried to express that in kind of this

meander of a of a spring uh in the remainder of the roadway. We could uh still this would be could be temporary this could be removed uh in the future uh as planters and uh so you could still you know it's kind of a uh it utilizes the street, but it's more of like a design street and if uh you know in 20 years they wanted to open the street again, we could do that. So these would be designed to be kind of removable and not such a big impact. But then the rest of the design kind of ties in and you know some of what uh Montgomery Parks had done with the walkways and the way they tie in, it actually allows you to kind of you know move into the park more and it makes more sense just gives it some breathing room. Here's kind of those examples of the planters that could go in and then they could be removed if they needed to be in the future. And this is trying to-- these planters are not just something you're going to move in like a day it's something that could go in today. You could add pattern to the street it could be you know you could also have the bike lanes to it. But it uh doesn't feel like it's a roadway just converted. It's more of a more of uh an impact than that. But uh also you know provides a lot of seating and just opportunities for people to kind of enjoy the space. And I think it you know something we could also see maybe the road's open for certain time and then it's closed. You know on weekends or something or in the evenings when residents might use the space. Here's kind of that idea of you know kind of the circulation of the water and carrying out that concept and you know again trying to tie into this idea that's a spring it's the you know uh the historic nature of this site. This next study we tried to utilize this edge of the street and narrow it. And then provide a kind of a lot of Park seating but also keep the street but kind of interrupt the street and make it not feel like such a-- you know like another neighborhood street. There's lots of banding on it; allows people to kind of uh you know maybe cross the street. Again kind of that "woonerf" idea but allowing two-way traffic and then you know bike circulation through. You can see that the additional seating within the park. And then again this is kind of trying to utilize what Montgomery Parks had done as part of their design to uh you know make the park better but then kind of completing that edge that really uh was very hard to do with uh you know with the limited space that is available on this side of Acorn Park. And some of this idea of kind of furniture this is a little more temporary but there's lots of options to kind of you know divide space and separate you from the roadway. Again that circulation. And then this idea of the fire lane again that you know fire lane in this one could actually fire truck could go through. But I think there's still opportunities to you know bring a farmer's market in and really program it in other ways uh you know with maybe temporary closures. And this last one is very well actually this is just oops an extra slide. This scheme is actually very similar to the previous scheme. Option 5 is probably the most uh you know uh keeping the street. But still kind of providing some paint uh really not doing too much to the road bed at all. This is probably the closest to kind of the no-build scenario. But doing uh you know minimal intervention in the street. A little bit of you know uh street furniture along the edge; add the bike lane. Doing bike Lanes on both sides here. And then creating a very narrow street in the middle. Again you know with these schemes it was hard to kind of provide that connection between Argent Park and Acorn Park. I think it's an enhancement for Acorn Park but maybe a half-measure on some of these. I'll kind of circulate through these fairly quickly. It's somewhat similar but-- So Option 1 brought the Park all the way across. I'm just going to step up here. So if you look at Option 1, this is really park from Argent Park all the way to the building wall. And this is all green. The fire lane that we're keeping would just be like grass so it really-- you really perceive this as one large space. This one was similar, but we're again trying to emphasize the silver spring and create a low point in here and kind of give a reason you know that you could imagine uh when they this was first founded uh that water flowed out of the spring and it flowed out in you know uh and you could see the you know kind of the reason for Silver Spring whereas instead of just being in a in a well. This one keeps

the street but does uh more of an intervention uh with uh some of the larger furniture and kind of you know picking up on the stream and really making the park you know as wide as we could possibly make it, but providing you know a vehicular lane through. This one keeps the street as a definitive street; adds this edge to Acorn Park. So it enhances Acorn Park but it doesn't really connect these parks, which I think is you know uh kind of the problem I think that we saw last time. This keeps two lanes keeps a bike lane and uh we're also keeping the curbs for the most part. So it's uh it's much less of an intervention it's kind of what we did during COVID but uh with a little bit of more of enhancement that makes it permanent. Close the street. And again you could close this for a fair, but I think it's largely the street is open but with enhancements and that's kind of a step back from just keeping it as it is or no-build scenario.

Matt Johnson:

And that's what this scenario is showing right. This is showing it with the Planters moved out so the street's blocked. So this would be a scenario where the street is there but some event is happening and we've closed it, you know, for the day or for the weekend or whatever. That's what this concept is showing is the moving of those planters to block the street but that would not be a full-time closure.

Q + A

Question from the audience:

In option 3, which direction is the one-way street?

Matt Johnson:

I think that that's something that could be determined later. These are just concepts they're not-- the idea is to kind of figure out you know does Newell Street need to be three lanes wide or could we make it a little bit narrower? If it was just one lane wide we could use that other space to expand the park. Which direction it goes is something that would be determined at the design process, which is not funded. You might have come in later but the design process is not funded yet. So it could be either direction. If you have a thought on which way you would like it to go, that would be a great comment to write. I want to get through the presentation slides first and then we'll take more questions. We're almost done. Yeah.

Dan Avrit:

So here you can see uh kind of some of the larger planters that get moved in. And then like uh Matt was saying they can get moved out uh into the street to kind of close that off. Here the idea we'd have you know movable planters you know kind of akin to that. They definitely become traffic barriers uh within that. But then you also have other seating that kind of gets positioned in. These are just concepts. And then you can have some other uh you know uh permanent seating along that edge that you know kind of you know enlivens it. Here you can see this is we're trying to create like a promenade on one side and

then still have the street open on the other. All of these we tried to facilitate as much circulation as possible. I think with the street scenarios, we lose that ability to cross the street. And that's really kind of the shame of all of this uh you know that you just are not able to kind of knit it together the same way. But I think you know it's a public process there's a lot of lot needs to be done. A lot needs to be done you know from a political level, from a funding level, and it's just to kind of give ideas and you know. If you don't if you can't see if you can't see a way that it could be used, you really don't know what the possibilities are. So these were just you know uh we tried to make them as varied as possible, just to give feedback and then you know we look forward to hearing your comments.

Matt Johnson:

So I don't want to take too many questions because we want to give you all a chance to come up and talk to us one-on-one and look at the display boards, but if there are maybe three or four questions. Uh right here:

Question from audience:

Um can you just clarify on number five, um I think some confused is that one lane or going two directions?

Matt Johnson:

No this is two lanes. This is two lanes. So this is leaving the curbs where they are right now. So the road the asphalt is the same as now. Let me repeat the question for the people who are watching later. The question was how many lanes are here in this, in Option 5. This is leaving the curbs alone. There would be one lane in each direction and then a bike lane. So instead of having a separate left turn lane at East-West Highway there would be a single lane approach and there will be bike lanes on either side. That's the difference um and that kind of space you know could be more easily closed as Dan was just saying. Yeah, over here.

Question from audience:

[inaudible]

Matt Johnson:

You can certainly talk to us if you have comments. I would really encourage you to write them down and email me: Matt.Johnson@MontgomeryCountyMD.gov. This is on the website as well and you should have gotten a-- you probably got a postcard if you live around here. The link to the website's on there. That's the best way because if you talk to me I'll do my best to remember what you say, but my memory is not perfect and a lot of people are going to talk to me after the meeting. So we also have comment

cards in the back as well that Suhang here has. So if you want to leave comments here today you can do that. Or you can go home and think about and write it. In the blue shirt there. Yeah:

Question from the audience:

[inaudible]

Matt Johnson:

Yes. Yeah I I'll repeat the questions. If I forget please ping me so I'll do that for the for the camera. So the question was which option closes Newell Street to traffic like it was during the COVID shared street period? So this matrix shows um what attributes are for each of the options. Now I know there's there uh some of the some of these options fit into more than one category because uh of the way things are arranged. But a permanent closure of the street where we remove the street; the asphalt's not there anymore and it's all one space. Options 1 and 2 illustrate that. Option 3 is where we keep the street open but we narrow it so it might only carry traffic in one direction. So the street's narrower. The park can be expanded by moving into that space but not completely. Options 4 and 5 um keep Newell Street open in a narrower configuration than it is today. And Option 5 has the possibility of being closed temporarily for events um but not uh permanent closure. And then of course since you came in late. I did make the point that the no-build option is always an option. Right? It's not like you guys have to pick the one that you don't like. If you don't like any of them you can say "leave it leave it alone don't do anything." That's always an option as well. We don't have a board showing that because you know what the street looks like but that is an option. Um right here.

Question from audience:

[inaudible]

Matt Johnson:

Yeah, so. The question is can we optimize the signal the traffic signal operations at East-West and Newell and Blair Mill. Because it's a weird signal because we have four legs, but two of the legs aren't across from each other so they can't operate at the same time. That would be something would happen during the design process; the specifics of that. But what I can tell you is if Newell Street were closed altogether and that that leg didn't exist for cars, the signal would operate with more time for everybody else. Right? So that would probably mean less delay for Blair Mill it would probably mean less delay for East-West Highway. Now if you're trying to go down Newell Street you have to drive around the block; that might mean more delay for you specifically. But that signal would operate more effectively. Also if one of the options were for Newell Street to be one-way going away from-- if it was to be going away from the intersection, that would also simplify signal operations. If it was still approaching the inter-- if it was one way going into the intersection, it would still have to have that that extra phase. But yes the more phases you have, the longer that signal delay is going to be. I'm going take one last question and then we'll let you all come up and talk. This one right here.

Question from audience:

Sure. Thank you. Just a comment, really. I think that you know that there's a lot of careful thought that has gone into this. There is a something that's completely unknown that's going to have a very big impact on Newell Street and that's what the development of 8001 will eventually be. So I think any um any sort of consideration of what happens at the intersection that we're discussing today and that piece of Newell Street I feel that it's premature uh and I think it's not fair to the people that live along Newell to go ahead and make a decision about this street that's permanent without considering what's going to happen at 6001. That's my comment.

Matt Johnson

So the comment was um we don't know what's happening at the future development at 6001-- 8001, sorry um and this is premature. So what I'll tell you that's a good question to segue into what the schedule looks like. So as I mentioned, there's no funding for design or for construction. The County Council just adopted the FY 25 to FY 30 budget in May; two months ago, and it became effective on July 1st which is last Friday. The earliest that any money could possibly be added to the budget would be in the off-year cycle next spring but it's very unlikely that that money would be added. It's usually added every-- the CIP is usually updated every two years. There is a midyear-- or a midcycle update that happens every year, but it's usually pretty minor changes or something that's like really politically you know um popular. So I doubt that any money would be added to the budget—

Comment from the audience:

But it's there's a funnel toward a decision here that I think is inappropriate without knowing what's happening at 8001.

Matt Johnson:

Well let me just finish this response here and you can feel free to come talk to me afterwards. The earliest that money could be added for design really would be in the budget that starts July 1st 2026, which is two years away from now. But that's the earliest it could possibly happen. Usually when new projects are added to the CIP they don't get added in those the first year. They usually get added later on, so that we could be talking three or four years before design funding is actually you know put into the budget. And it may never get put into the budget, right? There may never be a change here, so. We live in a county that's constantly changing and I have I've been I've worked at MCDOT for about 8 years now, going on 9 years and every time I do a project, someone says but there's going to be this development that happens why can't we wait until after that happens. Well the thing is as soon as that development happens, something else is about to come down the pike. There there's never going to be a time where Silver Spring is completely fully-formed and it's just done. And we know what it's going to look like. There's always going to be something coming down the pike. When this goes to design careful

consideration will be given. And also when 8001 comes in for its development approvals, the Planning Department will give careful consideration to what Newell Street is planned to look like, what it does look like. And there is the possibility that three or four years from now, if design funding is added, that we may say we know that the community wanted it closed, but things have changed and we don't think that's the best approach; we want to do something different. That's also possible. But the point of this facility planning study is to look at what the possibilities are and what the direction the community wants to go in is. And uh Patricia did you want to add anything?

Comment from the audience:

Yes thanks Matt. Actually, we're here with Parks and we wanted to give an update that the new park on the other side of the brick company building that is in planning and design and is going to construction very soon so we just thought there's going to be a lot more active amenities in that park and I just thought we would give an update on what is going to be in that park to think about some of the options for this park.

Matt Johnson:

If you don't mind, if you're going to give a longer one, I'll give you the microphone so we can get it on the recording if you don't mind coming up.

Comment from the audience:

This property we're working very hard to develop this new urban park that will have a lot of active program and places for people to gather. Included in the program we have a picnic terrace, we have a promenade, we have a game area, we have a small dog run, great lawn, playground, fitness area, and bocci court. And also trees, bioretention, multi-purpose courts. So the park a block from Acorn will actually be the real park. We're trying to accommodate so many programs in Acorn it's almost impossible. And the facility plan was not approved because we could not improve active recreation. And because we have two very important historic features… [inaudible]. So any new development has to rehabilitate and enhance historic features. And I really applaud DOT for initiating this effort…[inaudible]. But I just wanted to let you know we're working very hard on this…[inaudible]. Once that's clear the project will be out for bid and start construction hopefully late summer or early fall and will likely take about a year. And we're very excited about it this is a priority… [inaudible].

Matt Johnson:

Thanks. So um I'm going to end the the group session now. But if you have any questions or comments that you didn't get a chance or you didn't feel comfortable raising, come talk to us one-on-one. If you're if you're with the staff um raise your hands. We have Suhang in the back, um me and Dan you know, um we also have Katie from our uh consultant Mercado who can potentially answer some questions, and I'll just throw my boss under the bus, he's Michael Mitchell in the back, but he doesn't really know that

much about the project so don't bother him. And with that um we also have Darcy Buckley from the Planning Department who here as well. So-- And of course our colleagues from Parks. If you have questions about the proposed Park uh that's uh being built uh a block away from here, you can talk to them about that as well. So thank you for coming. I know it's a really hot evening tonight. We really do appreciate your time and we look forward to hearing from you. Again the comment deadline I'm going to put my contact information back up real quick. Uh the comment deadline is Friday, July 26th which is two weeks from tomorrow. So get those comments in. You can mail them or email-- we prefer email, but if you if you feel more comfortable sending them in the postal mail you could do that as well. That address is available on the website it's not on this slide but it's available on the website. So thank you.

Dan Avrit:

One last thing: we have some dots that you can put on preferred schemes so we have red if you don't like it and green if you do and also we have some Post-it notes you can write you know maybe a comment or two about it but if anything longer please uh send an email to Matt. Thank you.

VIDEO RECORDING OF MEETING

https://www.youtube.com/watch?v=MJOyI-lutMI

NEWELL STREET

COMMUNITY MEETING | JULY 11, 2024

SUMMARY OF COMMUNITY MEMBER REACTIONS TO CONCEPTS

NO BUILD:
LEAVE AS IS
- Positive Reactions - 4
- Negative Reactions - 4

CONCEPT 1:
EXPANSION OF ACORN PARK
STREET CLOSURE WITH PASSAGE
FOR BIKES/SCOOTERS/PEDESTRIANS
- Positive Reactions - 16
- Negative Reactions - 6

CONCEPT 2:
EXPANSION OF ACORN PARK
VEHICULAR ACCESS REMOVED
- Positive Reactions - 17
- Negative Reactions - 6

CONCEPT 3:
PARTIAL CLOSURE OF NEWELL ST
NARROWED LANE WITH NEW CURB
ONE WAY TRAFFIC
- Positive Reactions - 5
- Negative Reactions - 8

CONCEPT 4:
PARTIAL CLOSURE OF NEWELL ST
NARROWED LANE WITH NEW CURB
REMOVEABLE PLANTERS
- Positive Reactions - 7
- Negative Reactions - 12

CONCEPT 5:
PARTIAL CLOSURE OF NEWELL ST
NARROWED LANE WITH NEW CURB
TWO WAY TRAFFIC
- Positive Reactions - 2
- Negative Reactions - 17

COMMENTS LEFT ON CONCEPT 1 BOARD (STICKY NOTES):

"Traffic on East West Hwy moves very fast. Lots of emergency vehicles with sirens. Safety of park occupants would be at risk if an accident occured."

"Blair Park and the new park being built on East West Hwy are available. Adding another is a waste of taxpayer $$."

"Please do not close Newell Street. If it is closed, my commute home will be longer. Plus, we are already getting a nice, new park very close."

COMMENTS LEFT ON CONCEPT 2 BOARD (STICKY NOTES):

"I live directly across the street and have huge concerns about the foot traffic & smoking at all hours of the night as it is."

COMMENTS LEFT ON CONCEPT 3 BOARD (STICKY NOTES):

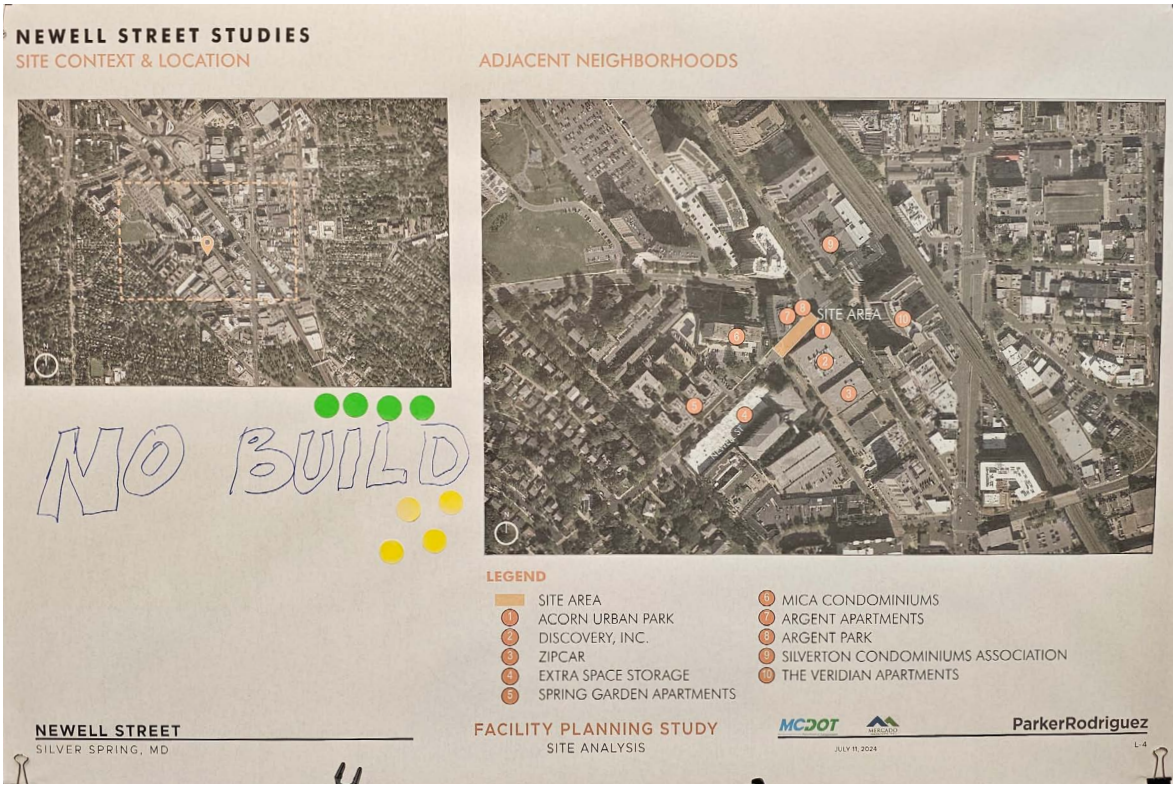
"1,2,3: Closing Newell St will have a major impact forcing local traffic on to GA Ave. Creating a recreation area is super dangerous. I doubt it will be more than a year before a child chases a ball onto East-West Highway."

COMMENTS LEFT ON CONCEPT 4 BOARD (STICKY NOTES):

"Leave Newell St open for rush hour traffic!" 5, street closures OK for weekend events. Safety? Who will maintain and police in"

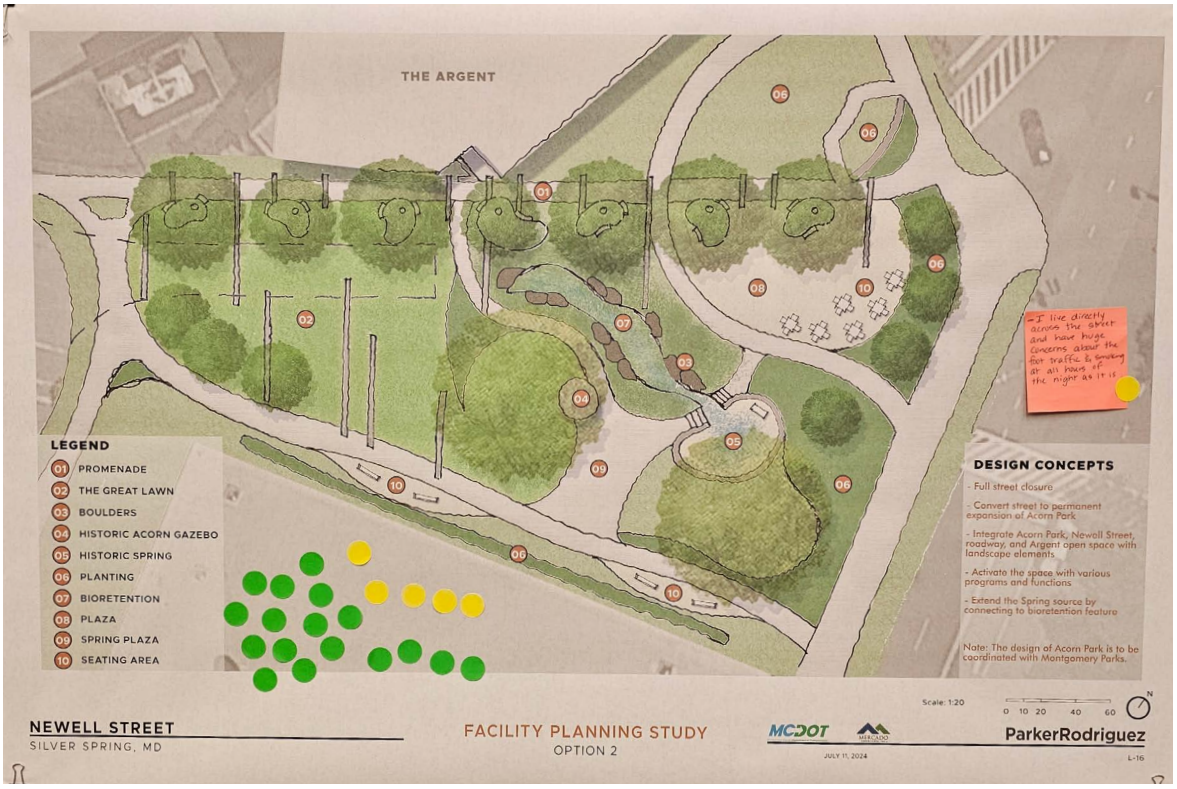
"4 & 5: It's important to keep Newell St open. The street parking is not needed. Bike lanes are good. Street closures for events (e.g. Sat-Sun 10am-4pm) would be fine."

NO BUILD



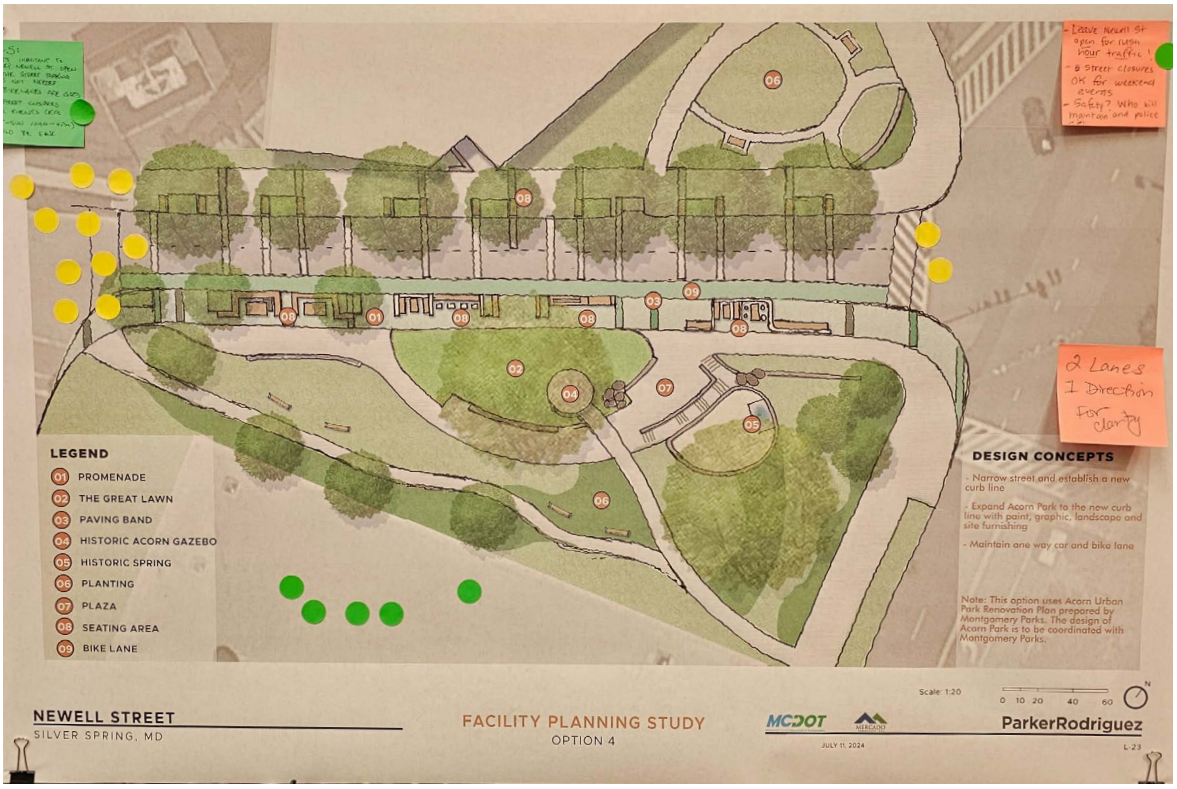
CONCEPT 1

CONCEPT 2

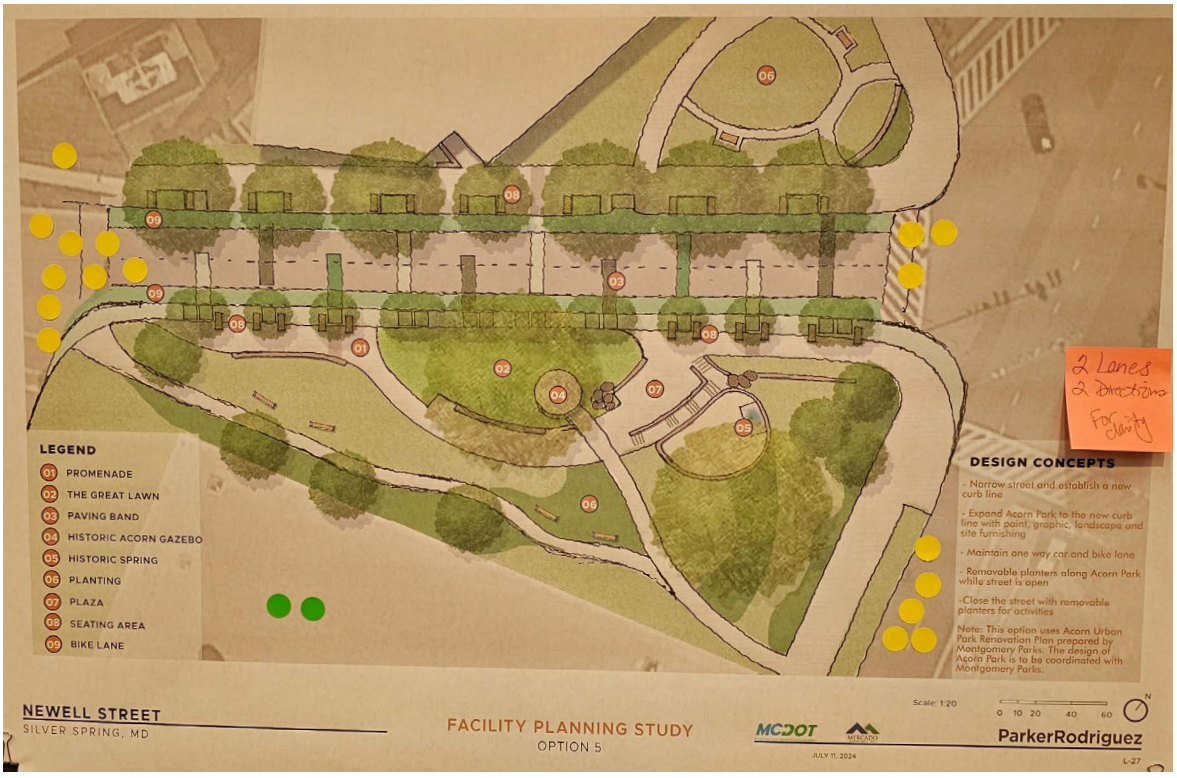


CONCEPT 3

CONCEPT 4



CONCEPT 5



NEWELL STREET COMMUNITY MEETING #2
SUMMARY OF CONTENTS

NUMBE	DATE	SUMMARY OF COMMENTS
1	07.11.2024	Primarily concerned about how closing Newell St will impact traffic patterns and access to parking locations. Believes that closing Newell St to vehicular traffic will make it more difficult to access parking garages and lots that residents of 8045 and MICA use, and there may also be a school bus route that uses Newell St. Worried about potential traffic density on Eastern Ave, which intensified when Newell St was previously closed. Would prefer to simplify Acorn Park as opposed to expanding it, citing Pearl Playground and Jessup Blair Park as nearby locations that are more child friendly from a safety standpoint. Concerned about adding more benches, and says that there is already enough space for people to sit outside as the site currently exists.
2	07.11.2024	Enthusiastically in favor of permanently closing the street to vehicular traffic. Would use the space more in the future if the street was closed.
3	07.12.2024	Supports narrowing Newell St with the ability to temporarily close it for events like a farmers market, similar to Ellsworth St next to the Civic Building. Believes that the park being built on the other side of the Brick Building would likely support some of the suggested uses of Acorn Park better. Requests the preservation of the two large trees presiding over Acorn Park.
4	07.13.2024	Prefers options 1 and 2 and likes the idea of having a park right outside of the condo. Supports closing the street to vehicular traffic and likes the idea of incorporating the park in front of the Argent. Would like to see increased pedestrian safety, and says that the street currently feels unsafe to pedestrians. Saw a lot of people use the mini-park during the pandemic and describes it as being nice for those who don't have a balcony or backyard. Notes that Kennett and Eastern still provide vehicular access.
5	07.14.2024	Supports options 1 or 2 and likes the idea of closing the street to vehicular traffic to make the block a park. Would appreciate the space being more pedestrian friendly, and believes that closing the street might make the intersection safer as well.
6	07.15.2024	Prefers option 2 the most, and would also be okay with option 1. Believes that transforming the space into a park works towards the goals outlined by the strategic planning of Downtown Silver Spring to make the area more liveable, safe, healthy, and bike friendly. Likes that options 1 and 2 adhered to the theme of a contemplation park to complement the active park. Recommends closing the seating at Acorn Park because it has turned into a "smoking pit" that is littered, and it would not contribute to a contemplative space. *Is asking whether or not 8001 Newell will be developed.
7	07.15.2024	Supports turning Newell Street and all of the current Acorn Park into a larger park with the road closed off. Believes that the park will be safer for children without vehicular traffic present. Notes that those who use the parking garage can still easily access it through the other side of the street.
8	07.15.2024	Believes that closing Newell Street will create more disruptions than benefits because it will cause Newell Street residents to take detours to access their parking areas and it could disrupt emergency vehicle access to the surrounding buildings. Believes that the area would not be pleasant to sit in if it were turned into a park because it's still adjacent to East West Highway which is noisy.
9	07.20.2024	Support Options 1, 2, and 3 (in that order) because they enjoyed the street closure during the pandemic and more people were able to use the space. Greatly prefer minimal vehicular traffic.
10	07.24.2024	Supports closing Newell Street to vehicular traffic like it was during the pandemic to make it safer and more pedestrian friendly.
11	07.24.2024	Supports closing the street to vehicular traffic but allowing for mobility lanes. Enjoyed how the street was used in tandem with Acorn Park during the pandemic for more park space, and also notes that the street closure calmed some of the traffic on East West Highway. The street closure also allowed for lower carbon transit options such as walking, biking, and scootering.
12	07.25.2024	Not supportive of disrupting vehicular traffic flow on Newell Street (including blockage, closure, and narrowing) because of increased congestion on other nearby roads. Says that the space was not well-used when it was closed during the pandemic. Notes that food trucks were the most used during the pandemic, believes that the food trucks left because of lack of demand.
13	07.26.2024	Requests for the park to either be left as is or to go with Option 1 or Option 2. Believes that a partial closure of the road could be dangerous if someone tries to drive through when it is closed or if a child accidentally wanders into the road. Concerned about increased presence of unhoused people in the park. Notes that there are existing parks nearby that don't get much use.
14	07.26.2024	Supports Options 1 and 2 because the community enjoyed the expanded Acorn Park during the pandemic and misses it now. Believes that closing the street to vehicular traffic would create the best experience.

OVERALL SUMMARY OF COMMENTS

- In support of options 1 or 2: 6 people
- Partial closure or for events: 2 people
- Opposed to closing street to vehicular traffic: 3 people
- Concerns regarding park safety: 6 people
- Interest in park programming: 1 person
- Concerns about traffic pattern: 3 people
- Concerns about emergency vehicle access: 1 person

Appendix B: Design Concept Renderings

LEGEND

- 01 PROMENADE
- 02 THE GREAT LAWN
- 03 PAVING BAND
- 04 HISTORIC ACORN GAZEBO
- 05 HISTORIC SPRING
- 06 PLANTING
- 07 PLAZA
- 08 SEATING AREA
- 09 BIKE LANE

DESIGN CONCEPTS

- Narrow street and establish a new curb line

- Expand Acorn Park to the new curb line with paint, graphic, landscape and site furnishing

- Maintain one way car and bike lane

Note: This option uses Acorn Urban Park Renovation Plan prepared by Montgomery Parks. The design of Acorn Park is to be coordinated with Montgomery Parks.

Scale: 1:20

0 10 20 40 60

N

NEWELL STREET

SILVER SPRING, MD

FACILITY PLANNING STUDY

ALTERNATIVE 1

MCDOT Montgomery County Department of Transportation

MERCADO CONSULTANTS, INC.

ParkerRodriguez

FEBRUARY 14, 2025

LEGEND

- 01 PROMENADE
- 02 THE GREAT LAWN
- 03 PAVING BAND
- 04 HISTORIC ACORN GAZEBO
- 05 HISTORIC SPRING
- 06 PLANTING
- 07 PLAZA
- 08 SEATING AREA

DESIGN CONCEPTS

- Narrow street and establish a new curb line

- Expand Acorn Park to the new curb line with paint, graphic, landscape and site furnishing

- Maintain one way car and bike lane

- Removable planters along Acorn Park while street is open

-Close the street with removable planters for activities

Note: This option uses Acorn Urban Park Renovation Plan prepared by Montgomery Parks. The design of Acorn Park is to be coordinated with Montgomery Parks.

Scale: 1:20

0 10 20 40 60

N

NEWELL STREET

SILVER SPRING, MD

FACILITY PLANNING STUDY

ALTERNATIVE 1

MCDOT Montgomery County Department of Transportation

MERCADO CONSULTANTS, INC.

ParkerRodriguez

FEBRUARY 14, 2025

LEGEND

- 01 PROMENADE
- 02 THE GREAT LAWN
- 03 PAVING BAND
- 04 HISTORIC ACORN GAZEBO
- 05 HISTORIC SPRING
- 06 PLANTING
- 07 PLAZA
- 08 SEATING AREA
- 09 BIKE LANE

DESIGN CONCEPTS

- Narrow street and establish a new curb line

- Expand Acorn Park to the new curb line with paint, graphic, landscape and site furnishing

- Maintain one way car and bike lane

Note: This option uses Acorn Urban Park Renovation Plan prepared by Montgomery Parks. The design of Acorn Park is to be coordinated with Montgomery Parks.

Scale: 1:20

0 10 20 40 60

N

NEWELL STREET

SILVER SPRING, MD

FACILITY PLANNING STUDY

ALTERNATIVES 2 AND 3

MCDOT Montgomery County Department of Transportation

MERCADO CONSULTANTS, INC.

ParkerRodriguez

FEBRUARY 14 2025

LEGEND

01 PROMENADE
02 THE GREAT LAWN
03 LAWN
04 HISTORIC ACORN GAZEBO
05 HISTORIC SPRING
06 PLANTING
07 PLAY SPACE
08 SEATING AREA
09 SWING BENCH

DESIGN CONCEPTS

- Full street closure
- Convert street to permanent expansion of Acorn Park
- Integrate Acorn Park, Newell Street, roadway, and Argent open space with landscape elements
- Activate the space with various programs and functions
- Emphasize the linkage in geometry with arcs

Note: The design of Acorn Park is to be coordinated with Montgomery Parks.

Scale: 1:20

0 10 20 40 60

N

NEWELL STREET

SILVER SPRING, MD

FACILITY PLANNING STUDY

ALTERNATIVE 4A

MCDOT Montgomery County Department of Transportation

MERCADO CONSULTANTS, INC.

ParkerRodriguez

FEBRUARY 14, 2025

Scale: 1:20

0 10 20 40 60

N

NEWELL STREET

SILVER SPRING, MD

FACILITY PLANNING STUDY

ALTERNATIVE 4B

MCDOT Montgomery County Department of Transportation

MERCADO CONSULTANTS, INC.

ParkerRodriguez

FEBRUARY 14, 2025

Appendix C: Cost Estimate

MERCADO
CONSULTANTS. INC.

Newell Street

Shared Street Design Options

FEASIBILITY STUDY COST ESTIMATE

					Quantities		
Item	Cat. Code	Description	Unit	Unit Cost	ALTERNATIVE 1 Two Way Traffic	ALTERNATIVE 2 and 3 One Way Traffic	ALTRENATIVE 4 Close Street
CATEGORY 1 PRELIMINARY							
1001	110100	CLEARING	LS	1	$2,000	$2,000	$2,000
1002	130840	MOBILIZATION AND DEMOBILIZATION	LS	1	$23,000	$28,000	$44,000
1003	120500	MAINTENANCE OF TRAFFIC	LS	1	$35,000	$43,000	$66,000
		SUBTOTAL			$60,000.00	$73,000.00	$112,000.00
CATEGORY 2 GRADING							
2001	210026	REMOVAL OF EXISTING ROADWAY	CY	$200.00	0	131	261
		SUBTOTAL			$0.00	$26,200.00	$52,200.00
CATEGORY 3 DRAINAGE							
3001	380202	RECONSTRUCT EXISTING INLET	EA	$5,000.00	2	1	2
3002	300000	EROSION AND SEDIMENT CONTROL MEASURES	LS	1	$4,000	$5,000	$8,000
		SUBTOTAL			$14,000.00	$10,000.00	$18,000.00
CATEGORY 4 STRUCTURES							
		SUBTOTAL			$0.00	$0.00	$0.00
CATEGORY 5 PAVING							
5001	508003	STANDARD MILLING ASPHALT PAVEMENT OVER 1 INCH TO 2.5 INCH DEPTH	SY	$20.00	783	392	0
5002	549401	5 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	$1.00	450	450	0
5003	549419	24 INCH WHITE THERMOPLASTIC PAVEMENT MARKINGS	LF	$8.00	10	10	0
5004	549403	5 INCH YELLOW THERMOPLASTIC PAVEMENT MARKINGS	LF	$1.00	220	0	0
5005	549425	THERMOPLASTIC PAVEMENT MARKING LEGENDS AND SYMBOLS	SF	$20.00	100	100	0
5006	521111	4 INCH GRADED AGGREGATE BASE COURSE	SY	$15.00	0	196	392
		SUBTOTAL			$2,750.00	$5,470.00	$5,880.00
CATEGORY 6 SHOULDERS							
6001	634312	TYPE A COMBINATION CURB AND GUTTER ANY HEIGHT OR DEPTH	LF	$55.00	250	250	70
6002	655105	5 INCH CONCRETE SIDEWALK	SF	$15.00	0	1,764	3,528
		SUBTOTAL			$13,750.00	$40,210.00	$56,770.00
CATEGORY 7 LANDSCAPING							
7001	705500	TURFGRASS ESTABLISHMENT	SY	$3.50	0	200	392
7002	705405	TEMPORARY SEED	SY	$1.50	0	200	392
7003	701345	PLACING FURNISHED TOPSOIL 4 INCH DEPTH	SY	$5.00	0	200	392
7004	700000	LANSCAPE FEATURES	LS	1	$200,000	$200,000	$300,000
		SUBTOTAL			$200,000.00	$202,000.00	$303,920.00
CATEGORY 8 TRAFFIC & UTILITIES							
		SUBTOTAL			$0.00	$0.00	$0.00
ENGINEERING DESIGN FEE							
N/A	N/A	ENGINEERING DESIGN FEE	LS	1	$100,000	$150,000	$150,000
		SUBTOTAL			$100,000.00	$150,000.00	$150,000.00
		TOTAL WITHOUT CONTINGENCY			**$390,500.00**	**$506,880.00**	**$698,770.00**
		CONTINGENCY (40%)			**$156,200.00**	**$202,752.00**	**$279,508.00**
		TOTAL			**$546,700.00**	**$709,632.00**	**$978,278.00**

Appendix D: Traffic Study

TOOLE DESIGN

8484 GEORGIA AVENUE
SUITE 800
SILVER SPRING, MD 20910

301.927.1900
TOOLEDESIGN.COM

MEMORANDUM

July 29, 2025

To: Montgomery County Department of Transportation (MCDOT)
From: Odera Cole, Emily Koehle
Project: Newell Shared Street Traffic Study

Re: Newell Shared Street Alternatives Evaluation

Introduction

Montgomery County Department of Transportation (MCDOT) is considering reconfiguration of Newell Street, a residential corridor, for approximately 900 feet in length between Kennett Street and East-West Highway in Silver Spring, MD. This project originated from a community request to reclose Newell Street following a full closure trial in 2020. The County is interested in exploring less restrictive alternatives that offer similar benefits. Newell Street currently operates as a two-way roadway with one travel lane in each direction, on-street parking on both sides, and a dedicated eastbound right-turn lane at the intersection with East-West Highway. This segment of Newell Street is classified as a Commercial Shared Street, per the County's Master Plan of Highways and Transitways Functional Classification. High-density residential buildings occupy the corridor, which experiences daily pedestrian and vehicle activity.

Toole Design evaluated the impacts of four potential configuration design alternatives for Newell Street. These alternatives include:

- Alternative 1 – Newell Street Two-Way with Removal of Eastbound Right Lane at East-West Highway
- Alternative 2 – Newell Street One-Way Westbound
- Alternative 3 – Newell Street One-Way Eastbound
- Alternative 4 – Full Closure of Newell Street

The team analyzed a broader network, including the intersections listed in Table 1, to better understand the impacts of the alternatives.

Table 1: Intersections

#	Intersection Name	Control Type
1	East West Highway @ Georgia Avenue @ 13th Street / Burlington Avenue	Signalized
2	13th Street @ Kennett Street	Stop Controlled on Kennett Street
3	13th Street @ Eastern Avenue	All-Way Stop Controlled
4	East West Highway @ Blair Mill Road @ Newell Street	Signalized
5	Newell Street @ Kennett Street	Stop Controlled on Kennett Street
6	Newell Street @ Eastern Avenue NW	All-Way Stop Controlled
7	Blair Mill Road @ Eastern Avenue NW	All-Way Stop Controlled

This study aims to inform MCDOT's decision making by analyzing how each alternative affects:

- Vehicular operations at and near the Newell / East-West Highway intersection
- Pedestrian and bicycle safety and comfort
- Motor Vehicle safety
- Operational efficiency throughout the surrounding network

Memorandum Structure

This technical memorandum documents the methodology, findings, and recommendations from Toole Design's analysis of existing conditions and the four proposed configurations. It includes the following sections:

- **Methodology –** This section describes how Toole Design used a multidisciplinary approach to evaluate the safety, operational, and multimodal impacts of the proposed alternatives. The team collected data, observed field conditions, reviewed crash history, and modeled traffic using Synchro.

- **Existing Conditions Analysis –** This section presents a detailed summary of current traffic, safety, and multimodal conditions on Newell Street and the surrounding network. It includes findings from traffic counts, field observations, crash data analysis, and pedestrian and bicycle facilities assessments.

- **Trip Redistribution –** This section explains how Toole Design redistributed vehicle trips for the alternatives that restrict or change access on Newell Street. The team used origin-destination patterns, mapping tools, and traffic models to determine likely reroute paths and volumes.

- **Proposed Alternatives Analysis –** This section compares the four configuration alternatives for Newell Street based on their impacts to safety, pedestrian and cyclist infrastructure, and network-wide traffic operations. The analysis includes cross sections and quantitative performance metrics.

- **Findings and Recommendations –** This section summarizes the key trade-offs between safety improvements and operational impacts for each alternative. It provides Toole Design's recommended alternative and outlines strategies to mitigate impacts and support implementation.

- **Attachment –**This section includes supporting documents such as Synchro model outputs, movement-level MOE summaries, and final redistributed volumes that informed the analysis.

Methodology Overview

Toole Design used a multidisciplinary methodology to evaluate the operational, safety, and multimodal impacts of the proposed alternatives for Newell Street. The team conducted data collection, crash history review, field observations, and network-level operational modeling using Synchro traffic modeling software. The safety and multimodal comfort assessments drew on crash trends, observed travel behaviors, and Montgomery County's Pedestrian Level of Comfort (PLOC) and Bicycle Level of Traffic Stress (BLTS) methodologies.

The team used Montgomery County's Pedestrian Level of Comfort (PLOC) and Bicycle Level of Traffic Stress (BLTS) methodologies to evaluate multimodal conditions along Newell Street and within the broader study network. These frameworks assess the walking and biking environment based on roadway design, traffic conditions, and facility presence or quality. The team applied these ratings using the Montgomery County interactive map and confirmed conditions through field observations. The PLOC and BLTS scores provide a standardized way to identify the level of comfort for pedestrians or stress for cyclists while utilizing a given roadway segment. The pedestrian level of comfort has four levels – Very Comfortable, Somewhat Comfortable, Uncomfortable and Undesirable. The bike level of stress ranges between a score of 0 – 4, descriptions of each score can be found in Table 2.

Table 2: Bike LTS Scores

LTS	Target Audience	Bicycle Facility Types
0	All ages and abilities	Rail-trails, shared-use paths
1	Almost everyone	Protected bikeways, side paths
2	Interested but concerned	Bike lanes, bike boulevards
3	Enthused and confident	Bike lanes, shared lanes, shoulders
4	Strong and fearless	No bike facility or bike lane on a major roadway
5	Bicycle Access Prohibited	Bicycle access is prohibited by managing roadway agency

The team developed conceptual cross-sections for each alternative to illustrate potential roadway design changes and created trip redistribution scenarios for alternatives that changed vehicle access on Newell Street. This integrated approach allowed the team to consider both localized and systemwide effects, enabling a balanced evaluation of each alternative's trade-offs between safety and operational performance.

The team used Synchro 11 to develop an existing conditions model for the seven closely spaced intersections within the study area, identified in the Existing Conditions Analysis section below. The project aims to assess how proposed changes along Newell Street may affect operations at surrounding intersections. To capture systemwide impacts with a network-level focus, the team analyzed traffic during the weekday morning and afternoon/evening network peak hours, identified as 7:30–8:30 AM and 5:00–6:00 PM, respectively. This approach ensures the analysis reflects conditions during the most critical traffic peaks, rather than isolated peaks at individual intersections.

The team used the following measures to assess vehicular impacts:

- **Intersection Delay** – Measures the average time, in seconds, that a vehicle spends passing through an intersection beyond free-flow conditions. The team reported the delay as overall vehicle delay and delay by movement.
- **Level of Service (LOS)** – Provides a qualitative measure of traffic congestion based on average motorist delay. The team reported LOS both at the intersection level and by movement for selected locations affected by rerouted traffic. LOS A indicates minimal delay and underutilized capacity, while LOS F reflects excessive delay. Table 3, excerpted from the Highway Capacity Manual, shows the LOS criteria for signalized and stop-controlled intersections.

Table 3: Level of Service Relationship with Control Delay

Level of Service	Signalized Intersection Control Delay (seconds)	Stop-Controlled Intersection Control Delay (seconds)
A	0 to 10	0 to 10
B	> 10 to 20	> 10 to 15
C	> 20 to 35	> 15 to 25
D	> 35 to 55	> 25 to 35
E	> 55 to 80	> 35 to 50
F	> 80	> 50

One weakness of using vehicular level of service as a primary measure of traffic operations is that the use of a letter grade scale implies that “A “is the best condition. LOS A, B, or C means that there is excess vehicle capacity, which can have alternative consequences like speeding, which may introduce safety concerns for people walking or biking. There are no national standards for LOS, and cities or states have discretion to adopt targets that reflect their unique constraints and tolerance for traffic congestion. The HCM states that a LOS F condition alone does not require corrective action if the project meets other goals.

Volume-to-Capacity (v/c) Ratio – This ratio quantifies how much of a lane group's capacity a given traffic volume uses during a signal phase at a signalized intersection.

50th and 95th Percentile Queues – Engineers use the 95th-percentile queue to estimate the queue length (in vehicles) that only 5 percent of cycles exceed. This metric helps determine appropriate turn lane pocket lengths, though it does not reflect what a typical driver experiences. The 50th-percentile queue represents the queue length during a typical signal cycle.

Existing Conditions Analysis

Data Collection

Quality Counts (QC), a data collection vendor, collected Turning Movement Counts (TMCs) on Wednesday, May 28, 2025, covering a 3-hour weekday morning period (7:00–10:00 AM) and a 4-hour weekday afternoon/evening period (3:00–7:00 PM). Montgomery County provided signal timing and phasing data for the two signalized intersections to support the analysis. To supplement the data and verify field conditions, Toole Design conducted observations on Wednesday, June 11, 2025, for the broader network, as shown in Figure 1. The weekday morning field observations occurred between 7:30 AM and 10:00 AM, and the weekday afternoon/evening observations took place between 4:00 PM and 6:00 PM, aligning with the identified peak hours.

Field Observations

The team verified several operational elements during the field observations, including signal phasing and timing at signalized intersections, No Turn on Red (NTOR) restrictions, other turn restrictions, lane assignments, and intersection control at unsignalized intersections. The observations also included a review of pedestrian and bicycle infrastructure conditions, cross-referenced with the Montgomery County Department of Transportation (MCDOT) interactive map. The team confirmed lane widths along Newell Street and shown in Figure 2 at the intersection of East- West Highway and Blair Mill Road. Slightly faded pavement markings were noted in the broader area.

During the weekday morning period, the team observed general driver behavior and pedestrian activity without encountering any unexpected conditions or major operational issues. In the afternoon/evening period, the team reviewed lane assignments and continued observing driver behavior, as well as pedestrian and cyclist activity.

The team identified two notable driver behavior patterns during the visit:

- Vehicles made south eastbound right turns at high speeds from East-West Highway onto Blair Mill Road at the Newell Street and East-West Highway intersection (Intersection 4), potentially due to the steep downhill grade at that location.
- At the Georgia Avenue at 13th Street and East-West Highway intersection (Intersection 1), drivers waited in the intersection while making northbound left turns from Georgia Avenue to East-West Highway, suggesting potential operational or signal timing issues.

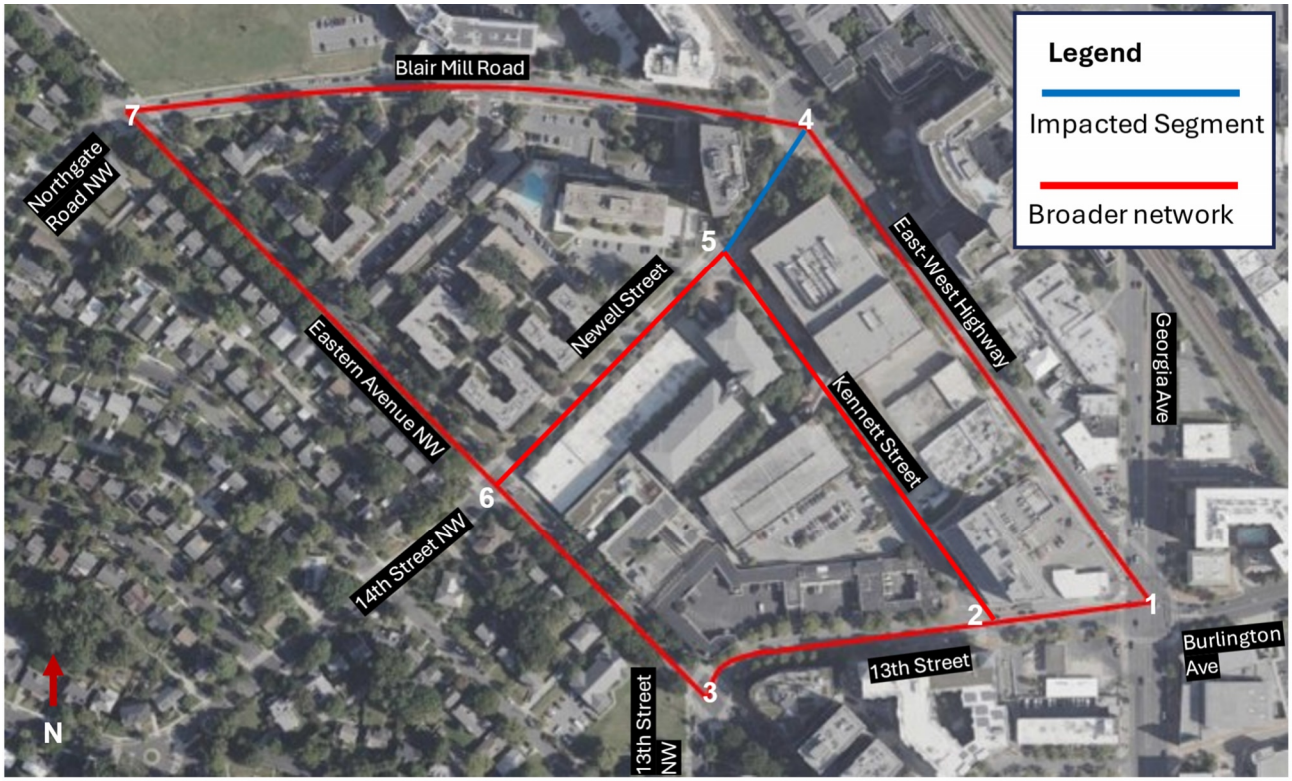


Figure 1: Study Area of the Newell Shared Street Traffic Study

Figure 2: Existing Cross Section of Newell Street looking west

Crash History

Toole Design conducted a qualitative safety assessment of the intersection of East-West Highway and Blair Mill Road / Newell Street and the Newell Street segment between East-West Highway and Kennett Street. The analysis used multimodal crash data from Montgomery County's Interactive Crash Map covering 2015 through 2023.

Review of crash data at the intersection and along Newell Street shows frequent crash types related to the typical geometry of these locations. Rear-end collisions were among the most frequent crash types during the study period, particularly from 2016 to 2019, suggesting queuing, signal visibility, or driver expectancy issues at the East-West Highway approach. Same-direction sideswipe and left-turn collisions, although less frequent, were consistent enough to raise concerns about constrained lane widths and turn conflicts, especially near the intersection. A small number of single-vehicle crashes along the segment and at the intersection suggest potential concerns related to alignment or visibility.

A broader review of crashes in the surrounding network indicates that the patterns observed on Newell Street are not isolated. Angle and rear-end collisions were also the most common crash type throughout the study area, particularly in 2016 and 2017. The broader area also experienced a higher number of single-vehicle crashes and a variety of turning conflicts, including angle and head-on left-turn collisions. Pedestrian involved crashes appeared in multiple years, suggesting systemic challenges for vulnerable road users across the network. These trends suggest that safety issues on Newell Street are reflective of larger patterns in the surrounding roadway context, particularly related to speed transitions, driver behavior at intersections, and multimodal conflicts. A summary of these crash types and their frequency is shown in Table 4

Table 4: Crash Summary (2015-2023)

Crash Type	Newell St Segment	East West Highway @ Blair Mill Road @ Newell Street	Total Broader Area
Rear End	1 (33.33%)	5 (26%)	33 (18.5%)
Angle	1 (33.33%)	4 (21%)	35 (20%)
Head On	0	0	17 (10%)
Sideswipe	0	2 (11%)	32 (18%)
Single Vehicle	1 (33.33%)	4 (21%)	29 (16%)
Pedestrians	0	2 (11%)	9 (5%)
Cyclists	0	0	1 (0.5%)
Other	0	2 (11%)	22 (12%)
Total	**3 (100%)**	**19 (100%)**	**178 (100%)**

Pedestrian Level of Comfort (PLOC) and Bicycle Level of Stress (BLTS)

Existing pedestrian and bicyclist conditions were evaluated using the Montgomery County Department of Transportation (MCDOT) interactive map seen in Figure 3 and Figure 4. The team confirmed during the field visit that sidewalks and crosswalks along Newell Street range from "somewhat comfortable" to "very comfortable." The MCDOT map rates the street's bicycle level of traffic stress (LTS) as LTS 1. Although there is no dedicated bike infrastructure on Newell Street, the low traffic volumes and speeds make it comfortable for nearly all users to bike

according to the MCDOT definitions. Across the broader network, sidewalk and crossing conditions ranged from uncomfortable to very comfortable, and bicycle stress levels varied from 1 to 4, consistent with a network that includes both major roads and lower speed side streets.

Figure 3: MCDOT Interactive Map of Bike Level of Stress

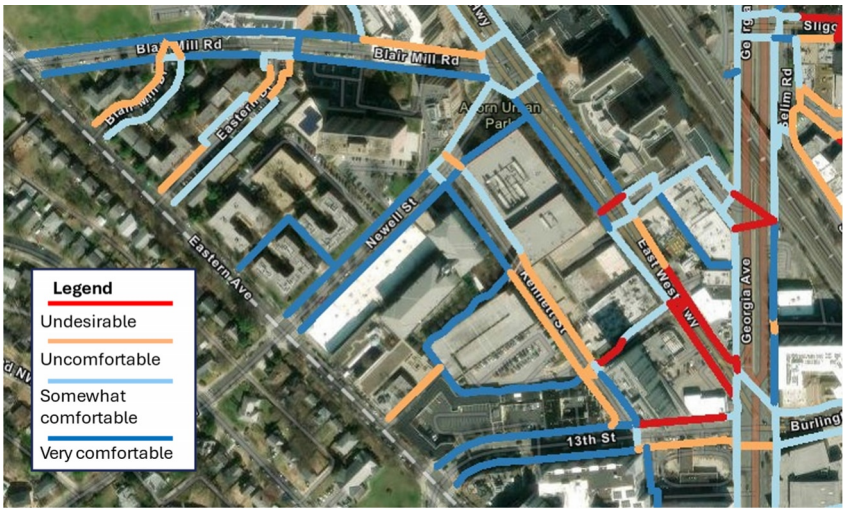


Figure 4: MCDOT Interactive Map of Pedestrian Level of Comfort

Motor Vehicle Operational Analysis

The team generated Measures of Effectiveness (MOEs), including Level of Service (LOS), average delay, volume to capacity (v/c) ratios, and 50th and 95th percentile queues for each movement at every intersection. Table 5 summarizes the MOEs for both the AM and PM peak hour. Attachment A provides detailed Synchro outputs for both peak hours, and Attachment B includes a full movement level MOE summary.

At the signalized intersection of Newell Street at Blair Mill Road and East-West Highway (Intersection 4), operations are at LOS C during both peak hours, indicating stable traffic flow with minor delays. The

corresponding v/c ratio of approximately 0.50 suggests available capacity, consistent with field observations showing minimal congestion.

The signalized intersection of Georgia Avenue at 13th Street and East-West Highway (Intersection 1) operates at LOS E during both the AM and PM peaks, with v/c ratios of 0.84 and 0.90, respectively. These values indicate the intersection is approaching capacity, with longer delays likely experienced by users which was also verified during field observations.

All remaining intersections are unsignalized and operate at LOS B or C, with minimal delays indicating that there is available capacity to absorb additional traffic volumes redistributed under alternative scenarios.

Table 5: Overall Intersection Existing MOE Conditions

Intersection	MOE	AM Peak	PM Peak
1. Georgia Ave @ 13th St/Burlington Ave @ East-West Hwy	V/C Ratio	0.84	0.9
	Delay	67.9	66.3
	LOS	E	E
2. 13th St @ Kennett St	V/C Ratio[1]	-	-
	Delay	1.8	1.4
	LOS[2]	-	-
3. 13th St NW @ Eastern Ave NW @ 13th St	V/C Ratio[1]	-	-
	Delay	12	11.5
	LOS	B	B
4. Newell St @ East-West Hwy @ Blair Mill Rd	V/C Ratio	0.46	0.47
	Delay	28.9	30.2
	LOS	C	C
5. Newell St @ Kennett St	V/C Ratio[1]	-	-
	Delay	1.7	3.3
	LOS[2]	-	-
6. 14th St NW/Newell St @ Eastern Ave NW	V/C Ratio[1]	-	-
	Delay	11	10.9
	LOS	B	B
7. Eastern Ave NW @ Northgate St/Blair Mill Rd	V/C Ratio[1]	-	-
	Delay	12.3	11.4
	LOS	B	B

1 – V/C Ratio not reported at unsignalized intersections

2 – LOS not reported at two-way stop-controlled intersections

Trip Redistribution

Methodology and Assumptions

Toole Design performed trip redistribution analysis for each of the configuration alternatives that include closures in one or both directions on Newell Street. This includes three of the four proposed configuration scenarios listed below.

- Alternative 2 – One-Way Westbound
- Alternative 3 – One-Way Eastbound
- Alternative 4 – Full Closure

Alternative One (Two-Way with Removal of EB Right-Turn Lane) did not include any redistribution of traffic volumes.

The team redistributed turning movements at the intersection of Newell Street, East-West Highway, and Blair Mill Road (Intersection 4) during the AM and PM peak hours. Figure 5 and Table 6 show the turning movements that require redistribution in each scenario.

Figure 6 through Figure 11 illustrate the assumed redistribution routes for each of these movements. The team based the trip redistributions on trip origins and destinations, network connectivity, available routes, and existing travel patterns. To complete the redistribution analysis, the team used various sources, including aerial imagery, Google Maps routing, and Replica, a Big Data traffic model. For movements with multiple route options, the team assigned volumes using proportions derived from turning movement counts. Attachment C presents the final volumes after redistribution.

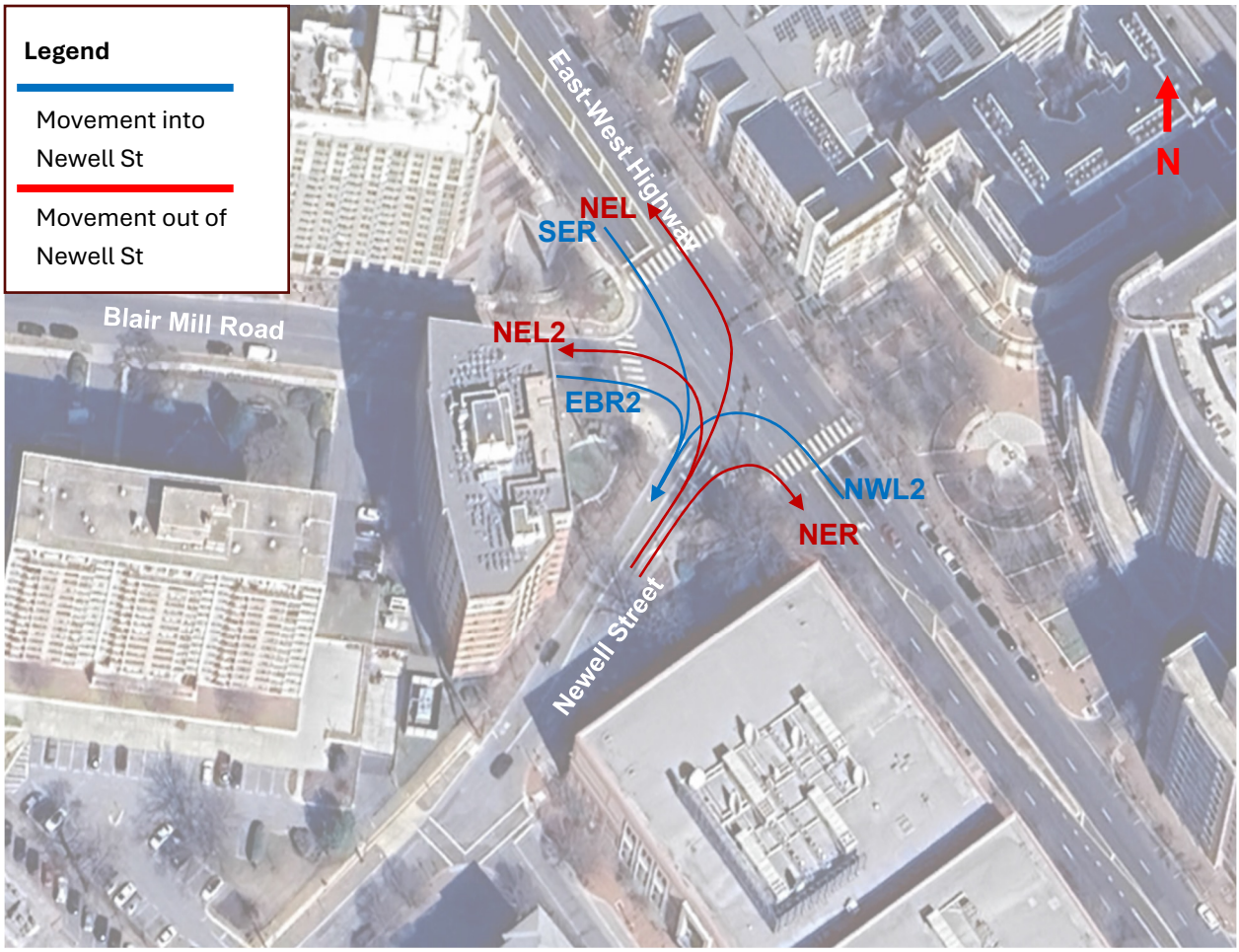


Figure 5: Trip Redistribution Movements

Table 6: Trip Redistribution Movements

Turning Movement	Redistribution Scenario		
	Alternative 2. One-Way Westbound	Alternative 3. One-Way Eastbound	Alternative 4. Full Closure
NEL2: Newell Street Left to Blair Mill Road	Redistribute		Redistribute
NEL: Newell Street Left to East-West Highway	Redistribute		Redistribute
NER: Newell Street Right to East-West Highway	Redistribute		Redistribute
EBR: Blair Mill Road Right to Newell Street		Redistribute	Redistribute
SER: East-West Highway Right to Newell Street		Redistribute	Redistribute
NWL2: East-West Highway Left to Newell Street		Redistribute	Redistribute

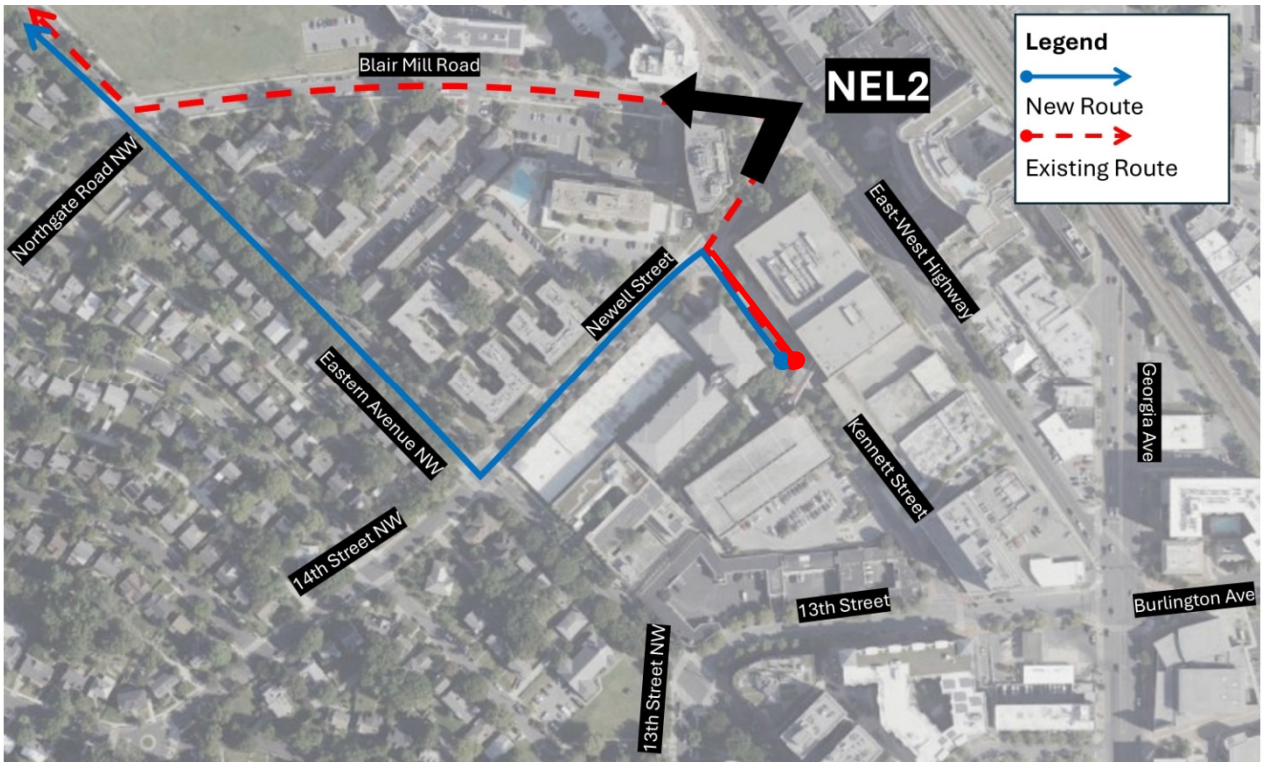


Figure 6: Newell Street Eastbound left to Blair Mill Rd Reroute (NEL2)

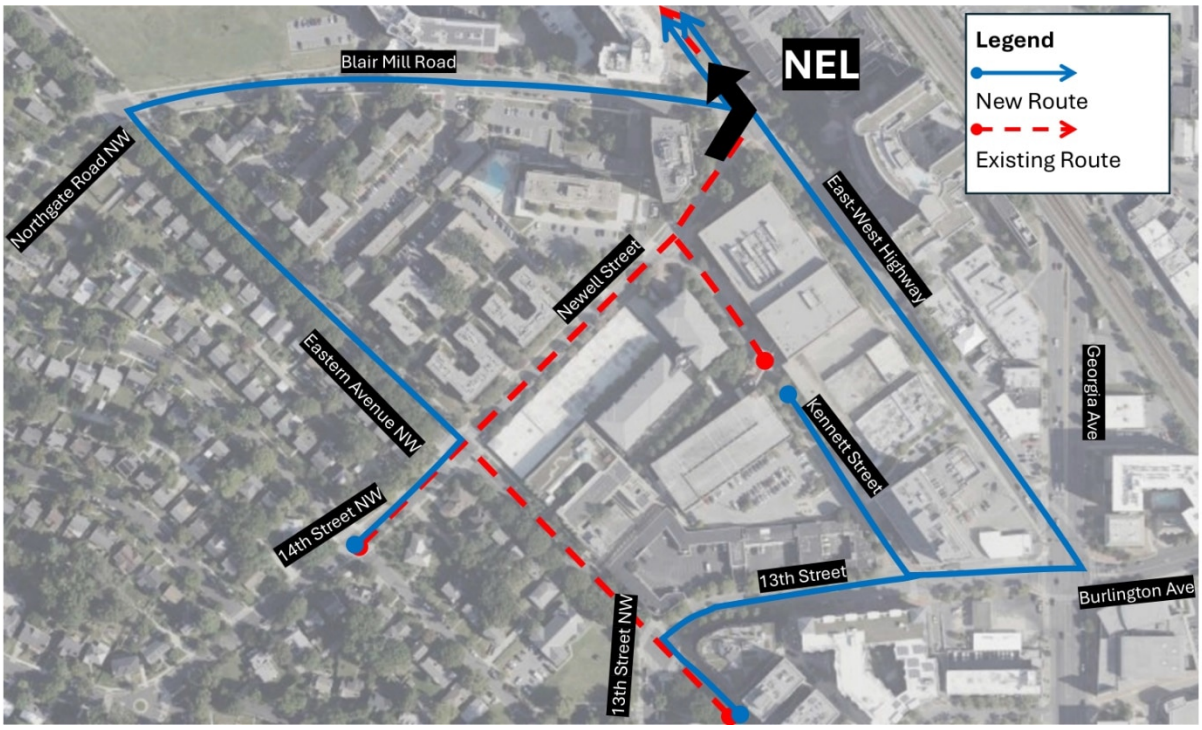


Figure 7: Newell Street Eastbound left to East-West Highway Reroute (NEL)

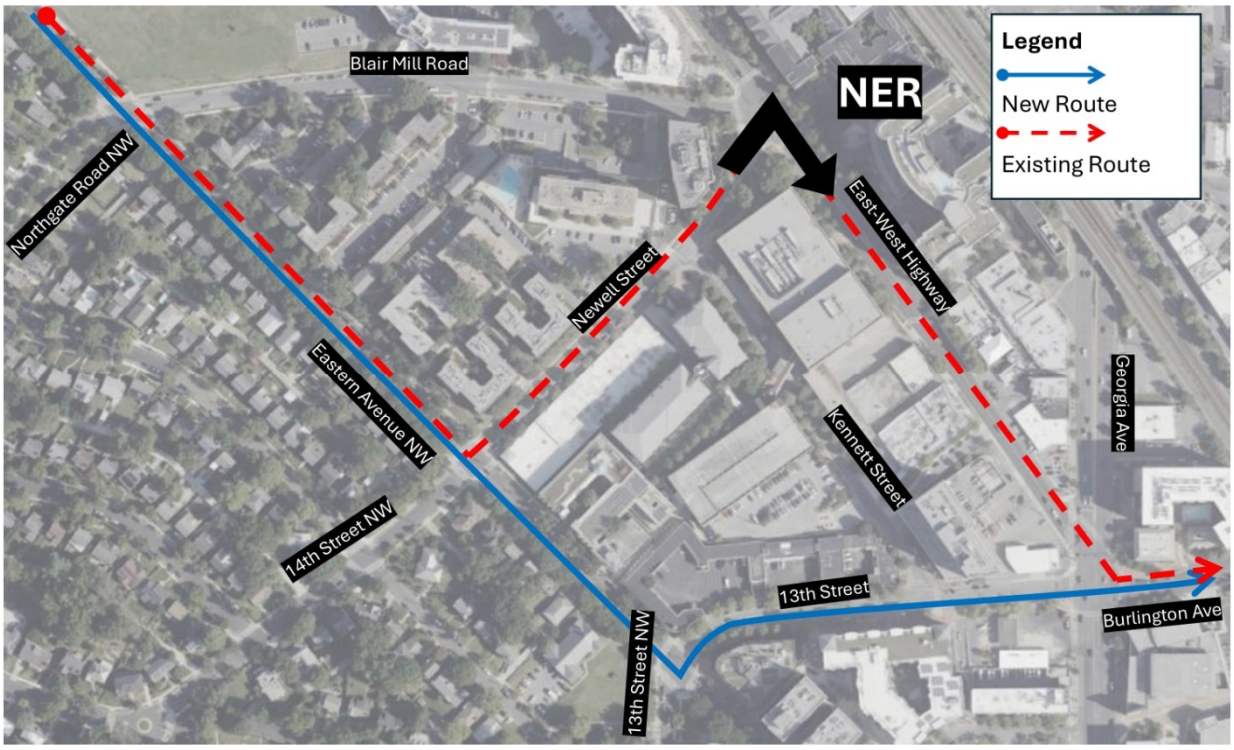


Figure 8: Newell Street Eastbound right to East-West Highway Reroute (NER)

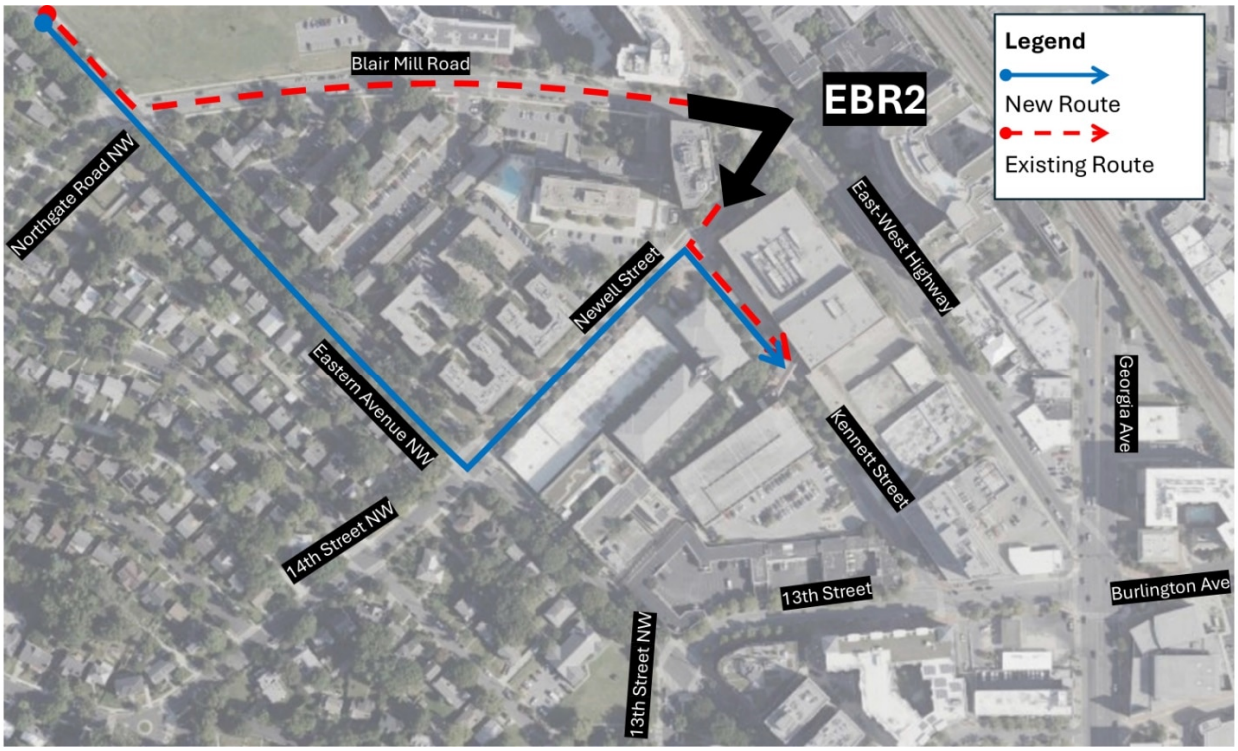


Figure 9: Blair Mill Road Eastbound right to Newell Street Reroute (EBR2)

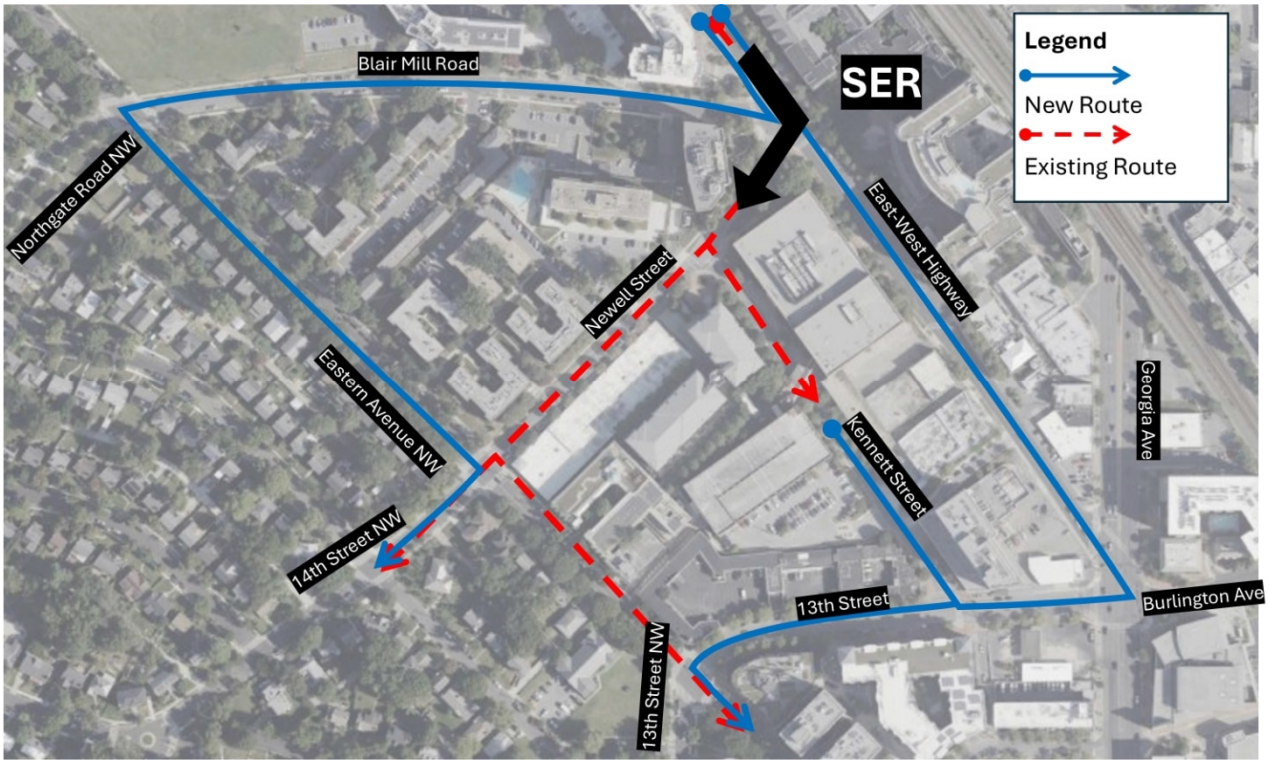


Figure 10: East-West Highway Southbound right to Newell Street Reroute (SER)

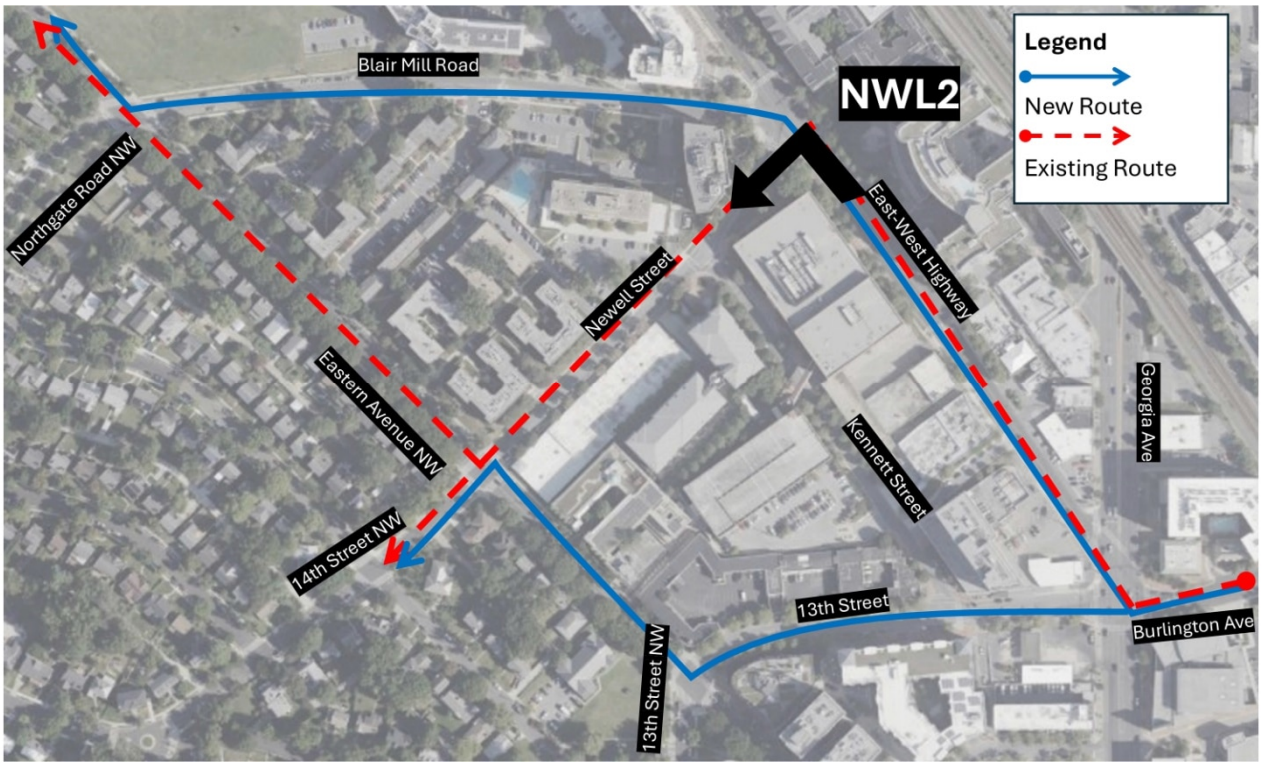


Figure 11: East-West Highway Northbound left to Newell Street Reroute (NWL2)

Proposed Alternatives Analysis

Toole Design evaluated the alternatives holistically and compared them based on their impact across several factors, including safety along Newell Street and the broader network, impacts to infrastructure for vulnerable users, and intersection operational performance within the network.

The four alternatives that were evaluated are listed below and conceptual cross sections showing an example of how each alternative can be implemented in Figure 12 through Figure 15:

- Newell Street Two-Way with Removal of Eastbound Right Lane at East-West Highway (Alternative 1)
- Newell Street One-Way Westbound (Alternative 2)
- Newell Street One-Way Eastbound (Alternative 3)
- Full Closure of Newell Street (Alternative 4)

Figure 12: Alternative 1 Cross Section (Two-Way with Removal of Eastbound Right Lane)

Figure 13: Alternative 2 Cross Section (Newell Street One-Way Westbound)

Figure 14: Alternative 3 Cross Section (Newell Street One-Way Eastbound)

Figure 15: Alternative 4 Cross Section (Full Closure of Newell Street)

Qualitative Safety Analysis

Using the crash history, field observations and typical application of this type of proposed design, Toole Design evaluated four alternatives for the future configuration of Newell Street, with a focus on safety impacts.

Alternative 1. Newell Street Two-Way with Removal of Eastbound Right-Turn Lane at East-West Highway

This alternative maintains two-way traffic but removes the dedicated eastbound right-turn lane. This change simplifies the intersection geometry and reduces potential confusion or abrupt lane changes at the intersection. Eliminating the right-turn lane could reduce vehicle speeds and discourage aggressive maneuvers, potentially lowering the rate of side swipes and right-turn related crashes. This configuration would retain access and circulation benefits for residents while modestly improving safety for all users if additional width is repurposed as bike facilities or used for placemaking. However, this option might reduce throughput and as impatient drivers experience longer delays when all movements share a single lane, compared to the previous configuration with a dedicated right-turn lane and shorter wait times, it could potentially lead to riskier driving maneuvers

Alternative 2. Newell Street One-Way Westbound

Converting Newell Street to a one-way westbound would eliminate opposing traffic conflicts on Newell Street and could allow for additional space to enhance multimodal elements such as widened sidewalks or protected bike infrastructure. This option reduces conflict points of vehicles with pedestrians crossing East-West Highway and Blair Mill Road. It will also reduce the number of intersection conflicts at the East-West Highway intersection with the removal of the Newell Street approach and has the potential to reduce turning movement crashes and head-on crashes at the East-West Highway intersection. To mitigate driver confusion related to the change in circulation patterns on Newell Street, particularly since the one-way operation applies only to a portion of the corridor, clear and ample regulatory and warning signage is recommended with this alternative to guide them effectively.

Alternative 3. Newell Street One-Way Eastbound

This configuration offers similar benefits to the westbound one-way option but better serves outbound movements from the neighborhood to East-West Highway. No vehicles turn into this approach, which reduces conflict points with pedestrians crossing Newell Street. This option may reduce the contribution of congestion related to crashes on the approach. To avoid driver confusion or wrong way movements, especially at the intersection of Newell Street and Kennett Street, the design should include traffic calming, clear regulatory and warning signage, and pavement markings that clearly communicate the new circulation patterns.

Alternative 4. Full Closure of Newell Street

This alternative offers the most substantial safety benefits by removing vehicular conflict altogether along this segment of the corridor. A full closure would eliminate all crash potential between vehicles approaching from Newell Street and reduce pedestrian exposure risk significantly. It could also create opportunities for public space enhancements or emergency-only access treatments.

The qualitative safety analysis of the four alternatives for Newell Street highlights a range of potential improvements tailored to different risk factors and user needs. Each alternative addresses key safety concerns identified through crash history and field observations, most notably, rear-end collisions and turning conflicts. The one-way and full closure options offer the greatest reduction in vehicle conflict points and present the most significant opportunities for improving safety for all users, especially pedestrians and cyclists. The two-way configuration with removal of the eastbound right-turn lane presents a more moderate safety improvement while preserving existing access. Table 7 presents a summary that highlights the safety benefits, safety concerns, and potential countermeasures.

Table 7: Safety Benefits, Concerns & Countermeasures for Alternatives

Alternative	Safety Benefits	Safety Concerns	Countermeasures
1 Right-Turn Lane Removal	• May reduce sideswipe crash exposure on Newell • May reduce confusion-related crash exposure due to familiar patterns	• May increase rear end crash exposure due to red light running	• Timing changes (clearance updates)
2 One-Way Westbound	• May reduce angle and head on crash exposure at East-West Highway Intersection • Safer pedestrian and bike infrastructure	• May increase confusion-related crash exposure due to unfamiliar patterns	• Advance Warning Signage
3 One-Way Eastbound	• May reduce congestion related crash exposure at East-West Highway Intersection	• May increase of confusion-related crash exposure due to unfamiliar patterns • Cut through traffic on Kennet St	• Advance Warning Signage • Traffic Calming on Kennett St
4 Full Closure	• May eliminate exposure for most crash types on Newell between Kennett St & the major intersection • Reduction of conflict points at East-West Highway Intersection • Safer pedestrian and bike infrastructure	• Driver noncompliance/illegal maneuvering	• Physical Barriers

Pedestrian Level of Comfort (PLOC) and Bicycle Level of Stress (BLTS) Analysis

The proposed alternatives do not negatively impact existing pedestrian or bicycle infrastructure. However, Alternatives 2, 3, and 4, if implemented by repurposing street width to expand sidewalks or add bicycle facilities, could positively affect the Pedestrian Level of Comfort (PLOC) and Bicycle Level of Traffic Stress (BLTS) by providing safer and more separated facilities for vulnerable users along Newell Street.

The analysis does not anticipate any direct changes to pedestrian or bicycle conditions in the broader network. The primary potential impact is the redistribution of vehicle volumes to unsignalized intersections, which may result in a less safe environment for cyclists on roads without dedicated infrastructure and for pedestrians at crossings. At signalized intersections, increased volumes could lead to higher instances of risky driver behavior, such as red-light running. However, the projected volume shifts do not introduce new safety issues beyond those already present under existing conditions.

Motor Vehicle Operational Analysis

The team modeled each proposed alternative scenario in Synchro using network traffic demand and adjusted volumes based on trip pattern assumptions. While Alternative 1 maintains two-way operations with minimal geometric changes, Alternatives 2 through 4 require volume redistribution across the network. While overall LOS remained within the A-C range for most locations, several movements, especially at intersections that already operated near capacity, experienced significant performance deterioration with the rerouted movements.

In Alternative 1, operations are largely consistent with existing conditions with limited impacts to the Newell Street approach to East-West Highway even with the right-turn lane removal. Across the network, Alternative 4 consistently produced the most significant operational impacts, as full closure of Newell Street would require volume reroutes through multiple corridors. Alternatives 2 and 3, while moderate compared to Alternative 1, still shifted volumes in ways that created additional demand on some intersections with limited capacity.

At a network level, one of the most impacted locations was the signalized intersection of Georgia Avenue at 13th Street and East-West Highway (Intersection 1), which already operates near capacity under existing conditions. Under Alternative 3 and 4, westbound through (WBT) volumes increased by over 20 vehicles during the AM peak, pushing the movement further over capacity. Similarly, in Alternative 2 and 4, the eastbound left (EBL2) volumes increased in the AM, from 2 to 22 vehicles. This movement represented the most direct reroute for these vehicles, despite the permitted-only left-turn phase. In Alternative 4, the combined increase in volume to these two conflicting movements (WBT and EBL2) contributed to longer queues and delays and may also contribute to existing issues such as vehicles entering the intersection during yellow or red phases.

Most unsignalized intersections did not show notable impacts due to available capacity in the existing conditions. At 13th Street and Kennett Street (Intersection 2), 13th Street and Eastern Avenue (Intersection 3) and Newell Street and Kennett St (Intersection 5), the movements generally stayed at the existing level of service in the AM and PM scenarios for all alternatives. The maximum increase in delay was 0.3 seconds in the PM peak and 1.8 seconds in the AM peak.

At Blair Mill Road and East-West Highway (Intersection 4), both eastbound turns from Blair Mill and southeastbound through traffic from East-West Highway experienced lower delays and v/c ratios in Alternative 2 and 4 due to the removal of an approach phase.

Redistributed volumes also had a cumulative effect on minor network intersections, particularly in the eastern portion of the study area. Locations such as 14th Street / Newell at Eastern Avenue (Intersection 6) and Eastern Avenue at Northgate / Blair Mill (Intersection 7) saw increased turning volumes across multiple movements, especially in Alternatives 3 and 4. While individual movements did not always exceed capacity, higher approach volumes led to increased delays, particularly in the PM peak. This effect reflects a network observation that

rerouted trips may not overload any single movement but can collectively strain a network. A comparison of the MOE for existing and the alternatives are shown in Table 8 and Table 9.

Overall, while the corridor level changes proposed under Alternatives 2, 3, and 4 may benefit safety and design along Newell Street itself, they introduce a series of localized operational trade-offs throughout the network. These include:

- Exceeding or approaching capacity thresholds (v/c ≥ 1.0) for critical through movements at major intersections.
- Delay increases for side street left-turn movements at unsignalized locations.
- Increased queue lengths at high volume signals.
- Added demand at previously uncongested intersections.

Table 8: Overall Intersection Proposed Alternatives MOE Results Comparison – AM Peak

Intersection	MOE	Existing	Alternative 1 Right Lane Removal	Alternative 2 One-way Westbound	Alternative 3 One-way Eastbound	Alternative 4 Full Closure
1. Georgia Ave @ 13th St/Burlington Ave @ East-West Hwy	V/C Ratio	0.84	0.84	0.85	0.84	0.89
	Delay	67.9	67.9	73.1	71.7	79.7
	LOS	E	E	E	E	E
2. 13th St @ Kennett St	V/C Ratio[1]	-	-	-	-	-
	Delay	1.8	1.8	2.1	1.5	1.8
	LOS[2]	-	-	-	-	-
3. 13th St NW @ Eastern Ave NW @ 13th St	V/C Ratio[1]	-	-	-	-	-
	Delay	12	12	12	12.2	12.2
	LOS	B	B	B	B	B
4. Newell St @ East-West Hwy @ Blair Mill Rd	V/C Ratio	0.46	0.46	0.42	0.42	0.39
	Delay	28.9	28.9	19.9	27.9	19.8
	LOS	C	C	B	C	B
5. Newell St @ Kennett St	V/C Ratio[1]	-	-	-	-	-
	Delay	1.7	1.7	1.4	3.5	-
	LOS[2]	-	-	-	-	-
6. 14th St NW/Newell St @ Eastern Ave NW	V/C Ratio[1]	-	-	-	-	-
	Delay	11	11	10.9	10.7	10.7
	LOS	B	B	B	B	B
7. Eastern Ave NW @ Northgate St/Blair Mill Rd	V/C Ratio[1]	-	-	-	-	-
	Delay	12.3	12.3	12.3	10.7	13
	LOS	B	B	B	B	B

1 – V/C Ratio not reported at unsignalized intersections

2 – LOS not reported at two-way stop-controlled intersections

Table 9: Overall Intersection Proposed Alternatives MOE Results Comparison – PM Peak

Intersection	MOE	Existing	Alternative 1 Right Lane Removal	Alternative 2 One-way Westbound	Alternative 3 One-way Eastbound	Alternative 4 Full Closure
1. Georgia Ave @ 13th St/Burlington Ave @ East-West Hwy	V/C Ratio	0.9	0.9	0.93	0.91	0.94
	Delay	66.3	66.3	67.7	67.7	70.1
	LOS	E	E	E	E	E
2. 13th St @ Kennett St	V/C Ratio[1]	-	-	-	-	-
	Delay	1.4	1.4	1.7	1.3	1.5
	LOS[2]	-	-	-	-	-
3. 13th St NW @ Eastern Ave NW @ 13th St	V/C Ratio[1]	-	-	-	-	-
	Delay	11.5	11.5	11.6	11.5	11.7
	LOS	B	B	B	B	B
4. Newell St @ East-West Hwy @ Blair Mill Rd	V/C Ratio	0.47	0.48	0.44	0.43	0.4
	Delay	30.2	30.2	21.8	28.9	21.1
	LOS	C	C	C	C	C
5. Newell St @ Kennett St	V/C Ratio[1]	-	-	-	-	-
	Delay	3.3	3.3	3.6	2.9	-
	LOS[2]	-	-	-	-	-
6. 14th St NW/Newell St @ Eastern Ave NW	V/C Ratio[1]	-	-	-	-	-
	Delay	10.9	10.9	10.8	10.8	10.7
	LOS	B	B	B	B	B
7. Eastern Ave NW @ Northgate St/Blair Mill Rd	V/C Ratio[1]	-	-	-	-	-
	Delay	11.4	11.4	11.6	10.8	11.4
	LOS	B	B	B	B	B

1 – V/C Ratio not reported at unsignalized intersections

2 – LOS not reported at two-way stop-controlled intersections

Findings and Recommendations

The evaluation of the four alternatives for Newell Street considered both operational performance and safety outcomes, using a combination of MOEs, crash data and field observations. The analysis revealed a spectrum of tradeoffs. While some alternatives offer significant safety benefits along Newell Street, they shift operational burdens to other intersections in the network, some of which are already near or over capacity.

The analysis found that each alternative presents trade-offs across safety benefits and intersection operations. The Full Closure scenario offers the most substantial safety and comfort benefits for nonmotorized users, while the Two-Way configuration with right-turn lane removal offers moderate operational improvements with minimal disruption to existing access patterns. This report presents detailed findings and performance metrics.

Operational and Safety Trade-offs

The evaluation of Alternatives 1 through 4 highlights the balance between safety improvements along Newell Street and the operational impacts on the surrounding street network. Each alternative presents unique benefits and challenges, both in terms of reducing crash potential and maintaining acceptable traffic flow. Table 10 summarizes these impacts, and the following sections discuss them in more detail.

Alternative 1 maintains a two-way flow while removing the eastbound right-turn lane at East-West Highway. It results in only minor operational impacts and preserves existing circulation patterns, making it the least disruptive option for operations. While this alternative offers modest safety benefits, signal timing adjustments can mitigate the potential increase in rear-end crashes caused by red-light running. This alternative is best suited for incremental safety improvements with minimal operational burden.

Alternative 2 converts Newell Street to one-way westbound, redistributing traffic volumes throughout the network while maintaining access. It offers moderate safety benefits, particularly for pedestrians by reducing conflict points between pedestrians crossing East-West Highway and Blair Mill Road at the East-West Highway intersection with the removal of the movements from Newell Street. However, it requires signage and pavement markings to address and minimize driver confusion related to the new traffic pattern. With appropriate wayfinding and signage, this alternative strikes a balance between safety benefits and manageable operational impacts.

Alternative 3 shifts Newell Street to one-way eastbound and presents operational effects similar to Alternative 2, but places greater pressure on key intersections such as Georgia Avenue at 13th Street and East-West Highway. It diverts volumes to nearby corridors like Kennett Street making it a potential cut through street. Implementation may need to include traffic calming on affected streets to prevent new safety concerns. The reroute assumed for this alternative follows the shortest, most likely path, which concentrates additional volumes on 13th Street at the Georgia Avenue and East-West Highway intersection. This intersection lacks the capacity to accommodate the increase, resulting in delays on one or more approaches during each peak hour, even exceeding 200 seconds per vehicle. However, evaluating longer reroute options could reduce these impacts and produce operational outcomes more comparable to Alternative 2, making them worth considering when assessing tradeoffs.

Alternative 4 fully closes Newell Street and delivers the greatest safety improvement by removing nearly all vehicle conflict points and significantly reducing pedestrian and cyclist exposure risk. However, it introduces the highest operational impacts. As with Alternative 3, the rerouted volumes direct traffic to the 13th Street approach at Georgia Avenue and East-West Highway, which lacks the capacity to absorb the added demand under existing operations. A longer, alternative reroute may result in less significant operational impacts. Additionally, driver noncompliance and illegal maneuvers might be a concern, particularly during the initial stages of deployment. This alternative is the most effective for achieving safety goals on Newell Street but may require additional mitigation in traffic signal timing or phasing changes or traffic calming.

Table 10: Matrix Comparing Alternatives by Key Criteria (Safety & Operations)

	Alternative 1 Right Lane Removal	Alternative 2 One-Way Westbound	Alternative 3 One-Way Eastbound	Alternative 4 Full Closure
SAFETY BENEFIT	Low	Moderate	Low	High
OPERATIONAL IMPACT	Minimal	Significant	Moderate	Significant
PED/BIKE BENEFIT	Low	Moderate	Moderate	High

Summary of Findings:

- Alternative 1 is the least invasive and preserves operational reliability but offers only moderate multimodal safety improvements.
- Alternative 2 presents a strong middle-ground, offering a safer corridor for all users while managing redistribution more effectively than full closure.
- Alternative 3 is less favorable due to potential impacts on adjacent streets and nearby intersections and overlapping concerns addressed more effectively by Alternative 2.
- From a multimodal safety-first perspective, Alternative 4 is the most transformative, but it comes with high operational costs and implementation risks.

Recommendation

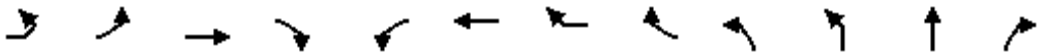
Advance Alternative 2 with accompanying measures such as signage, traffic calming on nearby routes, and monitoring of redistributed volume impacts.

Consider Alternative 4 for long-term implementation only if community engagement, and mitigation design confirm that surrounding network can absorb redirected traffic with minimal adverse impact.

For all alternatives, pursue pedestrian and bicycle safety improvements, even where operational changes are minimal.

Attachment A

Synchro Output for AM and PM Peak
(Existing Conditions)



Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	2	34	65	11	151	107	391	52	5	73	501	55
Future Volume (vph)	2	34	65	11	151	107	391	52	5	73	501	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0		0			300		0
Storage Lanes		0		0	0		1			1		1
Taper Length (ft)		25			25					25		
Right Turn on Red				No				Yes				No
Link Speed (mph)			30			30					30	
Link Distance (ft)			347			678					591	
Travel Time (s)			7.9			15.4					13.4	
Confl. Peds. (#/hr)	8	17		5	5		8	17	3	8		4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%	2%	2%	4%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	114	0	0	263	452	0	0	79	511	56
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Minimum Split (s)	31.0	31.0	31.0		31.0	31.0	39.0		11.5	11.5	30.0	30.0
Total Split (s)	31.0	31.0	31.0		31.0	31.0	70.0		26.0	26.0	65.0	65.0
Total Split (%)	23.0%	23.0%	23.0%		23.0%	23.0%	51.9%		19.3%	19.3%	48.1%	48.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	4.0		3.5	3.5	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		4.0	4.0	4.0	4.0
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			7.5	8.0	8.0
Lead/Lag	Lag	Lag	Lag		Lag	Lag			Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes			Yes	Yes		
v/c Ratio			0.80			1.09	0.59			0.27	0.35	0.09
Control Delay			89.7			135.4	23.9			25.9	27.3	24.0
Queue Delay			0.0			0.0	0.0			0.0	0.0	0.0
Total Delay			89.7			135.4	23.9			25.9	27.3	24.0
Queue Length 50th (ft)			97			~259	223			41	157	29
Queue Length 95th (ft)			#206			#438	338			76	203	58
Internal Link Dist (ft)			267			598					511	
Turn Bay Length (ft)										300		
Base Capacity (vph)			143			241	760			292	1465	634
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			0.80			1.09	0.59			0.27	0.35	0.09

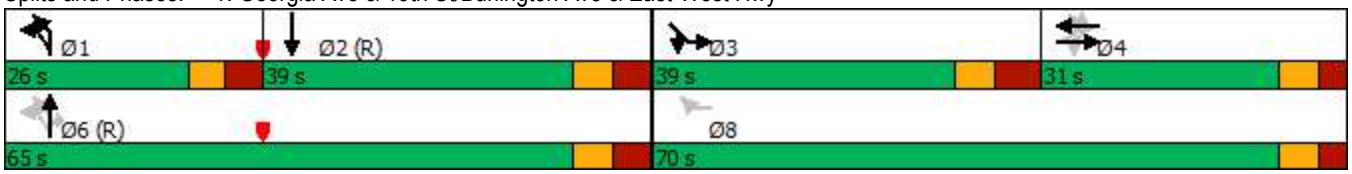
Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 60 (44%), Referenced to phase 2:SBT and 6:NBTL, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Lane Group	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	1124	22	32	250	145	3
Future Volume (vph)	1124	22	32	250	145	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0	
Storage Lanes		0		1	1	
Taper Length (ft)				25		
Right Turn on Red			Yes			No
Link Speed (mph)	30			30		
Link Distance (ft)	609			1120		
Travel Time (s)	13.8			25.5		
Confl. Peds. (#/hr)		3	8	4	5	3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1202	0	0	255	151	0
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Minimum Split (s)	30.0			13.5	13.5	
Total Split (s)	39.0			39.0	39.0	
Total Split (%)	28.9%			28.9%	28.9%	
Yellow Time (s)	4.0			4.0	4.0	
All-Red Time (s)	4.0			4.5	4.5	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	8.0			8.5	8.5	
Lead/Lag	Lag			Lead	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes	
v/c Ratio	1.05			0.64	0.42	
Control Delay	89.4			55.6	49.0	
Queue Delay	0.0			0.0	0.0	
Total Delay	89.4			55.6	49.0	
Queue Length 50th (ft)	~418			204	114	
Queue Length 95th (ft)	#516			301	184	
Internal Link Dist (ft)	529			1040		
Turn Bay Length (ft)						
Base Capacity (vph)	1148			399	357	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.05			0.64	0.42	

Intersection Summary

~ 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: 1: Georgia Ave & 13th St/Burlington Ave & East-West Hwy

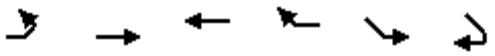


Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	2	34	65	11	151	107	391	52	5	73	501	55
Future Volume (vph)	2	34	65	11	151	107	391	52	5	73	501	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Util. Factor			1.00			1.00	1.00			1.00	0.95	1.00
Frpb, ped/bikes			1.00			1.00	0.96			1.00	1.00	0.97
Flpb, ped/bikes			0.99			1.00	1.00			1.00	1.00	1.00
Frt			0.99			1.00	0.85			1.00	1.00	0.85
Flt Protected			0.98			0.97	1.00			0.95	1.00	1.00
Satd. Flow (prot)			1758			1803	1515			1736	3471	1503
Flt Permitted			0.45			0.73	1.00			0.10	1.00	1.00
Satd. Flow (perm)			807			1356	1515			190	3471	1503
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	2	35	66	11	154	109	399	53	5	74	511	56
RTOR Reduction (vph)	0	0	0	0	0	0	54	0	0	0	0	0
Lane Group Flow (vph)	0	0	114	0	0	263	398	0	0	79	511	56
Confl. Peds. (#/hr)	8	17		5	5		8	17	3	8		4
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%	2%	2%	4%	4%	4%	4%
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Actuated Green, G (s)			24.0			24.0	63.0			57.0	57.0	57.0
Effective Green, g (s)			24.0			24.0	63.0			57.0	57.0	57.0
Actuated g/C Ratio			0.18			0.18	0.47			0.42	0.42	0.42
Clearance Time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Grp Cap (vph)			143			241	707			292	1465	634
v/s Ratio Prot										0.04	c0.15	
v/s Ratio Perm			0.14			c0.19	c0.26			0.08		0.04
v/c Ratio			0.80			1.09	0.56			0.27	0.35	0.09
Uniform Delay, d1			53.2			55.5	26.0			27.9	26.4	23.4
Progression Factor			1.00			1.00	1.00			1.00	1.00	1.00
Incremental Delay, d2			35.6			84.5	3.2			2.3	0.7	0.3
Delay (s)			88.8			140.0	29.3			30.2	27.1	23.7
Level of Service			F			F	C			C	C	C
Approach Delay (s)			88.8			70.0					27.2	
Approach LOS			F			E					C	

Intersection Summary			
HCM 2000 Control Delay	67.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	1124	22	32	250	145	3
Future Volume (vph)	1124	22	32	250	145	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0			8.5	8.5	
Lane Util. Factor	0.91			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.85	
Flt Protected	1.00			0.95	1.00	
Satd. Flow (prot)	4994			1770	1583	
Flt Permitted	1.00			0.95	1.00	
Satd. Flow (perm)	4994			1770	1583	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1147	22	33	255	148	3
RTOR Reduction (vph)	2	0	0	0	0	0
Lane Group Flow (vph)	1200	0	0	255	151	0
Confl. Peds. (#/hr)		3	8	4	5	3
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Actuated Green, G (s)	31.0			30.5	30.5	
Effective Green, g (s)	31.0			30.5	30.5	
Actuated g/C Ratio	0.23			0.23	0.23	
Clearance Time (s)	8.0			8.5	8.5	
Lane Grp Cap (vph)	1146			399	357	
v/s Ratio Prot	c0.24			0.14	0.10	
v/s Ratio Perm						
v/c Ratio	1.05			0.64	0.42	
Uniform Delay, d1	52.0			47.3	44.7	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	39.7			7.6	3.6	
Delay (s)	91.7			54.9	48.4	
Level of Service	F			D	D	
Approach Delay (s)	91.7			52.5		
Approach LOS	F			D		

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	6	82	129	14	26	17
Future Volume (vph)	6	82	129	14	26	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		543	347		851	
Travel Time (s)		14.8	9.5		23.2	
Confl. Peds. (#/hr)	11			11	17	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	6%	6%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	111	179	0	54	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	6	82	129	14	26	17
Future Vol, veh/h	6	82	129	14	26	17
Conflicting Peds, #/hr	11	0	0	11	17	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	6	6	5	5	2	2
Mvmt Flow	8	103	161	18	33	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	190	0	-	0	317	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	4.16	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.254	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1360	-	-	-	676	862
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1346	-	-	-	658	853
Mov Cap-2 Maneuver	-	-	-	-	658	-
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	SE
HCM Control Delay, s	0.5	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1346	-	-	-	723
HCM Lane V/C Ratio	0.006	-	-	-	0.074
HCM Control Delay (s)	7.7	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	10	25	8	29	343	21	4	176	26	31	79	40
Future Volume (vph)	10	25	8	29	343	21	4	176	26	31	79	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25				25			25			25	
Link Distance (ft)	359				571			514			543	
Travel Time (s)	9.8				15.6			14.0			14.8	
Confl. Peds. (#/hr)			5	6		3	3		6	5		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	36	0	0	423	0	0	221	0	0	161	0
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	NBL	NBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	10	25	29	343	21	4	176	26	79	40
Future Vol, veh/h	10	25	29	343	21	4	176	26	79	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	3	3	3	5	5	5	2	2
Mvmt Flow	11	27	31	369	23	4	189	28	85	43
Number of Lanes	0	1	0	1	0	0	1	0	1	0

Approach	NB	SE	NW
Opposing Approach		NW	SE
Opposing Lanes	0	1	1
Conflicting Approach Left	SE	SW	NB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	SW	NB	SW
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.8	13.8	10.4
HCM LOS	A	B	B

Lane	NBLn1	NWLn1	SELn1	SWLn1
Vol Left, %	23%	2%	7%	73%
Vol Thru, %	0%	85%	87%	0%
Vol Right, %	77%	13%	5%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	206	393	150
LT Vol	10	4	29	110
Through Vol	0	176	343	0
RT Vol	33	26	21	40
Lane Flow Rate	46	222	423	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.069	0.313	0.559	0.251
Departure Headway (Hd)	5.394	5.081	4.763	5.592
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	666	711	748	645
Service Time	3.414	3.081	2.859	3.605
HCM Lane V/C Ratio	0.069	0.312	0.566	0.25
HCM Control Delay	8.8	10.4	13.8	10.5
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.2	1.3	3.5	1

Lane Group	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL2	NEL	NER
Lane Configurations												
Traffic Volume (vph)	49	39	5	380	106	52	24	95	439	3	27	1
Future Volume (vph)	49	39	5	380	106	52	24	95	439	3	27	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0			0			100			0	0
Storage Lanes	1	0			0			1			1	1
Taper Length (ft)	25							25			25	
Right Turn on Red			No			No						Yes
Link Speed (mph)	25			30					30		25	
Link Distance (ft)	1312			657					1120		294	
Travel Time (s)	35.8			14.9					25.5		8.0	
Confl. Peds. (#/hr)	17	5	29		29	15	29	15		15	17	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	0	0	611	0	0	0	135	499	0	34	1
Turn Type	Perm			NA			pm+pt	pm+pt	NA	Prot	Prot	Perm
Protected Phases				6			5	5	2	3	3	
Permitted Phases	4						2	2				3
Minimum Split (s)	26.0			26.0			8.5	8.5	14.0	26.5	26.5	26.5
Total Split (s)	26.0			51.0			16.0	16.0	67.0	27.0	27.0	27.0
Total Split (%)	21.7%			42.5%			13.3%	13.3%	55.8%	22.5%	22.5%	22.5%
Yellow Time (s)	3.5			4.0			3.5	3.5	4.0	3.5	3.5	3.5
All-Red Time (s)	2.5			3.0			2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0			0.0				0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0			7.0				5.5	7.0		6.5	6.5
Lead/Lag	Lag			Lag			Lead	Lead		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes			Yes	Yes		Yes	Yes	Yes
v/c Ratio	0.51			0.61				0.41	0.34		0.12	0.00
Control Delay	55.5			34.0				19.3	18.9		43.4	0.0
Queue Delay	0.0			0.0				0.0	0.0		0.0	0.0
Total Delay	55.5			34.0				19.3	18.9		43.4	0.0
Queue Length 50th (ft)	76			235				53	140		23	0
Queue Length 95th (ft)	133			300				88	182		52	0
Internal Link Dist (ft)	1232			577					1040		214	
Turn Bay Length (ft)								100				
Base Capacity (vph)	206			1009				332	1475		290	371
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	0.51			0.61				0.41	0.34		0.12	0.00

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 72 (60%), Referenced to phase 2:NWTL and 6:SET, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 4: Newell St & East-West Hwy & Blair Mill Rd

Movement	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL2	NEL	NER
Lane Configurations												
Traffic Volume (vph)	49	39	5	380	106	52	24	95	439	3	27	1
Future Volume (vph)	49	39	5	380	106	52	24	95	439	3	27	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			7.0				5.5	7.0		6.5	6.5
Lane Util. Factor	1.00			*0.81				1.00	*0.80		1.00	1.00
Frpb, ped/bikes	0.94			0.95				1.00	1.00		1.00	0.98
Flpb, ped/bikes	0.99			1.00				0.99	1.00		1.00	1.00
Frt	0.94			0.96				1.00	1.00		1.00	0.85
Flt Protected	0.97			1.00				0.95	1.00		0.95	1.00
Satd. Flow (prot)	1582			2753				1742	2951		1703	1492
Flt Permitted	0.76			1.00				0.24	1.00		0.95	1.00
Satd. Flow (perm)	1239			2753				433	2951		1703	1492
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	56	44	6	432	120	59	27	108	499	3	31	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	106	0	0	611	0	0	0	135	499	0	34	0
Confl. Peds. (#/hr)	17	5	29		29	15	29	15		15	17	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm			NA			pm+pt	pm+pt	NA	Prot	Prot	Perm
Protected Phases				6			5	5	2	3	3	
Permitted Phases	4						2	2				3
Actuated Green, G (s)	20.0			44.0				60.0	60.0		20.5	20.5
Effective Green, g (s)	20.0			44.0				60.0	60.0		20.5	20.5
Actuated g/C Ratio	0.17			0.37				0.50	0.50		0.17	0.17
Clearance Time (s)	6.0			7.0				5.5	7.0		6.5	6.5
Lane Grp Cap (vph)	206			1009				331	1475		290	254
v/s Ratio Prot				c0.22				c0.04	0.17		c0.02	
v/s Ratio Perm	c0.09							0.17				0.00
v/c Ratio	0.51			0.61				0.41	0.34		0.12	0.00
Uniform Delay, d1	45.6			30.9				18.1	18.1		42.1	41.3
Progression Factor	1.00			1.00				1.00	1.00		1.00	1.00
Incremental Delay, d2	8.9			2.7				3.7	0.6		0.8	0.0
Delay (s)	54.5			33.6				21.8	18.7		42.9	41.3
Level of Service	D			C				C	B		D	D
Approach Delay (s)	54.5			33.6					19.3		42.9	
Approach LOS	D			C					B		D	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	4	14	18	4	18	117
Future Volume (vph)	4	14	18	4	18	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		25			25
Link Distance (ft)	851		608			294
Travel Time (s)	23.2		16.6			8.0
Confl. Peds. (#/hr)	7	2		10	10	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	11%	11%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	30	0	0	185
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	4	14	18	4	18	117
Future Vol, veh/h	4	14	18	4	18	117
Conflicting Peds, #/hr	7	2	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	11	11	0	0	0	0
Mvmt Flow	5	19	25	5	25	160

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	255	40	0	0	40	0
Stage 1	38	-	-	-	-	-
Stage 2	217	-	-	-	-	-
Critical Hdwy	6.51	6.31	-	-	4.1	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.399	-	-	2.2	-
Pot Cap-1 Maneuver	715	1006	-	-	1583	-
Stage 1	962	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	690	995	-	-	1568	-
Mov Cap-2 Maneuver	690	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	778	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.1	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	906	1568	-
HCM Lane V/C Ratio	-	-	0.027	0.016	-
HCM Control Delay (s)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	329	11	5	225	9	6	5	9	48	66	8
Future Volume (vph)	3	329	11	5	225	9	6	5	9	48	66	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		981			571			275			608	
Travel Time (s)		26.8			15.6			7.5			16.6	
Confl. Peds. (#/hr)	7		3	3		7	10		6	6		10
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	369	0	0	257	0	0	21	0	0	132	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	3	329	11	5	225	9	6	5	9	48	66	8
Future Vol, veh/h	3	329	11	5	225	9	6	5	9	48	66	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	4	4	4	5	5	5	0	0	0	0	0	0
Mvmt Flow	3	354	12	5	242	10	6	5	10	52	71	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12	10.4	8.6	9.8
HCM LOS	B	B	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	30%	2%	1%	39%
Vol Thru, %	25%	94%	96%	54%
Vol Right, %	45%	4%	3%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	239	343	122
LT Vol	6	5	3	48
Through Vol	5	225	329	66
RT Vol	9	9	11	8
Lane Flow Rate	22	257	369	131
Geometry Grp	1	1	1	1
Degree of Util (X)	0.033	0.343	0.478	0.197
Departure Headway (Hd)	5.448	4.798	4.661	5.398
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	661	745	767	659
Service Time	3.448	2.862	2.719	3.48
HCM Lane V/C Ratio	0.033	0.345	0.481	0.199
HCM Control Delay	8.6	10.4	12	9.8
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.1	1.5	2.6	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	21	16	52	38	139	19	266	4	9	219	16
Future Volume (vph)	7	21	16	52	38	139	19	266	4	9	219	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		433			1312			589			981	
Travel Time (s)		11.8			35.8			16.1			26.8	
Confl. Peds. (#/hr)	3		6	6		3	2		5	5		2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	4%	4%	4%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	264	0	0	333	0	0	280	0
Sign Control		Stop			Stop			Stop			Stop	

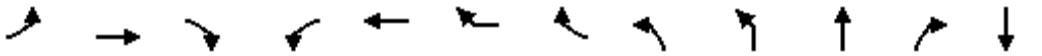
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	7	21	16	52	38	139	19	266	4	9	219	16
Future Vol, veh/h	7	21	16	52	38	139	19	266	4	9	219	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	2	2	2	4	4	4	5	5	5
Mvmt Flow	8	24	18	60	44	160	22	306	5	10	252	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	SE	NW
Opposing Approach	WB	EB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	EB	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	11.7	13.3	12.1
HCM LOS	A	B	B	B

Lane	NWLn1	EBLn1	WBLn1	SELn1
Vol Left, %	4%	16%	23%	7%
Vol Thru, %	90%	48%	17%	92%
Vol Right, %	7%	36%	61%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	244	44	229	289
LT Vol	9	7	52	19
Through Vol	219	21	38	266
RT Vol	16	16	139	4
Lane Flow Rate	280	51	263	332
Geometry Grp	1	1	1	1
Degree of Util (X)	0.416	0.082	0.388	0.487
Departure Headway (Hd)	5.335	5.833	5.313	5.281
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	673	612	676	681
Service Time	3.373	3.891	3.357	3.317
HCM Lane V/C Ratio	0.416	0.083	0.389	0.488
HCM Control Delay	12.1	9.4	11.7	13.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.1	0.3	1.8	2.7



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBT
Lane Configurations												
Traffic Volume (vph)	57	149	9	118	44	250	44	11	141	836	280	553
Future Volume (vph)	57	149	9	118	44	250	44	11	141	836	280	553
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0			300		0	
Storage Lanes	0		0	0		1			1		1	
Taper Length (ft)	25			25					25			
Right Turn on Red			No				Yes				No	
Link Speed (mph)		30			30					30		30
Link Distance (ft)		347			678					591		609
Travel Time (s)		7.9			15.4					13.4		13.8
Confl. Peds. (#/hr)	22		30	30		8	22	26	8		23	
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	226	0	0	170	309	0	0	160	880	295	673
Turn Type	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm	NA
Protected Phases		4			4			1	1	6		2
Permitted Phases	4			4		8		6	6		6	
Minimum Split (s)	31.0	31.0		31.0	31.0	39.0		11.5	11.5	30.0	30.0	30.0
Total Split (s)	33.0	33.0		33.0	33.0	69.0		18.0	18.0	66.0	66.0	48.0
Total Split (%)	24.4%	24.4%		24.4%	24.4%	51.1%		13.3%	13.3%	48.9%	48.9%	35.6%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0		4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)		0.0			0.0	0.0			0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0			7.0	7.0			7.5	8.0	8.0	8.0
Lead/Lag	Lag	Lag		Lag	Lag			Lead	Lead			Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes			Yes	Yes			Yes
v/c Ratio		0.89			0.94	0.41			0.51	0.58	0.48	0.46
Control Delay		88.0			107.8	17.8			30.2	31.1	30.8	39.4
Queue Delay		0.0			0.0	0.0			0.0	0.0	0.0	0.0
Total Delay		88.0			107.8	17.8			30.2	31.1	30.8	39.4
Queue Length 50th (ft)		195			149	117			86	303	183	173
Queue Length 95th (ft)		#350			#297	194			136	371	270	215
Internal Link Dist (ft)		267			598					511		529
Turn Bay Length (ft)									300			
Base Capacity (vph)		253			180	745			311	1520	619	1454
Starvation Cap Reductn		0			0	0			0	0	0	0
Spillback Cap Reductn		0			0	0			0	0	0	0
Storage Cap Reductn		0			0	0			0	0	0	0
Reduced v/c Ratio		0.89			0.94	0.41			0.51	0.58	0.48	0.46

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 62 (46%), Referenced to phase 2:SBT and 6:NBTL, Start of Green	
Natural Cycle: 110	

Lane Group	SBR	SBR2	SEL	SER	SER2
Lane Configurations					
Traffic Volume (vph)	38	48	451	94	3
Future Volume (vph)	38	48	451	94	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0	
Storage Lanes	0		1	1	
Taper Length (ft)			25		
Right Turn on Red		Yes			No
Link Speed (mph)			30		
Link Distance (ft)			1120		
Travel Time (s)			25.5		
Confl. Peds. (#/hr)	26	8	23	30	26
Confl. Bikes (#/hr)	1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	1%	1%	1%
Shared Lane Traffic (%)					
Lane Group Flow (vph)	0	0	475	102	0
Turn Type			Prot	Prot	
Protected Phases			3	3	
Permitted Phases					
Minimum Split (s)			13.5	13.5	
Total Split (s)			36.0	36.0	
Total Split (%)			26.7%	26.7%	
Yellow Time (s)			4.0	4.0	
All-Red Time (s)			4.5	4.5	
Lost Time Adjust (s)			0.0	0.0	
Total Lost Time (s)			8.5	8.5	
Lead/Lag			Lead	Lead	
Lead-Lag Optimize?			Yes	Yes	
v/c Ratio			1.30	0.31	
Control Delay			198.1	48.9	
Queue Delay			0.0	0.0	
Total Delay			198.1	48.9	
Queue Length 50th (ft)			~533	77	
Queue Length 95th (ft)			#750	133	
Internal Link Dist (ft)			1040		
Turn Bay Length (ft)					
Base Capacity (vph)			364	325	
Starvation Cap Reductn			0	0	
Spillback Cap Reductn			0	0	
Storage Cap Reductn			0	0	
Reduced v/c Ratio			1.30	0.31	

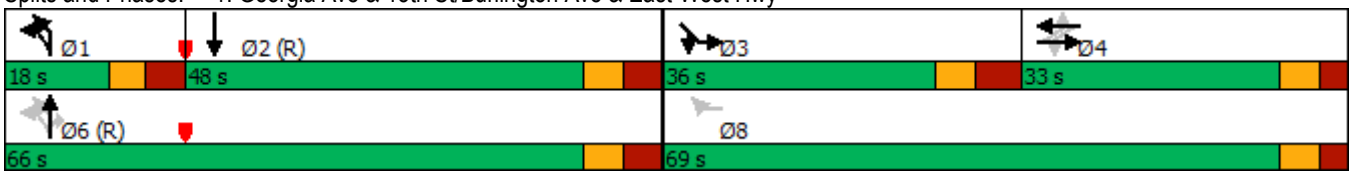
Intersection Summary

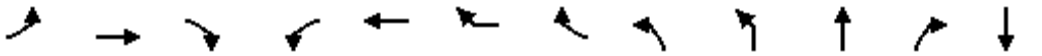
Control Type: Pretimed

~ 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: 1: Georgia Ave & 13th St/Burlington Ave & East-West Hwy





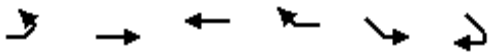
Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBT
Lane Configurations												
Traffic Volume (vph)	57	149	9	118	44	250	44	11	141	836	280	553
Future Volume (vph)	57	149	9	118	44	250	44	11	141	836	280	553
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	7.0			7.5	8.0	8.0	8.0
Lane Util. Factor		1.00			1.00	1.00			1.00	0.95	1.00	0.91
Frpb, ped/bikes		1.00			1.00	0.95			1.00	1.00	0.91	0.99
Flpb, ped/bikes		0.99			0.98	1.00			1.00	1.00	1.00	1.00
Frt		0.99			1.00	0.85			1.00	1.00	0.85	0.98
Flt Protected		0.99			0.96	1.00			0.95	1.00	1.00	1.00
Satd. Flow (prot)		1829			1762	1505			1763	3539	1442	4884
Flt Permitted		0.71			0.51	1.00			0.27	1.00	1.00	1.00
Satd. Flow (perm)		1316			935	1505			495	3539	1442	4884
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	157	9	124	46	263	46	12	148	880	295	582
RTOR Reduction (vph)	0	0	0	0	0	55	0	0	0	0	0	7
Lane Group Flow (vph)	0	226	0	0	170	254	0	0	160	880	295	666
Confl. Peds. (#/hr)	22		30	30		8	22	26	8		23	
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Turn Type	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm	NA
Protected Phases		4			4			1	1	6		2
Permitted Phases	4			4		8		6	6		6	
Actuated Green, G (s)		26.0			26.0	62.0			58.0	58.0	58.0	40.0
Effective Green, g (s)		26.0			26.0	62.0			58.0	58.0	58.0	40.0
Actuated g/C Ratio		0.19			0.19	0.46			0.43	0.43	0.43	0.30
Clearance Time (s)		7.0			7.0	7.0			7.5	8.0	8.0	8.0
Lane Grp Cap (vph)		253			180	691			311	1520	619	1447
v/s Ratio Prot									0.04	c0.25		0.14
v/s Ratio Perm		0.17			c0.18	0.17			0.18		0.20	
v/c Ratio		0.89			0.94	0.37			0.51	0.58	0.48	0.46
Uniform Delay, d1		53.1			53.8	23.8			25.2	29.2	27.6	38.7
Progression Factor		1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		34.6			53.9	1.5			6.0	1.6	2.6	1.1
Delay (s)		87.8			107.7	25.3			31.1	30.8	30.2	39.8
Level of Service		F			F	C			C	C	C	D
Approach Delay (s)		87.8			54.5					30.7		39.8
Approach LOS		F			D					C		D

Intersection Summary			
HCM 2000 Control Delay	66.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SBR2	SEL	SER	SER2
Lane Configurations					
Traffic Volume (vph)	38	48	451	94	3
Future Volume (vph)	38	48	451	94	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)			8.5	8.5	
Lane Util. Factor			1.00	1.00	
Frpb, ped/bikes			1.00	1.00	
Flpb, ped/bikes			1.00	1.00	
Frt			1.00	0.85	
Flt Protected			0.95	1.00	
Satd. Flow (prot)			1787	1599	
Flt Permitted			0.95	1.00	
Satd. Flow (perm)			1787	1599	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	51	475	99	3
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	0	475	102	0
Confl. Peds. (#/hr)	26	8	23	30	26
Confl. Bikes (#/hr)	1	1			
Heavy Vehicles (%)	3%	3%	1%	1%	1%
Turn Type			Prot	Prot	
Protected Phases			3	3	
Permitted Phases					
Actuated Green, G (s)			27.5	27.5	
Effective Green, g (s)			27.5	27.5	
Actuated g/C Ratio			0.20	0.20	
Clearance Time (s)			8.5	8.5	
Lane Grp Cap (vph)			364	325	
v/s Ratio Prot			c0.27	0.06	
v/s Ratio Perm					
v/c Ratio			1.30	0.31	
Uniform Delay, d1			53.8	45.7	
Progression Factor			1.00	1.00	
Incremental Delay, d2			155.9	2.5	
Delay (s)			209.6	48.2	
Level of Service			F	D	
Approach Delay (s)			181.1		
Approach LOS			F		

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	6	182	79	16	27	14
Future Volume (vph)	6	182	79	16	27	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		543	347		851	
Travel Time (s)		14.8	9.5		23.2	
Confl. Peds. (#/hr)	18			18		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	205	103	0	44	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	6	182	79	16	27	14
Future Vol, veh/h	6	182	79	16	27	14
Conflicting Peds, #/hr	18	0	0	18	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	3	5	5
Mvmt Flow	7	198	86	17	29	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	121	0	-	0	325	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	212	-
Critical Hdwy	4.12	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.218	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1467	-	-	-	663	932
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1442	-	-	-	637	916
Mov Cap-2 Maneuver	-	-	-	-	637	-
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	SE
HCM Control Delay, s	0.2	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1442	-	-	-	711
HCM Lane V/C Ratio	0.005	-	-	-	0.063
HCM Control Delay (s)	7.5	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	21	90	28	69	211	13	15	285	28	29	36	23
Future Volume (vph)	21	90	28	69	211	13	15	285	28	29	36	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25				25			25			25	
Link Distance (ft)	359				571			514			543	
Travel Time (s)	9.8				15.6			14.0			14.8	
Confl. Peds. (#/hr)	6		6	23		2	2		23	6		6
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	122	0	0	302	0	0	338	0	0	91	0
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	NBL	NBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	21	90	69	211	13	15	285	28	36	23
Future Vol, veh/h	21	90	69	211	13	15	285	28	36	23
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	1	1	3	3	3	2	2	2	3	3
Mvmt Flow	22	93	71	218	13	15	294	29	37	24
Number of Lanes	0	1	0	1	0	0	1	0	1	0

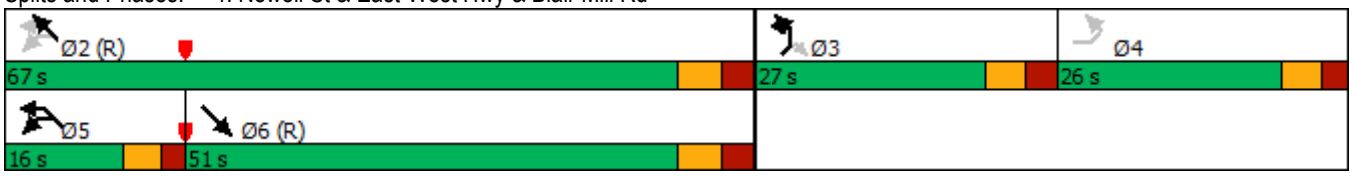
Approach	NB	SE	NW
Opposing Approach		NW	SE
Opposing Lanes	0	1	1
Conflicting Approach Left	SE	SW	NB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	SW	NB	SW
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.6	11.9	12.4
HCM LOS	A	B	B

Lane	NBLn1	NWLn1	SELn1	SWLn1
Vol Left, %	15%	5%	24%	74%
Vol Thru, %	0%	87%	72%	0%
Vol Right, %	85%	9%	4%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	139	328	293	88
LT Vol	21	15	69	65
Through Vol	0	285	211	0
RT Vol	118	28	13	23
Lane Flow Rate	143	338	302	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.208	0.47	0.427	0.146
Departure Headway (Hd)	5.217	4.999	5.094	5.813
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	686	724	707	616
Service Time	3.256	2.999	3.123	3.857
HCM Lane V/C Ratio	0.208	0.467	0.427	0.148
HCM Control Delay	9.6	12.4	11.9	9.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.8	2.5	2.1	0.5

Lane Group	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL2	NEL	NER
Lane Configurations												
Traffic Volume (vph)	40	63	10	505	50	58	23	86	399	2	23	12
Future Volume (vph)	40	63	10	505	50	58	23	86	399	2	23	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0			0			100			0	0
Storage Lanes	1	0			0			1			1	1
Taper Length (ft)	25							25			25	
Right Turn on Red			No			No						Yes
Link Speed (mph)	25			30					30		25	
Link Distance (ft)	1312			657					1120		294	
Travel Time (s)	35.8			14.9					25.5		8.0	
Confl. Peds. (#/hr)	51	10	39		39	34	39	34		34	51	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	0	0	646	0	0	0	115	420	0	26	13
Turn Type	Perm			NA			pm+pt	pm+pt	NA	Prot	Prot	Perm
Protected Phases				6			5	5	2	3	3	
Permitted Phases	4						2	2				3
Minimum Split (s)	26.0			26.0			8.5	8.5	14.0	26.5	26.5	26.5
Total Split (s)	26.0			51.0			16.0	16.0	67.0	27.0	27.0	27.0
Total Split (%)	21.7%			42.5%			13.3%	13.3%	55.8%	22.5%	22.5%	22.5%
Yellow Time (s)	3.5			4.0			3.5	3.5	4.0	3.5	3.5	3.5
All-Red Time (s)	2.5			3.0			2.0	2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0			0.0				0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0			7.0				5.5	7.0		6.5	6.5
Lead/Lag	Lag			Lag			Lead	Lead		Lead	Lead	Lead
Lead-Lag Optimize?	Yes			Yes			Yes	Yes		Yes	Yes	Yes
v/c Ratio	0.58			0.62				0.35	0.28		0.09	0.04
Control Delay	58.6			34.4				18.4	18.1		43.0	0.2
Queue Delay	0.0			0.0				0.0	0.0		0.0	0.0
Total Delay	58.6			34.4				18.4	18.1		43.0	0.2
Queue Length 50th (ft)	86			250				45	114		17	0
Queue Length 95th (ft)	151			327				78	156		44	0
Internal Link Dist (ft)	1232			577					1040		214	
Turn Bay Length (ft)								100				
Base Capacity (vph)	205			1040				328	1505		293	371
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	0.58			0.62				0.35	0.28		0.09	0.04

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 75 (63%), Referenced to phase 2:NWTL and 6:SET, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 4: Newell St & East-West Hwy & Blair Mill Rd



Movement	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL2	NEL	NER
Lane Configurations												
Traffic Volume (vph)	40	63	10	505	50	58	23	86	399	2	23	12
Future Volume (vph)	40	63	10	505	50	58	23	86	399	2	23	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			7.0				5.5	7.0		6.5	6.5
Lane Util. Factor	1.00			*0.81				1.00	*0.80		1.00	1.00
Frpb, ped/bikes	0.89			0.96				1.00	1.00		1.00	0.97
Flpb, ped/bikes	0.97			1.00				1.00	1.00		1.00	1.00
Frt	0.91			0.97				1.00	1.00		1.00	0.85
Flt Protected	0.98			1.00				0.95	1.00		0.95	1.00
Satd. Flow (prot)	1438			2838				1787	3010		1719	1493
Flt Permitted	0.84			1.00				0.22	1.00		0.95	1.00
Satd. Flow (perm)	1235			2838				407	3010		1719	1493
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	42	66	11	532	53	61	24	91	420	2	24	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	11
Lane Group Flow (vph)	119	0	0	646	0	0	0	115	420	0	26	2
Confl. Peds. (#/hr)	51	10	39		39	34	39	34		34	51	10
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Turn Type	Perm			NA			pm+pt	pm+pt	NA	Prot	Prot	Perm
Protected Phases				6			5	5	2	3	3	
Permitted Phases	4						2	2				3
Actuated Green, G (s)	20.0			44.0				60.0	60.0		20.5	20.5
Effective Green, g (s)	20.0			44.0				60.0	60.0		20.5	20.5
Actuated g/C Ratio	0.17			0.37				0.50	0.50		0.17	0.17
Clearance Time (s)	6.0			7.0				5.5	7.0		6.5	6.5
Lane Grp Cap (vph)	205			1040				324	1505		293	255
v/s Ratio Prot				c0.23				c0.03	0.14		c0.02	
v/s Ratio Perm	c0.10							0.15				0.00
v/c Ratio	0.58			0.62				0.35	0.28		0.09	0.01
Uniform Delay, d1	46.1			31.2				18.1	17.4		41.9	41.3
Progression Factor	1.00			1.00				1.00	1.00		1.00	1.00
Incremental Delay, d2	11.5			2.8				3.0	0.5		0.6	0.1
Delay (s)	57.6			34.0				21.1	17.9		42.5	41.4
Level of Service	E			C				C	B		D	D
Approach Delay (s)	57.6			34.0					18.6		42.1	
Approach LOS	E			C					B		D	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	7	12	24	5	32	48
Future Volume (vph)	7	12	24	5	32	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		25			25
Link Distance (ft)	851		608			294
Travel Time (s)	23.2		16.6			8.0
Confl. Peds. (#/hr)	10	11		15	15	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	16%	16%	0%	0%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	36	0	0	100
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

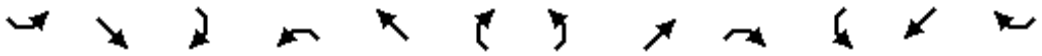
Intersection	
Int Delay, s/veh	3.3

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	7	12	24	5	32	48
Future Vol, veh/h	7	12	24	5	32	48
Conflicting Peds, #/hr	10	11	0	15	15	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	16	16	0	0	3	3
Mvmt Flow	9	15	30	6	40	60

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	198	59	0	0	51	0
Stage 1	48	-	-	-	-	-
Stage 2	150	-	-	-	-	-
Critical Hdwy	6.56	6.36	-	-	4.13	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	3.444	-	-	2.227	-
Pot Cap-1 Maneuver	760	969	-	-	1549	-
Stage 1	940	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	722	945	-	-	1527	-
Mov Cap-2 Maneuver	722	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	815	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.4	0	3
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	848	1527	-
HCM Lane V/C Ratio	-	-	0.028	0.026	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-



Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	13	248	17	6	312	13	17	11	12	31	13	12
Future Volume (vph)	13	248	17	6	312	13	17	11	12	31	13	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		981			571			275			608	
Travel Time (s)		26.8			15.6			7.5			16.6	
Confl. Peds. (#/hr)	20		2	2		20	13		12	12		13
Confl. Bikes (#/hr)			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
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	309	0	0	368	0	0	44	0	0	61	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	13	248	17	6	312	13	17	11	12	31	13	12
Future Vol, veh/h	13	248	17	6	312	13	17	11	12	31	13	12
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
Heavy Vehicles, %	3	3	3	3	3	3	5	5	5	4	4	4
Mvmt Flow	14	276	19	7	347	14	19	12	13	34	14	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	11.6	9	9.2
HCM LOS	B	B	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	42%	2%	5%	55%
Vol Thru, %	28%	94%	89%	23%
Vol Right, %	30%	4%	6%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	331	278	56
LT Vol	17	6	13	31
Through Vol	11	312	248	13
RT Vol	12	13	17	12
Lane Flow Rate	44	368	309	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.466	0.396	0.096
Departure Headway (Hd)	5.504	4.564	4.618	5.531
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	645	787	775	643
Service Time	3.585	2.609	2.665	3.607
HCM Lane V/C Ratio	0.068	0.468	0.399	0.096
HCM Control Delay	9	11.6	10.7	9.2
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	2.5	1.9	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	35	12	62	30	83	54	198	4	7	272	55
Future Volume (vph)	7	35	12	62	30	83	54	198	4	7	272	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		433			1312			589			981	
Travel Time (s)		11.8			35.8			16.1			26.8	
Confl. Peds. (#/hr)	8		11	11		8	14		4	4		14
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	182	0	0	266	0	0	347	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	7	35	12	62	30	83	54	198	4	7	272	55
Future Vol, veh/h	7	35	12	62	30	83	54	198	4	7	272	55
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	2	2	2	3	3	3	4	4	4
Mvmt Flow	7	36	13	65	31	86	56	206	4	7	283	57
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	SE	NW
Opposing Approach	WB	EB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	EB	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	10.4	11.3	12.4
HCM LOS	A	B	B	B

Lane	NWLn1	EBLn1	WBLn1	SELn1
Vol Left, %	2%	13%	35%	21%
Vol Thru, %	81%	65%	17%	77%
Vol Right, %	16%	22%	47%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	334	54	175	256
LT Vol	7	7	62	54
Through Vol	272	35	30	198
RT Vol	55	12	83	4
Lane Flow Rate	348	56	182	267
Geometry Grp	1	1	1	1
Degree of Util (X)	0.478	0.089	0.272	0.381
Departure Headway (Hd)	4.942	5.68	5.363	5.149
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	734	629	669	701
Service Time	2.95	3.725	3.398	3.16
HCM Lane V/C Ratio	0.474	0.089	0.272	0.381
HCM Control Delay	12.4	9.3	10.4	11.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.6	0.3	1.1	1.8

Attachment B

Intersection movement MOE results for AM and PM Peak (Existing Conditions)

Existing Conditions					AM Peak					PM Peak				
					V/C	Delay (sec)	LOS	Queue (ft)		V/C	Delay (sec)	LOS	Queue (ft)	
								50th%ile	95th%ile				50th%ile	95th%ile
Intersection #	**Control**	**Intersection Roads**	**Approach**	**Movement**										
1	Signalized	Georgia Ave & 13th St & Burlington Ave & East-West Hwy	13th St	EB Left/Thru/Right	0.80	88.8	F	97	#206	0.89	87.8	F	195	#350
			Burlington Ave	WB Left/Thru	1.09	140	F	~259	#438	0.94	107.7	F	149	#297
				WB Right	0.56	29.3	C	223	338	0.37	25.3	C	117	194
			Georgia Ave	NB Left	0.27	30.2	C	41	76	0.51	31.1	C	86	136
				NB Thru	0.35	27.1	C	157	203	0.58	30.8	C	303	371
				NB Right	0.09	23.7	C	29	58	0.48	30.2	C	183	270
				SB Thru/Right	1.05	91.7	F	~418	#516	0.46	39.8	D	173	215
			East-West Hwy	SEB Left	0.64	54.9	D	204	301	1.30	209.6	F	~533	#750
				SEB Right	0.42	48.4	D	114	184	0.31	48.2	D	77	133
			Overall		**0.84**	**67.9**	**E**	**-**	**-**	**0.90**	**66.3**	**E**	**-**	**-**
2	Unsignalized	13th St & Kennett St	13th St	EB Left	0.006	7.7	A	-	0	0.005	7.5	A	-	0
				EB Thru	-	0	A	-	-	-	0	A	-	-
				WB Thru/Right	-	-	-	-	-	-	-	-	-	-
			Kennett St	SEB Left/Right	0.07	10.4	B	-	0.2	0.06	10.4	B	-	0.2
			Overall		**-**	**1.8**	**-**	**-**	**-**	**-**	**1.4**	**-**	**-**	**-**
3	Unsignalized	13th St NW & Eastern Ave NW and 13th St	13th St NW	NB Left/Thru/Right	0.07	8.8	A	-	0.2	0.21	9.6	A	-	0.8
			Eastern Ave NW	SEB Left/Thru/Right	0.57	13.8	B	-	3.5	0.43	11.9	B	-	2.1
				NWB Left/Thru/Right	0.31	10.4	B	-	1.3	0.47	12.4	B	-	2.5
			13th St	SWB Left/Thru/Right	0.25	10.5	B	-	1	0.15	9.9	A	-	0.5
			Overall		**-**	**12**	**B**	**-**	**-**	**-**	**11.5**	**B**	**-**	**-**
4	Signalized	Newell St & East-West Hwy & Blair Mill Road	Blair Mill Rd	EB Left/Right	0.51	54.5	D	76	133	0.58	57.6	E	86	151
			East-West Hwy	SEB Thru/Right	0.61	33.6	C	235	300	0.62	34	C	250	327
				NWB Left	0.41	21.8	C	53	88	0.35	21.1	C	45	78
				NWB Thru	0.34	18.7	B	140	182	0.28	17.9	B	114	156
			Newell St	NEB Left	0.12	42.9	D	23	52	0.09	42.5	D	17	44
				NEB Right	0.00	41.3	D	0	0	0.01	41.4	D	0	0
			Overall		**0.46**	**28.9**	**C**	**-**	**-**	**0.47**	**30.2**	**C**	**-**	**-**
5	Unsignalized	Newell St & Kennett St	Kennett St	NWB Left/Right	0.03	9.1	A	-	0.1	0.03	9.4	A	-	0.1
			Newell	NEB Thru/Right	-	-	-	-	-	-	-	-	-	-
				SWB Left	0.02	7.3	A	-	0	0.03	7.4	A	-	0.1
				SWB Thru	-	0	A	-	-	-	0	A	-	-
			Overall		**-**	**1.7**	**-**	**-**	**-**	**-**	**3.3**	**-**	**-**	**-**
6	Unsignalized	14 St NW & Newell St & Eastern Ave NW	Eastern Ave NW	SEB Left/Thru/Right	0.48	12	B	-	2.6	0.40	10.7	B	-	1.9
				NWB Left/Thru/Right	0.35	10.4	B	-	1.5	0.47	11.6	B	-	2.5
			14th St NW	NEB Left/Thru/Right	0.03	8.6	A	-	0.1	0.07	9	A	-	0.2
			Newell St	SWB Left/Thru/Right	0.20	9.8	A	-	0.7	0.10	9.2	A	-	0.3
			Overall		**-**	**11**	**B**	**-**	**-**	**-**	**10.9**	**B**	**-**	**-**
7	Unsignalized	Eastern Ave NW & Northgate Rd NW & Blair Mill Road	Northgate Rd NW	EB Left/Thru/Right	0.08	9.4	A	-	0.3	0.09	9.3	A	-	0.3
			Blair Mill Rd	WB Left/Thru/Right	0.39	11.7	B	-	1.8	0.27	10.4	B	-	1.1
			Eastern Ave NW	SEB Left/Thru/Right	0.49	13.3	B	-	2.7	0.38	11.3	B	-	1.8
				NWB Left/Thru/Right	0.42	12.1	B	-	2.1	0.47	12.4	B	-	2.6
			Overall		**-**	**12.3**	**B**	**-**	**-**	**-**	**11.4**	**B**	**-**	**-**

~ (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.

Attachment C

Trip Redistribution Volume Table

		Movements to be removed /Altered															
		ALT 4															
		ALT 2			ALT 3			ALT 2		ALT 3		ALT 2-Altered			ALT 3-Altered		
		4-NEL2	4-NEL	4-NER	4-EBR2	4-SER	4-NWL2	5-NWR	5-NET	5-SWL	5-SWT	6-NWR	6-SEL	6-NET	6-SWL	6-SWT	6-SWR
	Existing Volumes	3	27	1	5	106	24	14	18	18	117	9	3	5	48	66	8

											New Volumes		
Network Movements	**Existing Volumes**	**Volume Redistribution**									**ALT 4**	**ALT 3**	**ALT 2**
1-EBL2	2		20								22	2	22
1-EBT	65			1							66	65	66
1-WBL	151										151	151	151
1-WBT	107						21				128	128	107
1-WBR	391						-21				370	370	391
1-SEL	250			-1							249	250	249
1-SER2	3					52					55	55	3
2-EBT	82		9	1							92	82	92
2-WBT	129					39	21				190	190	129
2-WBR	14					13					27	27	14
2-SEL	26		11								37	26	37
3-SEL	29			1							30	29	30
3-SET	343					-39					304	304	343
3-NWT	176		-9								167	176	167
3-NWR	26		9								35	26	35
3-SWL2	31					39					70	70	31
3-SWR	40						21				61	61	40
4-EBL	49		5								54	49	54
4-EBR2	5				-5						0	0	5
4-SET	380					52					432	432	380
4-SER	106					-106					0	0	106
4-SER2	52					32					84	84	52
4-NWL2	24						-24				0	0	24
4-NWL	95						3				98	98	95
4-NWT	439		20								459	439	459
4-NEL2	3	-3						Volumes covered in main movement redistribution			0	3	0
4-NEL	27		-27								0	27	0
4-NER	1			-1							0	1	0
5-NWL	4	3									7	4	7
5-NWR	14	-3	-11								0	14	0
5-NET	18		-16	-1							0	18	0
5-NER	4				5						9	9	4
5-SWL	18				-5	-13					0	0	18
5-SWT	117					-93	-24				0	0	117
6-SEL	3			-1	5						7	8	2
6-SET	329			1							330	329	330
6-SER	11					32					43	43	11
6-NWL	5						21				26	26	5
6-NWR	9		-9								0	9	0
6-NEL	6		5								11	6	11
6-NET	5		-5								0	5	0

		Movements to be removed /Altered															
		ALT 4															
		ALT 2			ALT 3			ALT 2		ALT 3		ALT 2-Altered			ALT 3-Altered		
		4-NEL2	4-NEL	4-NER	4-EBR2	4-SER	4-NWL2	5-NWR	5-NET	5-SWL	5-SWT	6-NWR	6-SEL	6-NET	6-SWL	6-SWT	6-SWR
	Existing Volumes	3	27	1	5	106	24	14	18	18	117	9	3	5	48	66	8

																New Volumes		
Network Movements	**Existing Volumes**	**Volume Redistribution**														**ALT 4**	**ALT 3**	**ALT 2**
6-SWL	48					-39										9	9	48
6-SWT	66					-32	-21									12	12	66
6-SWR	8	3					-3									8	5	11
7-WBL	52					32										84	84	52
7-WBT	38															38	38	38
7-WBR	139	-3					3									139	142	136
7-SEL	19				-5											14	14	19
7-SET	266				5											271	271	266
7-NWT	219	3					-3									219	216	222
7-NWR	16		5													21	16	21

		Movements to be removed /Altered															
		ALT 4															
		ALT 2			ALT 3			ALT 2		ALT 3		ALT 2-Altered			ALT 3-Altered		
		4-NEL2	4-NEL	4-NER	4-EBR2	4-SER	4-NWL2	5-NWR	5-NET	5-SWL	5-SWT	6-NWR	6-SEL	6-NET	6-SWL	6-SWT	6-SWR
	Existing Volumes	3	27	1	5	106	24	14	18	18	117	9	3	5	48	66	8

										New Volumes		
Network Movements	**Existing Volumes**	**Volume Redistribution**								**ALT 4**	**ALT 3**	**ALT 2**
1-EBL2	0		23							23	0	23
1-EBT	149			12						161	149	161
1-WBT	44						12			56	56	44
1-WBR	250						-12			238	238	250
1-SEL	451			-12						439	451	439
1-SER	94									94	94	94
1-SER2	3					42				45	45	3
2-EBL	6									6	6	6
2-EBT	182		13	12						207	182	207
2-WBT	79					20	12			111	111	79
2-WBR	16					22				38	38	16
2-SEL	27		10							37	27	37
3-SEL	69			12						81	69	81
3-SET	211					-20				191	191	211
3-NWT	285		-13							272	285	272
3-NWR	28		13							41	28	41
3-SWL2	29					20				49	49	29
3-SWR	23						12			35	35	23
4-EBL	40		11							51	40	51
4-EBR2	10				-10					0	0	10
4-SET	505					42				547	547	505
4-SER	50					-50				0	0	50
4-SER2	58					-4				54	54	58
4-NWL2	23						-23			0	0	23
4-NWL	86						11			97	97	86
4-NWT	399		23							422	399	422
4-NEL2	2	-2								0	2	0
4-NEL	23		-23							0	23	0
4-NER	12			-12						0	12	0
5-NWL	7	2								9	7	9
5-NWR	12	-2	-10							0	12	0
5-NET	24		-13	-12						0	24	0
5-NER	5				10					15	15	5
5-SWL	32				-10	-22				0	0	32
5-SWT	48					-28	-23			0	0	48
6-SEL	13			-12	10					11	23	1
6-SET	248			12						260	248	260
6-SER	17					-4				13	13	17
6-NWL	6						12			18	18	6
6-NWR	13		-13							0	13	0
6-NEL	17		11							28	17	28

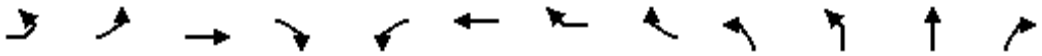
Volumes covered in main movement redistribution

		Movements to be removed /Altered															
		ALT 4															
		ALT 2			ALT 3			ALT 2		ALT 3		ALT 2-Altered			ALT 3-Altered		
		4-NEL2	4-NEL	4-NER	4-EBR2	4-SER	4-NWL2	5-NWR	5-NET	5-SWL	5-SWT	6-NWR	6-SEL	6-NET	6-SWL	6-SWT	6-SWR
	Existing Volumes	3	27	1	5	106	24	14	18	18	117	9	3	5	48	66	8

											New Volumes		
Network Movements	**Existing Volumes**	**Volume Redistribution**									**ALT 4**	**ALT 3**	**ALT 2**
6-NET	11		-11								0	11	0
6-SWL	31					-20					11	11	31
6-SWT	13					4	-12				5	5	13
6-SWR	12	2					-11				3	1	14
7-WBL	62					-4					58	58	62
7-WBT	30										30	30	30
7-WBR	83	-2					11				92	94	81
7-SEL	54				-10						44	44	54
7-SET	198				10						208	208	198
7-NWT	272	2					-11				263	261	274
7-NWR	55		11								66	55	66

Attachment D

Synchro Output for AM and PM Peak
(Proposed Alternatives)



Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	2	34	65	11	151	107	391	52	5	73	501	55
Future Volume (vph)	2	34	65	11	151	107	391	52	5	73	501	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0		0			300		0
Storage Lanes		0		0	0		1			1		1
Taper Length (ft)		25			25					25		
Right Turn on Red				No				Yes				No
Link Speed (mph)			30			30					30	
Link Distance (ft)			347			678					591	
Travel Time (s)			7.9			15.4					13.4	
Confl. Peds. (#/hr)	8	17		5	5		8	17	3	8		4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%	2%	2%	4%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	114	0	0	263	452	0	0	79	511	56
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Minimum Split (s)	31.0	31.0	31.0		31.0	31.0	39.0		11.5	11.5	30.0	30.0
Total Split (s)	31.0	31.0	31.0		31.0	31.0	70.0		26.0	26.0	65.0	65.0
Total Split (%)	23.0%	23.0%	23.0%		23.0%	23.0%	51.9%		19.3%	19.3%	48.1%	48.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	4.0		3.5	3.5	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		4.0	4.0	4.0	4.0
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			7.5	8.0	8.0
Lead/Lag	Lag	Lag	Lag		Lag	Lag			Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes			Yes	Yes		
v/c Ratio			0.80			1.09	0.59			0.27	0.35	0.09
Control Delay			89.7			135.4	23.9			25.9	27.3	24.0
Queue Delay			0.0			0.0	0.0			0.0	0.0	0.0
Total Delay			89.7			135.4	23.9			25.9	27.3	24.0
Queue Length 50th (ft)			97			~259	223			41	157	29
Queue Length 95th (ft)			#206			#438	338			76	203	58
Internal Link Dist (ft)			267			598					511	
Turn Bay Length (ft)										300		
Base Capacity (vph)			143			241	760			292	1465	634
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			0.80			1.09	0.59			0.27	0.35	0.09

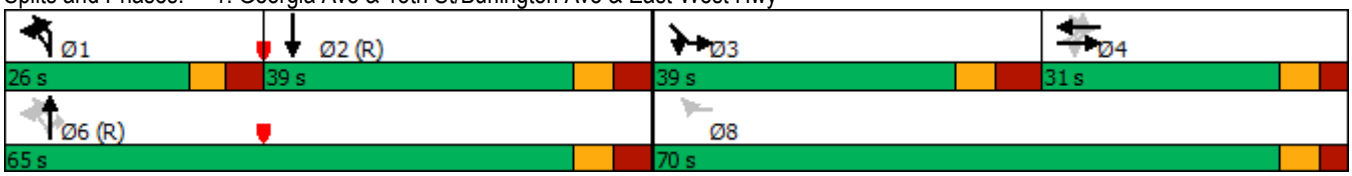
Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 60 (44%), Referenced to phase 2:SBT and 6:NBTL, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Lane Group	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	1124	22	32	250	145	3
Future Volume (vph)	1124	22	32	250	145	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0	
Storage Lanes		0		1	1	
Taper Length (ft)				25		
Right Turn on Red			Yes			No
Link Speed (mph)	30			30		
Link Distance (ft)	609			1120		
Travel Time (s)	13.8			25.5		
Confl. Peds. (#/hr)		3	8	4	5	3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1202	0	0	255	151	0
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Minimum Split (s)	30.0			13.5	13.5	
Total Split (s)	39.0			39.0	39.0	
Total Split (%)	28.9%			28.9%	28.9%	
Yellow Time (s)	4.0			4.0	4.0	
All-Red Time (s)	4.0			4.5	4.5	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	8.0			8.5	8.5	
Lead/Lag	Lag			Lead	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes	
v/c Ratio	1.05			0.64	0.42	
Control Delay	89.4			55.6	49.0	
Queue Delay	0.0			0.0	0.0	
Total Delay	89.4			55.6	49.0	
Queue Length 50th (ft)	~418			204	114	
Queue Length 95th (ft)	#516			301	184	
Internal Link Dist (ft)	529			1040		
Turn Bay Length (ft)						
Base Capacity (vph)	1148			399	357	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.05			0.64	0.42	

Intersection Summary

~ 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: 1: Georgia Ave & 13th St/Burlington Ave & East-West Hwy

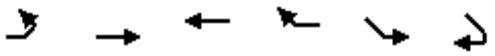


Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	2	34	65	11	151	107	391	52	5	73	501	55
Future Volume (vph)	2	34	65	11	151	107	391	52	5	73	501	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Util. Factor			1.00			1.00	1.00			1.00	0.95	1.00
Frpb, ped/bikes			1.00			1.00	0.96			1.00	1.00	0.97
Flpb, ped/bikes			0.99			1.00	1.00			1.00	1.00	1.00
Frt			0.99			1.00	0.85			1.00	1.00	0.85
Flt Protected			0.98			0.97	1.00			0.95	1.00	1.00
Satd. Flow (prot)			1758			1803	1515			1736	3471	1503
Flt Permitted			0.45			0.73	1.00			0.10	1.00	1.00
Satd. Flow (perm)			807			1356	1515			190	3471	1503
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	2	35	66	11	154	109	399	53	5	74	511	56
RTOR Reduction (vph)	0	0	0	0	0	0	54	0	0	0	0	0
Lane Group Flow (vph)	0	0	114	0	0	263	398	0	0	79	511	56
Confl. Peds. (#/hr)	8	17		5	5		8	17	3	8		4
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%	2%	2%	4%	4%	4%	4%
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Actuated Green, G (s)			24.0			24.0	63.0			57.0	57.0	57.0
Effective Green, g (s)			24.0			24.0	63.0			57.0	57.0	57.0
Actuated g/C Ratio			0.18			0.18	0.47			0.42	0.42	0.42
Clearance Time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Grp Cap (vph)			143			241	707			292	1465	634
v/s Ratio Prot										0.04	c0.15	
v/s Ratio Perm			0.14			c0.19	c0.26			0.08		0.04
v/c Ratio			0.80			1.09	0.56			0.27	0.35	0.09
Uniform Delay, d1			53.2			55.5	26.0			27.9	26.4	23.4
Progression Factor			1.00			1.00	1.00			1.00	1.00	1.00
Incremental Delay, d2			35.6			84.5	3.2			2.3	0.7	0.3
Delay (s)			88.8			140.0	29.3			30.2	27.1	23.7
Level of Service			F			F	C			C	C	C
Approach Delay (s)			88.8			70.0					27.2	
Approach LOS			F			E					C	

Intersection Summary			
HCM 2000 Control Delay	67.9	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	1124	22	32	250	145	3
Future Volume (vph)	1124	22	32	250	145	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0			8.5	8.5	
Lane Util. Factor	0.91			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.85	
Flt Protected	1.00			0.95	1.00	
Satd. Flow (prot)	4994			1770	1583	
Flt Permitted	1.00			0.95	1.00	
Satd. Flow (perm)	4994			1770	1583	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1147	22	33	255	148	3
RTOR Reduction (vph)	2	0	0	0	0	0
Lane Group Flow (vph)	1200	0	0	255	151	0
Confl. Peds. (#/hr)		3	8	4	5	3
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Actuated Green, G (s)	31.0			30.5	30.5	
Effective Green, g (s)	31.0			30.5	30.5	
Actuated g/C Ratio	0.23			0.23	0.23	
Clearance Time (s)	8.0			8.5	8.5	
Lane Grp Cap (vph)	1146			399	357	
v/s Ratio Prot	c0.24			0.14	0.10	
v/s Ratio Perm						
v/c Ratio	1.05			0.64	0.42	
Uniform Delay, d1	52.0			47.3	44.7	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	39.7			7.6	3.6	
Delay (s)	91.7			54.9	48.4	
Level of Service	F			D	D	
Approach Delay (s)	91.7			52.5		
Approach LOS	F			D		

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	6	82	129	14	26	17
Future Volume (vph)	6	82	129	14	26	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		543	347		851	
Travel Time (s)		14.8	9.5		23.2	
Confl. Peds. (#/hr)	11			11	17	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	6%	6%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	111	179	0	54	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	6	82	129	14	26	17
Future Vol, veh/h	6	82	129	14	26	17
Conflicting Peds, #/hr	11	0	0	11	17	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	6	6	5	5	2	2
Mvmt Flow	8	103	161	18	33	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	190	0	-	0	317	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	4.16	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.254	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1360	-	-	-	676	862
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1346	-	-	-	658	853
Mov Cap-2 Maneuver	-	-	-	-	658	-
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	SE
HCM Control Delay, s	0.5	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1346	-	-	-	723
HCM Lane V/C Ratio	0.006	-	-	-	0.074
HCM Control Delay (s)	7.7	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	10	25	8	29	343	21	4	176	26	31	79	40
Future Volume (vph)	10	25	8	29	343	21	4	176	26	31	79	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25				25			25			25	
Link Distance (ft)	359				571			514			543	
Travel Time (s)	9.8				15.6			14.0			14.8	
Confl. Peds. (#/hr)			5	6		3	3		6	5		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	36	0	0	423	0	0	221	0	0	161	0
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	NBL	NBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	10	25	29	343	21	4	176	26	79	40
Future Vol, veh/h	10	25	29	343	21	4	176	26	79	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	3	3	3	5	5	5	2	2
Mvmt Flow	11	27	31	369	23	4	189	28	85	43
Number of Lanes	0	1	0	1	0	0	1	0	1	0

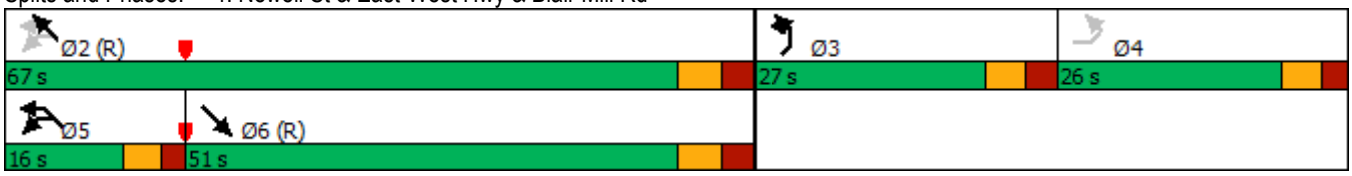
Approach	NB	SE	NW
Opposing Approach		NW	SE
Opposing Lanes	0	1	1
Conflicting Approach Left	SE	SW	NB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	SW	NB	SW
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.8	13.8	10.4
HCM LOS	A	B	B

Lane	NBLn1	NWLn1	SELn1	SWLn1
Vol Left, %	23%	2%	7%	73%
Vol Thru, %	0%	85%	87%	0%
Vol Right, %	77%	13%	5%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	206	393	150
LT Vol	10	4	29	110
Through Vol	0	176	343	0
RT Vol	33	26	21	40
Lane Flow Rate	46	222	423	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.069	0.313	0.559	0.251
Departure Headway (Hd)	5.394	5.081	4.763	5.592
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	666	711	748	645
Service Time	3.414	3.081	2.859	3.605
HCM Lane V/C Ratio	0.069	0.312	0.566	0.25
HCM Control Delay	8.8	10.4	13.8	10.5
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.2	1.3	3.5	1

Lane Group	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL2	NEL	NER
Lane Configurations												
Traffic Volume (vph)	49	39	5	380	106	52	24	95	439	3	27	1
Future Volume (vph)	49	39	5	380	106	52	24	95	439	3	27	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0			0			100			0	0
Storage Lanes	1	0			0			1			1	0
Taper Length (ft)	25							25			25	
Right Turn on Red			No			No						No
Link Speed (mph)	25			30					30		25	
Link Distance (ft)	1312			657					1120		294	
Travel Time (s)	35.8			14.9					25.5		8.0	
Confl. Peds. (#/hr)	17	5	29		29	15	29	15		15	17	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	106	0	0	611	0	0	0	135	499	0	35	0
Turn Type	Perm			NA			pm+pt	pm+pt	NA	Prot	Prot	
Protected Phases				6			5	5	2	3	3	
Permitted Phases	4						2	2				
Minimum Split (s)	26.0			26.0			8.5	8.5	14.0	26.5	26.5	
Total Split (s)	26.0			51.0			16.0	16.0	67.0	27.0	27.0	
Total Split (%)	21.7%			42.5%			13.3%	13.3%	55.8%	22.5%	22.5%	
Yellow Time (s)	3.5			4.0			3.5	3.5	4.0	3.5	3.5	
All-Red Time (s)	2.5			3.0			2.0	2.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0			0.0				0.0	0.0		0.0	
Total Lost Time (s)	6.0			7.0				5.5	7.0		6.5	
Lead/Lag	Lag			Lag			Lead	Lead		Lead	Lead	
Lead-Lag Optimize?	Yes			Yes			Yes	Yes		Yes	Yes	
v/c Ratio	0.51			0.61				0.41	0.34		0.12	
Control Delay	55.5			34.0				19.3	18.9		43.5	
Queue Delay	0.0			0.0				0.0	0.0		0.0	
Total Delay	55.5			34.0				19.3	18.9		43.5	
Queue Length 50th (ft)	76			235				53	140		23	
Queue Length 95th (ft)	133			300				88	182		52	
Internal Link Dist (ft)	1232			577					1040		214	
Turn Bay Length (ft)								100				
Base Capacity (vph)	206			1009				332	1475		290	
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			0.61				0.41	0.34		0.12	

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 72 (60%), Referenced to phase 2:NWTL and 6:SET, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 4: Newell St & East-West Hwy & Blair Mill Rd



Movement	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL2	NEL	NER
Lane Configurations												
Traffic Volume (vph)	49	39	5	380	106	52	24	95	439	3	27	1
Future Volume (vph)	49	39	5	380	106	52	24	95	439	3	27	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			7.0				5.5	7.0		6.5	
Lane Util. Factor	1.00			*0.81				1.00	*0.80		1.00	
Frpb, ped/bikes	0.94			0.95				1.00	1.00		1.00	
Flpb, ped/bikes	0.99			1.00				0.99	1.00		1.00	
Frt	0.94			0.96				1.00	1.00		1.00	
Flt Protected	0.97			1.00				0.95	1.00		0.95	
Satd. Flow (prot)	1582			2753				1742	2951		1702	
Flt Permitted	0.76			1.00				0.24	1.00		0.95	
Satd. Flow (perm)	1239			2753				433	2951		1702	
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	56	44	6	432	120	59	27	108	499	3	31	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	106	0	0	611	0	0	0	135	499	0	35	0
Confl. Peds. (#/hr)	17	5	29		29	15	29	15		15	17	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	6%	6%	6%
Turn Type	Perm			NA			pm+pt	pm+pt	NA	Prot	Prot	
Protected Phases				6			5	5	2	3	3	
Permitted Phases	4						2	2				
Actuated Green, G (s)	20.0			44.0				60.0	60.0		20.5	
Effective Green, g (s)	20.0			44.0				60.0	60.0		20.5	
Actuated g/C Ratio	0.17			0.37				0.50	0.50		0.17	
Clearance Time (s)	6.0			7.0				5.5	7.0		6.5	
Lane Grp Cap (vph)	206			1009				331	1475		290	
v/s Ratio Prot				c0.22				c0.04	0.17		c0.02	
v/s Ratio Perm	c0.09							0.17				
v/c Ratio	0.51			0.61				0.41	0.34		0.12	
Uniform Delay, d1	45.6			30.9				18.1	18.1		42.1	
Progression Factor	1.00			1.00				1.00	1.00		1.00	
Incremental Delay, d2	8.9			2.7				3.7	0.6		0.9	
Delay (s)	54.5			33.6				21.8	18.7		43.0	
Level of Service	D			C				C	B		D	
Approach Delay (s)	54.5			33.6					19.3		43.0	
Approach LOS	D			C					B		D	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.46		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	77.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	4	14	18	4	18	117
Future Volume (vph)	4	14	18	4	18	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		25			25
Link Distance (ft)	851		608			294
Travel Time (s)	23.2		16.6			8.0
Confl. Peds. (#/hr)	7	2		10	10	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	11%	11%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	30	0	0	185
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.7

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	4	14	18	4	18	117
Future Vol, veh/h	4	14	18	4	18	117
Conflicting Peds, #/hr	7	2	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	11	11	0	0	0	0
Mvmt Flow	5	19	25	5	25	160

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	255	40	0	0	40	0
Stage 1	38	-	-	-	-	-
Stage 2	217	-	-	-	-	-
Critical Hdwy	6.51	6.31	-	-	4.1	-
Critical Hdwy Stg 1	5.51	-	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-	-	-
Follow-up Hdwy	3.599	3.399	-	-	2.2	-
Pot Cap-1 Maneuver	715	1006	-	-	1583	-
Stage 1	962	-	-	-	-	-
Stage 2	798	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	690	995	-	-	1568	-
Mov Cap-2 Maneuver	690	-	-	-	-	-
Stage 1	952	-	-	-	-	-
Stage 2	778	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.1	0	1
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	906	1568	-
HCM Lane V/C Ratio	-	-	0.027	0.016	-
HCM Control Delay (s)	-	-	9.1	7.3	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0	-

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	3	329	11	5	225	9	6	5	9	48	66	8
Future Volume (vph)	3	329	11	5	225	9	6	5	9	48	66	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		981			571			275			608	
Travel Time (s)		26.8			15.6			7.5			16.6	
Confl. Peds. (#/hr)	7		3	3		7	10		6	6		10
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	369	0	0	257	0	0	21	0	0	132	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	3	329	11	5	225	9	6	5	9	48	66	8
Future Vol, veh/h	3	329	11	5	225	9	6	5	9	48	66	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	4	4	4	5	5	5	0	0	0	0	0	0
Mvmt Flow	3	354	12	5	242	10	6	5	10	52	71	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	12	10.4	8.6	9.8
HCM LOS	B	B	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	30%	2%	1%	39%
Vol Thru, %	25%	94%	96%	54%
Vol Right, %	45%	4%	3%	7%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	239	343	122
LT Vol	6	5	3	48
Through Vol	5	225	329	66
RT Vol	9	9	11	8
Lane Flow Rate	22	257	369	131
Geometry Grp	1	1	1	1
Degree of Util (X)	0.033	0.343	0.478	0.197
Departure Headway (Hd)	5.448	4.798	4.661	5.398
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	661	745	767	659
Service Time	3.448	2.862	2.719	3.48
HCM Lane V/C Ratio	0.033	0.345	0.481	0.199
HCM Control Delay	8.6	10.4	12	9.8
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.1	1.5	2.6	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	21	16	52	38	139	19	266	4	9	219	16
Future Volume (vph)	7	21	16	52	38	139	19	266	4	9	219	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		433			1312			589			981	
Travel Time (s)		11.8			35.8			16.1			26.8	
Confl. Peds. (#/hr)	3		6	6		3	2		5	5		2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	4%	4%	4%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	264	0	0	333	0	0	280	0
Sign Control		Stop			Stop			Stop			Stop	

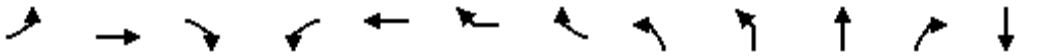
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	7	21	16	52	38	139	19	266	4	9	219	16
Future Vol, veh/h	7	21	16	52	38	139	19	266	4	9	219	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	2	2	2	4	4	4	5	5	5
Mvmt Flow	8	24	18	60	44	160	22	306	5	10	252	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	SE	NW
Opposing Approach	WB	EB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	EB	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	11.7	13.3	12.1
HCM LOS	A	B	B	B

Lane	NWLn1	EBLn1	WBLn1	SELn1
Vol Left, %	4%	16%	23%	7%
Vol Thru, %	90%	48%	17%	92%
Vol Right, %	7%	36%	61%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	244	44	229	289
LT Vol	9	7	52	19
Through Vol	219	21	38	266
RT Vol	16	16	139	4
Lane Flow Rate	280	51	263	332
Geometry Grp	1	1	1	1
Degree of Util (X)	0.416	0.082	0.388	0.487
Departure Headway (Hd)	5.335	5.833	5.313	5.281
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	673	612	676	681
Service Time	3.373	3.891	3.357	3.317
HCM Lane V/C Ratio	0.416	0.083	0.389	0.488
HCM Control Delay	12.1	9.4	11.7	13.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.1	0.3	1.8	2.7



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBT
Lane Configurations												
Traffic Volume (vph)	57	149	9	118	44	250	44	11	141	836	280	553
Future Volume (vph)	57	149	9	118	44	250	44	11	141	836	280	553
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0			300		0	
Storage Lanes	0		0	0		1			1		1	
Taper Length (ft)	25			25					25			
Right Turn on Red			No				Yes				No	
Link Speed (mph)		30			30					30		30
Link Distance (ft)		347			678					591		609
Travel Time (s)		7.9			15.4					13.4		13.8
Confl. Peds. (#/hr)	22		30	30		8	22	26	8		23	
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	226	0	0	170	309	0	0	160	880	295	673
Turn Type	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm	NA
Protected Phases		4			4			1	1	6		2
Permitted Phases	4			4		8		6	6		6	
Minimum Split (s)	31.0	31.0		31.0	31.0	39.0		11.5	11.5	30.0	30.0	30.0
Total Split (s)	33.0	33.0		33.0	33.0	69.0		18.0	18.0	66.0	66.0	48.0
Total Split (%)	24.4%	24.4%		24.4%	24.4%	51.1%		13.3%	13.3%	48.9%	48.9%	35.6%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0		4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)		0.0			0.0	0.0			0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0			7.0	7.0			7.5	8.0	8.0	8.0
Lead/Lag	Lag	Lag		Lag	Lag			Lead	Lead			Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes			Yes	Yes			Yes
v/c Ratio		0.89			0.94	0.41			0.51	0.58	0.48	0.46
Control Delay		88.0			107.8	17.8			30.2	31.1	30.8	39.4
Queue Delay		0.0			0.0	0.0			0.0	0.0	0.0	0.0
Total Delay		88.0			107.8	17.8			30.2	31.1	30.8	39.4
Queue Length 50th (ft)		195			149	117			86	303	183	173
Queue Length 95th (ft)		#350			#297	194			136	371	270	215
Internal Link Dist (ft)		267			598					511		529
Turn Bay Length (ft)									300			
Base Capacity (vph)		253			180	745			311	1520	619	1454
Starvation Cap Reductn		0			0	0			0	0	0	0
Spillback Cap Reductn		0			0	0			0	0	0	0
Storage Cap Reductn		0			0	0			0	0	0	0
Reduced v/c Ratio		0.89			0.94	0.41			0.51	0.58	0.48	0.46

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 62 (46%), Referenced to phase 2:SBT and 6:NBTL, Start of Green	
Natural Cycle: 110	

Lane Group	SBR	SBR2	SEL	SER	SER2
Lane Configurations					
Traffic Volume (vph)	38	48	451	94	3
Future Volume (vph)	38	48	451	94	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0	
Storage Lanes	0		1	1	
Taper Length (ft)			25		
Right Turn on Red		Yes			No
Link Speed (mph)			30		
Link Distance (ft)			1120		
Travel Time (s)			25.5		
Confl. Peds. (#/hr)	26	8	23	30	26
Confl. Bikes (#/hr)	1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	1%	1%	1%
Shared Lane Traffic (%)					
Lane Group Flow (vph)	0	0	475	102	0
Turn Type			Prot	Prot	
Protected Phases			3	3	
Permitted Phases					
Minimum Split (s)			13.5	13.5	
Total Split (s)			36.0	36.0	
Total Split (%)			26.7%	26.7%	
Yellow Time (s)			4.0	4.0	
All-Red Time (s)			4.5	4.5	
Lost Time Adjust (s)			0.0	0.0	
Total Lost Time (s)			8.5	8.5	
Lead/Lag			Lead	Lead	
Lead-Lag Optimize?			Yes	Yes	
v/c Ratio			1.30	0.31	
Control Delay			198.1	48.9	
Queue Delay			0.0	0.0	
Total Delay			198.1	48.9	
Queue Length 50th (ft)			~533	77	
Queue Length 95th (ft)			#750	133	
Internal Link Dist (ft)			1040		
Turn Bay Length (ft)					
Base Capacity (vph)			364	325	
Starvation Cap Reductn			0	0	
Spillback Cap Reductn			0	0	
Storage Cap Reductn			0	0	
Reduced v/c Ratio			1.30	0.31	

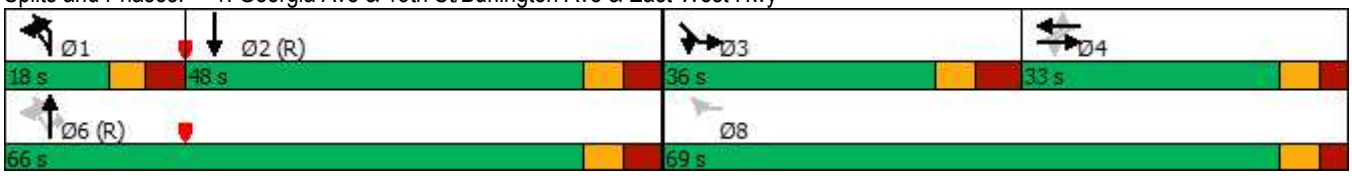
Intersection Summary

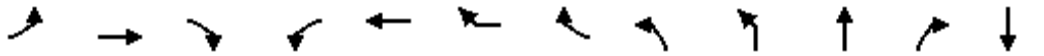
Control Type: Pretimed

~ 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: 1: Georgia Ave & 13th St/Burlington Ave & East-West Hwy





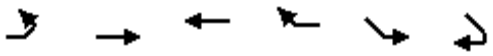
Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBT
Lane Configurations												
Traffic Volume (vph)	57	149	9	118	44	250	44	11	141	836	280	553
Future Volume (vph)	57	149	9	118	44	250	44	11	141	836	280	553
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	7.0			7.5	8.0	8.0	8.0
Lane Util. Factor		1.00			1.00	1.00			1.00	0.95	1.00	0.91
Frpb, ped/bikes		1.00			1.00	0.95			1.00	1.00	0.91	0.99
Flpb, ped/bikes		0.99			0.98	1.00			1.00	1.00	1.00	1.00
Frt		0.99			1.00	0.85			1.00	1.00	0.85	0.98
Flt Protected		0.99			0.96	1.00			0.95	1.00	1.00	1.00
Satd. Flow (prot)		1829			1762	1505			1763	3539	1442	4884
Flt Permitted		0.71			0.51	1.00			0.27	1.00	1.00	1.00
Satd. Flow (perm)		1316			935	1505			495	3539	1442	4884
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	157	9	124	46	263	46	12	148	880	295	582
RTOR Reduction (vph)	0	0	0	0	0	55	0	0	0	0	0	7
Lane Group Flow (vph)	0	226	0	0	170	254	0	0	160	880	295	666
Confl. Peds. (#/hr)	22		30	30		8	22	26	8		23	
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Turn Type	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm	NA
Protected Phases		4			4			1	1	6		2
Permitted Phases	4			4		8		6	6		6	
Actuated Green, G (s)		26.0			26.0	62.0			58.0	58.0	58.0	40.0
Effective Green, g (s)		26.0			26.0	62.0			58.0	58.0	58.0	40.0
Actuated g/C Ratio		0.19			0.19	0.46			0.43	0.43	0.43	0.30
Clearance Time (s)		7.0			7.0	7.0			7.5	8.0	8.0	8.0
Lane Grp Cap (vph)		253			180	691			311	1520	619	1447
v/s Ratio Prot									0.04	c0.25		0.14
v/s Ratio Perm		0.17			c0.18	0.17			0.18		0.20	
v/c Ratio		0.89			0.94	0.37			0.51	0.58	0.48	0.46
Uniform Delay, d1		53.1			53.8	23.8			25.2	29.2	27.6	38.7
Progression Factor		1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		34.6			53.9	1.5			6.0	1.6	2.6	1.1
Delay (s)		87.8			107.7	25.3			31.1	30.8	30.2	39.8
Level of Service		F			F	C			C	C	C	D
Approach Delay (s)		87.8			54.5					30.7		39.8
Approach LOS		F			D					C		D

Intersection Summary			
HCM 2000 Control Delay	66.3	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	98.4%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SBR2	SEL	SER	SER2
Lane Configurations					
Traffic Volume (vph)	38	48	451	94	3
Future Volume (vph)	38	48	451	94	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)			8.5	8.5	
Lane Util. Factor			1.00	1.00	
Frpb, ped/bikes			1.00	1.00	
Flpb, ped/bikes			1.00	1.00	
Frt			1.00	0.85	
Flt Protected			0.95	1.00	
Satd. Flow (prot)			1787	1599	
Flt Permitted			0.95	1.00	
Satd. Flow (perm)			1787	1599	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	51	475	99	3
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	0	475	102	0
Confl. Peds. (#/hr)	26	8	23	30	26
Confl. Bikes (#/hr)	1	1			
Heavy Vehicles (%)	3%	3%	1%	1%	1%
Turn Type			Prot	Prot	
Protected Phases			3	3	
Permitted Phases					
Actuated Green, G (s)			27.5	27.5	
Effective Green, g (s)			27.5	27.5	
Actuated g/C Ratio			0.20	0.20	
Clearance Time (s)			8.5	8.5	
Lane Grp Cap (vph)			364	325	
v/s Ratio Prot			c0.27	0.06	
v/s Ratio Perm					
v/c Ratio			1.30	0.31	
Uniform Delay, d1			53.8	45.7	
Progression Factor			1.00	1.00	
Incremental Delay, d2			155.9	2.5	
Delay (s)			209.6	48.2	
Level of Service			F	D	
Approach Delay (s)			181.1		
Approach LOS			F		

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	6	182	79	16	27	14
Future Volume (vph)	6	182	79	16	27	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		543	347		851	
Travel Time (s)		14.8	9.5		23.2	
Confl. Peds. (#/hr)	18			18		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	205	103	0	44	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.4

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	6	182	79	16	27	14
Future Vol, veh/h	6	182	79	16	27	14
Conflicting Peds, #/hr	18	0	0	18	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	3	5	5
Mvmt Flow	7	198	86	17	29	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	121	0	-	0	325	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	212	-
Critical Hdwy	4.12	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.218	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1467	-	-	-	663	932
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1442	-	-	-	637	916
Mov Cap-2 Maneuver	-	-	-	-	637	-
Stage 1	-	-	-	-	884	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	SE
HCM Control Delay, s	0.2	0	10.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1442	-	-	-	711
HCM Lane V/C Ratio	0.005	-	-	-	0.063
HCM Control Delay (s)	7.5	0	-	-	10.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	21	90	28	69	211	13	15	285	28	29	36	23
Future Volume (vph)	21	90	28	69	211	13	15	285	28	29	36	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25				25			25			25	
Link Distance (ft)	359				571			514			543	
Travel Time (s)	9.8				15.6			14.0			14.8	
Confl. Peds. (#/hr)	6		6	23		2	2		23	6		6
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	122	0	0	302	0	0	338	0	0	91	0
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	NBL	NBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	21	90	69	211	13	15	285	28	36	23
Future Vol, veh/h	21	90	69	211	13	15	285	28	36	23
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	1	1	3	3	3	2	2	2	3	3
Mvmt Flow	22	93	71	218	13	15	294	29	37	24
Number of Lanes	0	1	0	1	0	0	1	0	1	0

Approach	NB	SE	NW
Opposing Approach		NW	SE
Opposing Lanes	0	1	1
Conflicting Approach Left	SE	SW	NB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	SW	NB	SW
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.6	11.9	12.4
HCM LOS	A	B	B

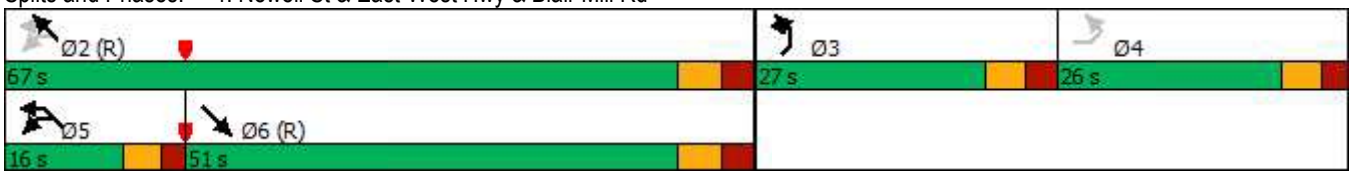
Lane	NBLn1	NWLn1	SELn1	SWLn1
Vol Left, %	15%	5%	24%	74%
Vol Thru, %	0%	87%	72%	0%
Vol Right, %	85%	9%	4%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	139	328	293	88
LT Vol	21	15	69	65
Through Vol	0	285	211	0
RT Vol	118	28	13	23
Lane Flow Rate	143	338	302	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.208	0.47	0.427	0.146
Departure Headway (Hd)	5.217	4.999	5.094	5.813
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	686	724	707	616
Service Time	3.256	2.999	3.123	3.857
HCM Lane V/C Ratio	0.208	0.467	0.427	0.148
HCM Control Delay	9.6	12.4	11.9	9.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.8	2.5	2.1	0.5

Lane Group	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL2	NEL	NER
Lane Configurations												
Traffic Volume (vph)	40	63	10	505	50	58	23	86	399	2	23	12
Future Volume (vph)	40	63	10	505	50	58	23	86	399	2	23	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0			0			100			0	0
Storage Lanes	1	0			0			1			1	0
Taper Length (ft)	25							25			25	
Right Turn on Red			No			No						No
Link Speed (mph)	25			30					30		25	
Link Distance (ft)	1312			657					1120		294	
Travel Time (s)	35.8			14.9					25.5		8.0	
Confl. Peds. (#/hr)	51	10	39		39	34	39	34		34	51	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	119	0	0	646	0	0	0	115	420	0	39	0
Turn Type	Perm			NA			pm+pt	pm+pt	NA	Prot	Prot	
Protected Phases				6			5	5	2	3	3	
Permitted Phases	4						2	2				
Minimum Split (s)	26.0			26.0			8.5	8.5	14.0	26.5	26.5	
Total Split (s)	26.0			51.0			16.0	16.0	67.0	27.0	27.0	
Total Split (%)	21.7%			42.5%			13.3%	13.3%	55.8%	22.5%	22.5%	
Yellow Time (s)	3.5			4.0			3.5	3.5	4.0	3.5	3.5	
All-Red Time (s)	2.5			3.0			2.0	2.0	3.0	3.0	3.0	
Lost Time Adjust (s)	0.0			0.0				0.0	0.0		0.0	
Total Lost Time (s)	6.0			7.0				5.5	7.0		6.5	
Lead/Lag	Lag			Lag			Lead	Lead		Lead	Lead	
Lead-Lag Optimize?	Yes			Yes			Yes	Yes		Yes	Yes	
v/c Ratio	0.58			0.62				0.35	0.28		0.14	
Control Delay	58.6			34.4				18.4	18.1		43.8	
Queue Delay	0.0			0.0				0.0	0.0		0.0	
Total Delay	58.6			34.4				18.4	18.1		43.8	
Queue Length 50th (ft)	86			250				45	114		26	
Queue Length 95th (ft)	151			327				78	156		59	
Internal Link Dist (ft)	1232			577					1040		214	
Turn Bay Length (ft)								100				
Base Capacity (vph)	205			1040				328	1505		282	
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	0.58			0.62				0.35	0.28		0.14	

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 75 (63%), Referenced to phase 2:NWTL and 6:SET, Start of Green
Natural Cycle: 90
Control Type: Pretimed

Splits and Phases: 4: Newell St & East-West Hwy & Blair Mill Rd



Movement	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL2	NEL	NER
Lane Configurations												
Traffic Volume (vph)	40	63	10	505	50	58	23	86	399	2	23	12
Future Volume (vph)	40	63	10	505	50	58	23	86	399	2	23	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			7.0				5.5	7.0		6.5	
Lane Util. Factor	1.00			*0.81				1.00	*0.80		1.00	
Frpb, ped/bikes	0.89			0.96				1.00	1.00		0.99	
Flpb, ped/bikes	0.97			1.00				1.00	1.00		1.00	
Frt	0.91			0.97				1.00	1.00		0.95	
Flt Protected	0.98			1.00				0.95	1.00		0.97	
Satd. Flow (prot)	1438			2838				1787	3010		1656	
Flt Permitted	0.84			1.00				0.22	1.00		0.97	
Satd. Flow (perm)	1235			2838				407	3010		1656	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	42	66	11	532	53	61	24	91	420	2	24	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	119	0	0	646	0	0	0	115	420	0	39	0
Confl. Peds. (#/hr)	51	10	39		39	34	39	34		34	51	10
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	5%	5%	5%
Turn Type	Perm			NA			pm+pt	pm+pt	NA	Prot	Prot	
Protected Phases				6			5	5	2	3	3	
Permitted Phases	4						2	2				
Actuated Green, G (s)	20.0			44.0				60.0	60.0		20.5	
Effective Green, g (s)	20.0			44.0				60.0	60.0		20.5	
Actuated g/C Ratio	0.17			0.37				0.50	0.50		0.17	
Clearance Time (s)	6.0			7.0				5.5	7.0		6.5	
Lane Grp Cap (vph)	205			1040				324	1505		282	
v/s Ratio Prot				c0.23				c0.03	0.14		c0.02	
v/s Ratio Perm	c0.10							0.15				
v/c Ratio	0.58			0.62				0.35	0.28		0.14	
Uniform Delay, d1	46.1			31.2				18.1	17.4		42.2	
Progression Factor	1.00			1.00				1.00	1.00		1.00	
Incremental Delay, d2	11.5			2.8				3.0	0.5		1.0	
Delay (s)	57.6			34.0				21.1	17.9		43.3	
Level of Service	E			C				C	B		D	
Approach Delay (s)	57.6			34.0					18.6		43.3	
Approach LOS	E			C					B		D	

Intersection Summary			
HCM 2000 Control Delay	30.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.48		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	78.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	7	12	24	5	32	48
Future Volume (vph)	7	12	24	5	32	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		25			25
Link Distance (ft)	851		608			294
Travel Time (s)	23.2		16.6			8.0
Confl. Peds. (#/hr)	10	11		15	15	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	16%	16%	0%	0%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	36	0	0	100
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	3.3

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	7	12	24	5	32	48
Future Vol, veh/h	7	12	24	5	32	48
Conflicting Peds, #/hr	10	11	0	15	15	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	16	16	0	0	3	3
Mvmt Flow	9	15	30	6	40	60

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	198	59	0	0	51	0
Stage 1	48	-	-	-	-	-
Stage 2	150	-	-	-	-	-
Critical Hdwy	6.56	6.36	-	-	4.13	-
Critical Hdwy Stg 1	5.56	-	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-	-	-
Follow-up Hdwy	3.644	3.444	-	-	2.227	-
Pot Cap-1 Maneuver	760	969	-	-	1549	-
Stage 1	940	-	-	-	-	-
Stage 2	845	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	722	945	-	-	1527	-
Mov Cap-2 Maneuver	722	-	-	-	-	-
Stage 1	927	-	-	-	-	-
Stage 2	815	-	-	-	-	-

Approach	NW	NE	SW
HCM Control Delay, s	9.4	0	3
HCM LOS	A		

Minor Lane/Major Mvmt	NET	NER	NWLn1	SWL	SWT
Capacity (veh/h)	-	-	848	1527	-
HCM Lane V/C Ratio	-	-	0.028	0.026	-
HCM Control Delay (s)	-	-	9.4	7.4	0
HCM Lane LOS	-	-	A	A	A
HCM 95th %tile Q(veh)	-	-	0.1	0.1	-

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	13	248	17	6	312	13	17	11	12	31	13	12
Future Volume (vph)	13	248	17	6	312	13	17	11	12	31	13	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		981			571			275			608	
Travel Time (s)		26.8			15.6			7.5			16.6	
Confl. Peds. (#/hr)	20		2	2		20	13		12	12		13
Confl. Bikes (#/hr)			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
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	309	0	0	368	0	0	44	0	0	61	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	13	248	17	6	312	13	17	11	12	31	13	12
Future Vol, veh/h	13	248	17	6	312	13	17	11	12	31	13	12
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
Heavy Vehicles, %	3	3	3	3	3	3	5	5	5	4	4	4
Mvmt Flow	14	276	19	7	347	14	19	12	13	34	14	13
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.7	11.6	9	9.2
HCM LOS	B	B	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	42%	2%	5%	55%
Vol Thru, %	28%	94%	89%	23%
Vol Right, %	30%	4%	6%	21%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	331	278	56
LT Vol	17	6	13	31
Through Vol	11	312	248	13
RT Vol	12	13	17	12
Lane Flow Rate	44	368	309	62
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.466	0.396	0.096
Departure Headway (Hd)	5.504	4.564	4.618	5.531
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	645	787	775	643
Service Time	3.585	2.609	2.665	3.607
HCM Lane V/C Ratio	0.068	0.468	0.399	0.096
HCM Control Delay	9	11.6	10.7	9.2
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	2.5	1.9	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	35	12	62	30	83	54	198	4	7	272	55
Future Volume (vph)	7	35	12	62	30	83	54	198	4	7	272	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		433			1312			589			981	
Travel Time (s)		11.8			35.8			16.1			26.8	
Confl. Peds. (#/hr)	8		11	11		8	14		4	4		14
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	182	0	0	266	0	0	347	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

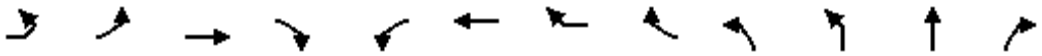
Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	7	35	12	62	30	83	54	198	4	7	272	55
Future Vol, veh/h	7	35	12	62	30	83	54	198	4	7	272	55
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	2	2	2	3	3	3	4	4	4
Mvmt Flow	7	36	13	65	31	86	56	206	4	7	283	57
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	SE	NW
Opposing Approach	WB	EB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	EB	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	10.4	11.3	12.4
HCM LOS	A	B	B	B

Lane	NWLn1	EBLn1	WBLn1	SELn1
Vol Left, %	2%	13%	35%	21%
Vol Thru, %	81%	65%	17%	77%
Vol Right, %	16%	22%	47%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	334	54	175	256
LT Vol	7	7	62	54
Through Vol	272	35	30	198
RT Vol	55	12	83	4
Lane Flow Rate	348	56	182	267
Geometry Grp	1	1	1	1
Degree of Util (X)	0.478	0.089	0.272	0.381
Departure Headway (Hd)	4.942	5.68	5.363	5.149
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	734	629	669	701
Service Time	2.95	3.725	3.398	3.16
HCM Lane V/C Ratio	0.474	0.089	0.272	0.381
HCM Control Delay	12.4	9.3	10.4	11.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.6	0.3	1.1	1.8



Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	22	34	66	11	151	107	391	52	5	73	501	55
Future Volume (vph)	22	34	66	11	151	107	391	52	5	73	501	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0		0			300		0
Storage Lanes		0		0	0		1			1		1
Taper Length (ft)		25			25					25		
Right Turn on Red				No				Yes				No
Link Speed (mph)			30			30					30	
Link Distance (ft)			347			678					591	
Travel Time (s)			7.9			15.4					13.4	
Confl. Peds. (#/hr)	8	17		5	5		8	17	3	8		4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%	2%	2%	4%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	135	0	0	263	452	0	0	79	511	56
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Minimum Split (s)	31.0	31.0	31.0		31.0	31.0	39.0		11.5	11.5	30.0	30.0
Total Split (s)	31.0	31.0	31.0		31.0	31.0	70.0		26.0	26.0	65.0	65.0
Total Split (%)	23.0%	23.0%	23.0%		23.0%	23.0%	51.9%		19.3%	19.3%	48.1%	48.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	4.0		3.5	3.5	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		4.0	4.0	4.0	4.0
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			7.5	8.0	8.0
Lead/Lag	Lag	Lag	Lag		Lag	Lag			Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes			Yes	Yes		
v/c Ratio			1.14			1.12	0.59			0.27	0.35	0.09
Control Delay			175.6			144.2	23.9			25.9	27.3	24.0
Queue Delay			0.0			0.0	0.0			0.0	0.0	0.0
Total Delay			175.6			144.2	23.9			25.9	27.3	24.0
Queue Length 50th (ft)			~138			~265	223			41	157	29
Queue Length 95th (ft)			#276			#443	338			76	203	58
Internal Link Dist (ft)			267			598					511	
Turn Bay Length (ft)										300		
Base Capacity (vph)			118			235	760			292	1465	634
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			1.14			1.12	0.59			0.27	0.35	0.09

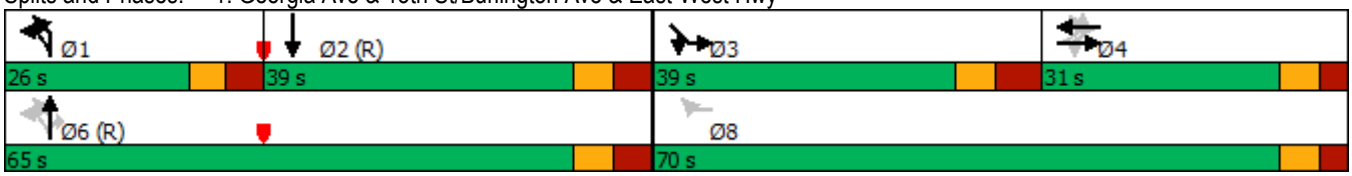
Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 60 (44%), Referenced to phase 2:SBT and 6:NBTL, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

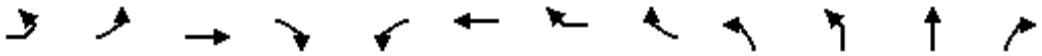
Lane Group	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	1124	22	32	249	145	3
Future Volume (vph)	1124	22	32	249	145	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0	
Storage Lanes		0		1	1	
Taper Length (ft)				25		
Right Turn on Red			Yes			No
Link Speed (mph)	30			30		
Link Distance (ft)	609			1120		
Travel Time (s)	13.8			25.5		
Confl. Peds. (#/hr)		3	8	4	5	3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1202	0	0	254	151	0
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Minimum Split (s)	30.0			13.5	13.5	
Total Split (s)	39.0			39.0	39.0	
Total Split (%)	28.9%			28.9%	28.9%	
Yellow Time (s)	4.0			4.0	4.0	
All-Red Time (s)	4.0			4.5	4.5	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	8.0			8.5	8.5	
Lead/Lag	Lag			Lead	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes	
v/c Ratio	1.05			0.64	0.42	
Control Delay	89.4			55.5	49.0	
Queue Delay	0.0			0.0	0.0	
Total Delay	89.4			55.5	49.0	
Queue Length 50th (ft)	~418			203	114	
Queue Length 95th (ft)	#516			298	184	
Internal Link Dist (ft)	529			1040		
Turn Bay Length (ft)						
Base Capacity (vph)	1148			399	357	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.05			0.64	0.42	

Intersection Summary

~ 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: 1: Georgia Ave & 13th St/Burlington Ave & East-West Hwy



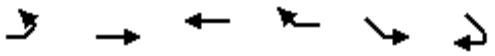


Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	22	34	66	11	151	107	391	52	5	73	501	55
Future Volume (vph)	22	34	66	11	151	107	391	52	5	73	501	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Util. Factor			1.00			1.00	1.00			1.00	0.95	1.00
Frpb, ped/bikes			1.00			1.00	0.96			1.00	1.00	0.97
Flpb, ped/bikes			0.99			1.00	1.00			1.00	1.00	1.00
Frt			0.99			1.00	0.85			1.00	1.00	0.85
Flt Protected			0.98			0.97	1.00			0.95	1.00	1.00
Satd. Flow (prot)			1750			1803	1515			1736	3471	1503
Flt Permitted			0.37			0.71	1.00			0.10	1.00	1.00
Satd. Flow (perm)			666			1321	1515			190	3471	1503
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	35	67	11	154	109	399	53	5	74	511	56
RTOR Reduction (vph)	0	0	0	0	0	0	54	0	0	0	0	0
Lane Group Flow (vph)	0	0	135	0	0	263	398	0	0	79	511	56
Confl. Peds. (#/hr)	8	17		5	5		8	17	3	8		4
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%	2%	2%	4%	4%	4%	4%
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Actuated Green, G (s)			24.0			24.0	63.0			57.0	57.0	57.0
Effective Green, g (s)			24.0			24.0	63.0			57.0	57.0	57.0
Actuated g/C Ratio			0.18			0.18	0.47			0.42	0.42	0.42
Clearance Time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Grp Cap (vph)			118			234	707			292	1465	634
v/s Ratio Prot										0.04	c0.15	
v/s Ratio Perm			c0.20			0.20	c0.26			0.08		0.04
v/c Ratio			1.14			1.12	0.56			0.27	0.35	0.09
Uniform Delay, d1			55.5			55.5	26.0			27.9	26.4	23.4
Progression Factor			1.00			1.00	1.00			1.00	1.00	1.00
Incremental Delay, d2			126.8			96.2	3.2			2.3	0.7	0.3
Delay (s)			182.3			151.7	29.3			30.2	27.1	23.7
Level of Service			F			F	C			C	C	C
Approach Delay (s)			182.3			74.3					27.2	
Approach LOS			F			E					C	

Intersection Summary			
HCM 2000 Control Delay	73.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	100.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	1124	22	32	249	145	3
Future Volume (vph)	1124	22	32	249	145	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0			8.5	8.5	
Lane Util. Factor	0.91			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.85	
Flt Protected	1.00			0.95	1.00	
Satd. Flow (prot)	4994			1770	1583	
Flt Permitted	1.00			0.95	1.00	
Satd. Flow (perm)	4994			1770	1583	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1147	22	33	254	148	3
RTOR Reduction (vph)	2	0	0	0	0	0
Lane Group Flow (vph)	1200	0	0	254	151	0
Confl. Peds. (#/hr)		3	8	4	5	3
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Actuated Green, G (s)	31.0			30.5	30.5	
Effective Green, g (s)	31.0			30.5	30.5	
Actuated g/C Ratio	0.23			0.23	0.23	
Clearance Time (s)	8.0			8.5	8.5	
Lane Grp Cap (vph)	1146			399	357	
v/s Ratio Prot	c0.24			0.14	0.10	
v/s Ratio Perm						
v/c Ratio	1.05			0.64	0.42	
Uniform Delay, d1	52.0			47.2	44.7	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	39.7			7.6	3.6	
Delay (s)	91.7			54.8	48.4	
Level of Service	F			D	D	
Approach Delay (s)	91.7			52.4		
Approach LOS	F			D		

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	6	92	129	14	37	17
Future Volume (vph)	6	92	129	14	37	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		543	347		851	
Travel Time (s)		14.8	9.5		23.2	
Confl. Peds. (#/hr)	11			11	17	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	6%	6%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	123	179	0	67	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.1

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	6	92	129	14	37	17
Future Vol, veh/h	6	92	129	14	37	17
Conflicting Peds, #/hr	11	0	0	11	17	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	6	6	5	5	2	2
Mvmt Flow	8	115	161	18	46	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	190	0	-	0	329	181
Stage 1	-	-	-	-	181	-
Stage 2	-	-	-	-	148	-
Critical Hdwy	4.16	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.254	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1360	-	-	-	665	862
Stage 1	-	-	-	-	850	-
Stage 2	-	-	-	-	880	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1346	-	-	-	648	853
Mov Cap-2 Maneuver	-	-	-	-	648	-
Stage 1	-	-	-	-	836	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SE
HCM Control Delay, s	0.5	0	10.7
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1346	-	-	-	701
HCM Lane V/C Ratio	0.006	-	-	-	0.096
HCM Control Delay (s)	7.7	0	-	-	10.7
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lane Group	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	10	25	8	30	343	21	4	167	35	31	79	40
Future Volume (vph)	10	25	8	30	343	21	4	167	35	31	79	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25				25			25			25	
Link Distance (ft)	359				571			514			543	
Travel Time (s)	9.8				15.6			14.0			14.8	
Confl. Peds. (#/hr)			5	6		3	3		6	5		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	36	0	0	424	0	0	222	0	0	161	0
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	12
Intersection LOS	B

Movement	NBL	NBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	10	25	30	343	21	4	167	35	79	40
Future Vol, veh/h	10	25	30	343	21	4	167	35	79	40
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	3	3	3	5	5	5	2	2
Mvmt Flow	11	27	32	369	23	4	180	38	85	43
Number of Lanes	0	1	0	1	0	0	1	0	1	0

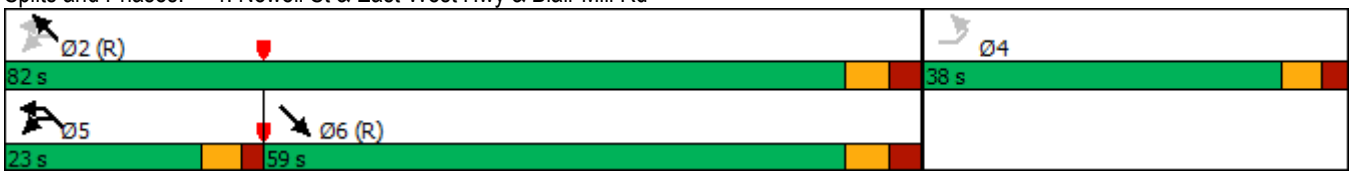
Approach	NB	SE	NW
Opposing Approach		NW	SE
Opposing Lanes	0	1	1
Conflicting Approach Left	SE	SW	NB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	SW	NB	SW
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.8	13.9	10.3
HCM LOS	A	B	B

Lane	NBLn1	NWLn1	SELn1	SWLn1
Vol Left, %	23%	2%	8%	73%
Vol Thru, %	0%	81%	87%	0%
Vol Right, %	77%	17%	5%	27%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	206	394	150
LT Vol	10	4	30	110
Through Vol	0	167	343	0
RT Vol	33	35	21	40
Lane Flow Rate	46	222	424	161
Geometry Grp	1	1	1	1
Degree of Util (X)	0.069	0.311	0.56	0.251
Departure Headway (Hd)	5.394	5.056	4.761	5.592
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	666	715	746	645
Service Time	3.412	3.056	2.857	3.603
HCM Lane V/C Ratio	0.069	0.31	0.568	0.25
HCM Control Delay	8.8	10.3	13.9	10.5
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.2	1.3	3.5	1

Lane Group	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL	NER
Lane Configurations											
Traffic Volume (vph)	54	39	5	380	106	52	24	95	459	0	0
Future Volume (vph)	54	39	5	380	106	52	24	95	459	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0			0			100		0	0
Storage Lanes	1	0			0			1		0	0
Taper Length (ft)	25							25		25	
Right Turn on Red			No			No					No
Link Speed (mph)	25			30					30	25	
Link Distance (ft)	1312			657					1120	294	
Travel Time (s)	35.8			14.9					25.5	8.0	
Confl. Peds. (#/hr)	17	5	29		29	15	29	15		17	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	6%	6%
Shared Lane Traffic (%)											
Lane Group Flow (vph)	111	0	0	611	0	0	0	135	522	0	0
Turn Type	Perm			NA			pm+pt	pm+pt	NA		
Protected Phases				6			5	5	2		
Permitted Phases	4						2	2			
Minimum Split (s)	26.0			26.0			8.5	8.5	14.0		
Total Split (s)	38.0			59.0			23.0	23.0	82.0		
Total Split (%)	31.7%			49.2%			19.2%	19.2%	68.3%		
Yellow Time (s)	3.5			4.0			3.5	3.5	4.0		
All-Red Time (s)	2.5			3.0			2.0	2.0	3.0		
Lost Time Adjust (s)	0.0			0.0				0.0	0.0		
Total Lost Time (s)	6.0			7.0				5.5	7.0		
Lead/Lag				Lag			Lead	Lead			
Lead-Lag Optimize?				Yes			Yes	Yes			
v/c Ratio	0.33			0.51				0.27	0.28		
Control Delay	38.8			26.7				10.1	10.7		
Queue Delay	0.0			0.0				0.0	0.0		
Total Delay	38.8			26.7				10.1	10.7		
Queue Length 50th (ft)	69			208				38	107		
Queue Length 95th (ft)	120			266				63	138		
Internal Link Dist (ft)	1232			577					1040	214	
Turn Bay Length (ft)								100			
Base Capacity (vph)	336			1192				491	1844		
Starvation Cap Reductn	0			0				0	0		
Spillback Cap Reductn	0			0				0	0		
Storage Cap Reductn	0			0				0	0		
Reduced v/c Ratio	0.33			0.51				0.27	0.28		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SET, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	

Splits and Phases: 4: Newell St & East-West Hwy & Blair Mill Rd



Movement	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL	NER
Lane Configurations											
Traffic Volume (vph)	54	39	5	380	106	52	24	95	459	0	0
Future Volume (vph)	54	39	5	380	106	52	24	95	459	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			7.0				5.5	7.0		
Lane Util. Factor	1.00			*0.81				1.00	*0.80		
Frpb, ped/bikes	0.95			0.95				1.00	1.00		
Flpb, ped/bikes	0.99			1.00				0.99	1.00		
Frt	0.94			0.96				1.00	1.00		
Flt Protected	0.97			1.00				0.95	1.00		
Satd. Flow (prot)	1588			2753				1739	2951		
Flt Permitted	0.77			1.00				0.27	1.00		
Satd. Flow (perm)	1263			2753				495	2951		
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	61	44	6	432	120	59	27	108	522	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	111	0	0	611	0	0	0	135	522	0	0
Confl. Peds. (#/hr)	17	5	29		29	15	29	15		17	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	6%	6%
Turn Type	Perm			NA			pm+pt	pm+pt	NA		
Protected Phases				6			5	5	2		
Permitted Phases	4						2	2			
Actuated Green, G (s)	32.0			52.0				75.0	75.0		
Effective Green, g (s)	32.0			52.0				75.0	75.0		
Actuated g/C Ratio	0.27			0.43				0.62	0.62		
Clearance Time (s)	6.0			7.0				5.5	7.0		
Lane Grp Cap (vph)	336			1192				490	1844		
v/s Ratio Prot				c0.22				0.04	c0.18		
v/s Ratio Perm	c0.09							0.13			
v/c Ratio	0.33			0.51				0.28	0.28		
Uniform Delay, d1	35.4			24.8				10.6	10.3		
Progression Factor	1.00			1.00				1.00	1.00		
Incremental Delay, d2	2.6			1.6				1.4	0.4		
Delay (s)	38.0			26.3				12.0	10.6		
Level of Service	D			C				B	B		
Approach Delay (s)	38.0			26.3					10.9	0.0	
Approach LOS	D			C					B	A	

Intersection Summary			
HCM 2000 Control Delay	19.9	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	63.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	7	0	0	4	18	117
Future Volume (vph)	7	0	0	4	18	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		25			25
Link Distance (ft)	851		608			294
Travel Time (s)	23.2		16.6			8.0
Confl. Peds. (#/hr)	7	2		10	10	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	11%	11%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	5	0	185
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.4

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	7	0	0	4	18	117
Future Vol, veh/h	7	0	0	4	18	117
Conflicting Peds, #/hr	7	2	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	11	11	0	0	0	0
Mvmt Flow	10	0	0	5	25	160

Major/Minor	Minor1		Major2	
Conflicting Flow All	227	-	10	0
Stage 1	10	-	-	-
Stage 2	217	-	-	-
Critical Hdwy	6.51	-	4.1	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.51	-	-	-
Follow-up Hdwy	3.599	-	2.2	-
Pot Cap-1 Maneuver	742	0	1623	-
Stage 1	-	0	-	-
Stage 2	798	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	722	-	1608	-
Mov Cap-2 Maneuver	722	-	-	-
Stage 1	-	-	-	-
Stage 2	784	-	-	-

Approach	NW	SW
HCM Control Delay, s	10.1	1
HCM LOS	B	

Minor Lane/Major Mvmt	NWLn1	SWL	SWT
Capacity (veh/h)	722	1608	-
HCM Lane V/C Ratio	0.013	0.015	-
HCM Control Delay (s)	10.1	7.3	0
HCM Lane LOS	B	A	A
HCM 95th %tile Q(veh)	0	0	-

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	2	330	11	5	225	0	11	0	9	48	66	11
Future Volume (vph)	2	330	11	5	225	0	11	0	9	48	66	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		981			571			275			608	
Travel Time (s)		26.8			15.6			7.5			16.6	
Confl. Peds. (#/hr)	7		3	3		7	10		6	6		10
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	369	0	0	247	0	0	22	0	0	135	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	10.9
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	2	330	11	5	225	0	11	0	9	48	66	11
Future Vol, veh/h	2	330	11	5	225	0	11	0	9	48	66	11
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	4	4	4	5	5	5	0	0	0	0	0	0
Mvmt Flow	2	355	12	5	242	0	12	0	10	52	71	12
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.9	10.3	8.7	9.8
HCM LOS	B	B	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	55%	2%	1%	38%
Vol Thru, %	0%	98%	96%	53%
Vol Right, %	45%	0%	3%	9%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	230	343	125
LT Vol	11	5	2	48
Through Vol	0	225	330	66
RT Vol	9	0	11	11
Lane Flow Rate	22	247	369	134
Geometry Grp	1	1	1	1
Degree of Util (X)	0.032	0.332	0.477	0.2
Departure Headway (Hd)	5.381	4.829	4.66	5.364
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	657	739	771	664
Service Time	3.481	2.889	2.713	3.443
HCM Lane V/C Ratio	0.033	0.334	0.479	0.202
HCM Control Delay	8.7	10.3	11.9	9.8
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.1	1.5	2.6	0.7

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	21	16	52	38	136	19	266	4	9	222	21
Future Volume (vph)	7	21	16	52	38	136	19	266	4	9	222	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		433			1312			589			981	
Travel Time (s)		11.8			35.8			16.1			26.8	
Confl. Peds. (#/hr)	3		6	6		3	2		5	5		2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	4%	4%	4%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	260	0	0	333	0	0	289	0
Sign Control		Stop			Stop			Stop			Stop	

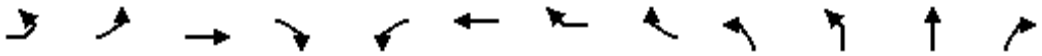
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	12.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	7	21	16	52	38	136	19	266	4	9	222	21
Future Vol, veh/h	7	21	16	52	38	136	19	266	4	9	222	21
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	2	2	2	4	4	4	5	5	5
Mvmt Flow	8	24	18	60	44	156	22	306	5	10	255	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	SE	NW
Opposing Approach	WB	EB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	EB	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.4	11.7	13.3	12.3
HCM LOS	A	B	B	B

Lane	NWLn1	EBLn1	WBLn1	SELn1
Vol Left, %	4%	16%	23%	7%
Vol Thru, %	88%	48%	17%	92%
Vol Right, %	8%	36%	60%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	252	44	226	289
LT Vol	9	7	52	19
Through Vol	222	21	38	266
RT Vol	21	16	136	4
Lane Flow Rate	290	51	260	332
Geometry Grp	1	1	1	1
Degree of Util (X)	0.428	0.082	0.385	0.488
Departure Headway (Hd)	5.321	5.854	5.341	5.289
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	678	609	673	681
Service Time	3.357	3.913	3.383	3.324
HCM Lane V/C Ratio	0.428	0.084	0.386	0.488
HCM Control Delay	12.3	9.4	11.7	13.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.1	0.3	1.8	2.7



Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	23	57	161	9	118	44	250	44	11	141	836	280
Future Volume (vph)	23	57	161	9	118	44	250	44	11	141	836	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0		0			300		0
Storage Lanes		0		0	0		1			1		1
Taper Length (ft)		25			25					25		
Right Turn on Red				No				Yes				No
Link Speed (mph)			30			30					30	
Link Distance (ft)			347			678					591	
Travel Time (s)			7.9			15.4					13.4	
Confl. Peds. (#/hr)	8	22		30	30		8	22	26	8		23
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	262	0	0	170	309	0	0	160	880	295
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Minimum Split (s)	31.0	31.0	31.0		31.0	31.0	39.0		11.5	11.5	30.0	30.0
Total Split (s)	33.0	33.0	33.0		33.0	33.0	69.0		18.0	18.0	66.0	66.0
Total Split (%)	24.4%	24.4%	24.4%		24.4%	24.4%	51.1%		13.3%	13.3%	48.9%	48.9%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	4.0		3.5	3.5	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		4.0	4.0	4.0	4.0
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			7.5	8.0	8.0
Lead/Lag	Lag	Lag	Lag		Lag	Lag			Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes			Yes	Yes		
v/c Ratio			1.07			0.97	0.41			0.51	0.58	0.48
Control Delay			129.4			115.0	17.8			30.2	31.1	30.8
Queue Delay			0.0			0.0	0.0			0.0	0.0	0.0
Total Delay			129.4			115.0	17.8			30.2	31.1	30.8
Queue Length 50th (ft)			~254			149	117			86	303	183
Queue Length 95th (ft)			#431			#300	194			136	371	270
Internal Link Dist (ft)			267			598					511	
Turn Bay Length (ft)										300		
Base Capacity (vph)			244			175	745			311	1520	619
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			1.07			0.97	0.41			0.51	0.58	0.48

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 62 (46%), Referenced to phase 2:SBT and 6:NBTL, Start of Green	
Natural Cycle: 110	

Lane Group	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	553	38	48	439	94	3
Future Volume (vph)	553	38	48	439	94	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0	
Storage Lanes		0		1	1	
Taper Length (ft)				25		
Right Turn on Red			Yes			No
Link Speed (mph)	30			30		
Link Distance (ft)	609			1120		
Travel Time (s)	13.8			25.5		
Confl. Peds. (#/hr)		26	8	23	30	26
Confl. Bikes (#/hr)		1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	673	0	0	462	102	0
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Minimum Split (s)	30.0			13.5	13.5	
Total Split (s)	48.0			36.0	36.0	
Total Split (%)	35.6%			26.7%	26.7%	
Yellow Time (s)	4.0			4.0	4.0	
All-Red Time (s)	4.0			4.5	4.5	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	8.0			8.5	8.5	
Lead/Lag	Lag			Lead	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes	
v/c Ratio	0.46			1.27	0.31	
Control Delay	39.4			184.5	48.9	
Queue Delay	0.0			0.0	0.0	
Total Delay	39.4			184.5	48.9	
Queue Length 50th (ft)	173			~510	77	
Queue Length 95th (ft)	215			#726	133	
Internal Link Dist (ft)	529			1040		
Turn Bay Length (ft)						
Base Capacity (vph)	1454			364	325	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.46			1.27	0.31	

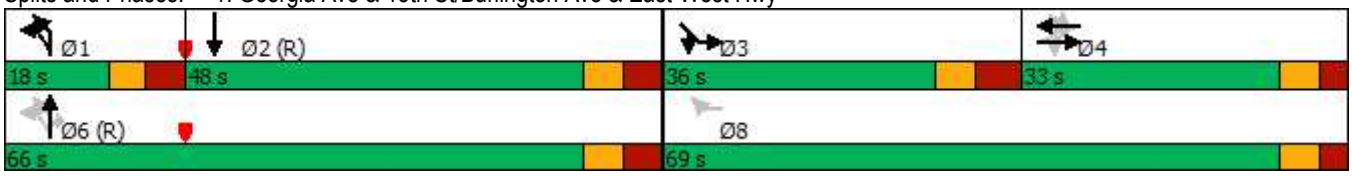
Intersection Summary

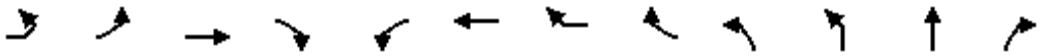
Control Type: Pretimed

~ 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: 1: Georgia Ave & 13th St/Burlington Ave & East-West Hwy





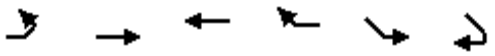
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	23	57	161	9	118	44	250	44	11	141	836	280
Future Volume (vph)	23	57	161	9	118	44	250	44	11	141	836	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Util. Factor			1.00			1.00	1.00			1.00	0.95	1.00
Frpb, ped/bikes			1.00			1.00	0.95			1.00	1.00	0.91
Flpb, ped/bikes			0.99			0.98	1.00			1.00	1.00	1.00
Frt			1.00			1.00	0.85			1.00	1.00	0.85
Flt Protected			0.98			0.96	1.00			0.95	1.00	1.00
Satd. Flow (prot)			1818			1766	1505			1763	3539	1442
Flt Permitted			0.69			0.50	1.00			0.27	1.00	1.00
Satd. Flow (perm)			1273			914	1505			495	3539	1442
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	60	169	9	124	46	263	46	12	148	880	295
RTOR Reduction (vph)	0	0	0	0	0	0	55	0	0	0	0	0
Lane Group Flow (vph)	0	0	262	0	0	170	254	0	0	160	880	295
Confl. Peds. (#/hr)	8	22		30	30		8	22	26	8		23
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Actuated Green, G (s)			26.0			26.0	62.0			58.0	58.0	58.0
Effective Green, g (s)			26.0			26.0	62.0			58.0	58.0	58.0
Actuated g/C Ratio			0.19			0.19	0.46			0.43	0.43	0.43
Clearance Time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Grp Cap (vph)			245			176	691			311	1520	619
v/s Ratio Prot										0.04	c0.25	
v/s Ratio Perm			c0.21			0.19	0.17			0.18		0.20
v/c Ratio			1.07			0.97	0.37			0.51	0.58	0.48
Uniform Delay, d1			54.5			54.1	23.8			25.2	29.2	27.6
Progression Factor			1.00			1.00	1.00			1.00	1.00	1.00
Incremental Delay, d2			77.1			59.4	1.5			6.0	1.6	2.6
Delay (s)			131.6			113.5	25.3			31.1	30.8	30.2
Level of Service			F			F	C			C	C	C
Approach Delay (s)			131.6			56.6					30.7	
Approach LOS			F			E					C	

Intersection Summary			
HCM 2000 Control Delay	67.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	553	38	48	439	94	3
Future Volume (vph)	553	38	48	439	94	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0			8.5	8.5	
Lane Util. Factor	0.91			1.00	1.00	
Frpb, ped/bikes	0.99			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.98			1.00	0.85	
Flt Protected	1.00			0.95	1.00	
Satd. Flow (prot)	4884			1787	1599	
Flt Permitted	1.00			0.95	1.00	
Satd. Flow (perm)	4884			1787	1599	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	582	40	51	462	99	3
RTOR Reduction (vph)	7	0	0	0	0	0
Lane Group Flow (vph)	666	0	0	462	102	0
Confl. Peds. (#/hr)		26	8	23	30	26
Confl. Bikes (#/hr)		1	1			
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Actuated Green, G (s)	40.0			27.5	27.5	
Effective Green, g (s)	40.0			27.5	27.5	
Actuated g/C Ratio	0.30			0.20	0.20	
Clearance Time (s)	8.0			8.5	8.5	
Lane Grp Cap (vph)	1447			364	325	
v/s Ratio Prot	0.14			c0.26	0.06	
v/s Ratio Perm						
v/c Ratio	0.46			1.27	0.31	
Uniform Delay, d1	38.7			53.8	45.7	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	1.1			141.2	2.5	
Delay (s)	39.8			194.9	48.2	
Level of Service	D			F	D	
Approach Delay (s)	39.8			168.4		
Approach LOS	D			F		

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	6	207	79	16	37	14
Future Volume (vph)	6	207	79	16	37	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		543	347		851	
Travel Time (s)		14.8	9.5		23.2	
Confl. Peds. (#/hr)	18			18		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	232	103	0	55	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.7

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	6	207	79	16	37	14
Future Vol, veh/h	6	207	79	16	37	14
Conflicting Peds, #/hr	18	0	0	18	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	3	5	5
Mvmt Flow	7	225	86	17	40	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	121	0	-	0	352	113
Stage 1	-	-	-	-	113	-
Stage 2	-	-	-	-	239	-
Critical Hdwy	4.12	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.218	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1467	-	-	-	640	932
Stage 1	-	-	-	-	904	-
Stage 2	-	-	-	-	794	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1442	-	-	-	614	916
Mov Cap-2 Maneuver	-	-	-	-	614	-
Stage 1	-	-	-	-	883	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	SE
HCM Control Delay, s	0.2	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1442	-	-	-	675
HCM Lane V/C Ratio	0.005	-	-	-	0.082
HCM Control Delay (s)	7.5	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lane Group	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	21	90	28	81	211	13	15	272	41	29	36	23
Future Volume (vph)	21	90	28	81	211	13	15	272	41	29	36	23
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25				25			25			25	
Link Distance (ft)	359				571			514			543	
Travel Time (s)	9.8				15.6			14.0			14.8	
Confl. Peds. (#/hr)	6		6	23		2	2		23	6		6
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	122	0	0	315	0	0	337	0	0	91	0
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	NBL	NBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	21	90	81	211	13	15	272	41	36	23
Future Vol, veh/h	21	90	81	211	13	15	272	41	36	23
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	1	1	3	3	3	2	2	2	3	3
Mvmt Flow	22	93	84	218	13	15	280	42	37	24
Number of Lanes	0	1	0	1	0	0	1	0	1	0

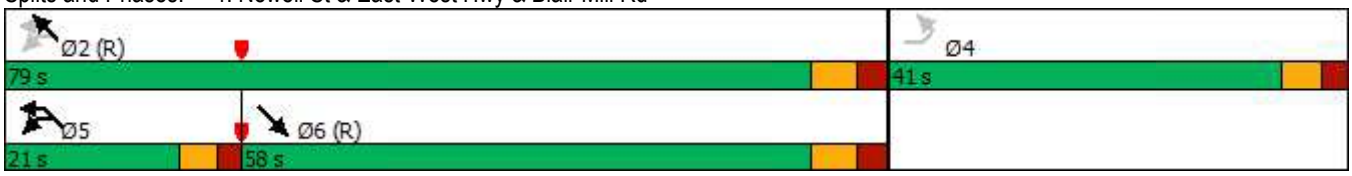
Approach	NB	SE	NW
Opposing Approach		NW	SE
Opposing Lanes	0	1	1
Conflicting Approach Left	SE	SW	NB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	SW	NB	SW
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.7	12.2	12.3
HCM LOS	A	B	B

Lane	NBLn1	NWLn1	SELn1	SWLn1
Vol Left, %	15%	5%	27%	74%
Vol Thru, %	0%	83%	69%	0%
Vol Right, %	85%	12%	4%	26%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	139	328	305	88
LT Vol	21	15	81	65
Through Vol	0	272	211	0
RT Vol	118	41	13	23
Lane Flow Rate	143	338	314	91
Geometry Grp	1	1	1	1
Degree of Util (X)	0.209	0.467	0.446	0.147
Departure Headway (Hd)	5.248	4.972	5.104	5.846
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	684	727	707	613
Service Time	3.286	2.998	3.131	3.887
HCM Lane V/C Ratio	0.209	0.465	0.444	0.148
HCM Control Delay	9.7	12.3	12.2	9.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.8	2.5	2.3	0.5

Lane Group	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL	NER
Lane Configurations											
Traffic Volume (vph)	51	63	10	505	50	58	23	86	422	0	0
Future Volume (vph)	51	63	10	505	50	58	23	86	422	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0			0			100		0	0
Storage Lanes	1	0			0			1		0	0
Taper Length (ft)	25							25		25	
Right Turn on Red			No			No					No
Link Speed (mph)	25			30					30	25	
Link Distance (ft)	1312			657					1120	294	
Travel Time (s)	35.8			14.9					25.5	8.0	
Confl. Peds. (#/hr)	51	10	39		39	34	39	34		51	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	5%	5%
Shared Lane Traffic (%)											
Lane Group Flow (vph)	131	0	0	646	0	0	0	115	444	0	0
Turn Type	Perm			NA			pm+pt	pm+pt	NA		
Protected Phases				6			5	5	2		
Permitted Phases	4						2	2			
Minimum Split (s)	26.0			26.0			8.5	8.5	14.0		
Total Split (s)	41.0			58.0			21.0	21.0	79.0		
Total Split (%)	34.2%			48.3%			17.5%	17.5%	65.8%		
Yellow Time (s)	3.5			4.0			3.5	3.5	4.0		
All-Red Time (s)	2.5			3.0			2.0	2.0	3.0		
Lost Time Adjust (s)	0.0			0.0				0.0	0.0		
Total Lost Time (s)	6.0			7.0				5.5	7.0		
Lead/Lag				Lag			Lead	Lead			
Lead-Lag Optimize?				Yes			Yes	Yes			
v/c Ratio	0.36			0.54				0.26	0.25		
Control Delay	37.2			27.7				11.2	11.7		
Queue Delay	0.0			0.0				0.0	0.0		
Total Delay	37.2			27.7				11.2	11.7		
Queue Length 50th (ft)	80			225				35	95		
Queue Length 95th (ft)	139			294				60	128		
Internal Link Dist (ft)	1232			577					1040	214	
Turn Bay Length (ft)								100			
Base Capacity (vph)	362			1206				444	1806		
Starvation Cap Reductn	0			0				0	0		
Spillback Cap Reductn	0			0				0	0		
Storage Cap Reductn	0			0				0	0		
Reduced v/c Ratio	0.36			0.54				0.26	0.25		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SET, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	

Splits and Phases: 4: Newell St & East-West Hwy & Blair Mill Rd



Movement	EBL	EBR	EBR2	SET	SER	SER2	NWL2	NWL	NWT	NEL	NER
Lane Configurations											
Traffic Volume (vph)	51	63	10	505	50	58	23	86	422	0	0
Future Volume (vph)	51	63	10	505	50	58	23	86	422	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0			7.0				5.5	7.0		
Lane Util. Factor	1.00			*0.81				1.00	*0.80		
Frpb, ped/bikes	0.90			0.96				1.00	1.00		
Flpb, ped/bikes	0.97			1.00				0.99	1.00		
Frt	0.92			0.97				1.00	1.00		
Flt Protected	0.98			1.00				0.95	1.00		
Satd. Flow (prot)	1455			2838				1769	3010		
Flt Permitted	0.84			1.00				0.25	1.00		
Satd. Flow (perm)	1241			2838				461	3010		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	66	11	532	53	61	24	91	444	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	131	0	0	646	0	0	0	115	444	0	0
Confl. Peds. (#/hr)	51	10	39		39	34	39	34		51	10
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%	1%	1%	1%	5%	5%
Turn Type	Perm			NA			pm+pt	pm+pt	NA		
Protected Phases				6			5	5	2		
Permitted Phases	4						2	2			
Actuated Green, G (s)	35.0			51.0				72.0	72.0		
Effective Green, g (s)	35.0			51.0				72.0	72.0		
Actuated g/C Ratio	0.29			0.42				0.60	0.60		
Clearance Time (s)	6.0			7.0				5.5	7.0		
Lane Grp Cap (vph)	361			1206				445	1806		
v/s Ratio Prot				c0.23				0.03	c0.15		
v/s Ratio Perm	c0.11							0.12			
v/c Ratio	0.36			0.54				0.26	0.25		
Uniform Delay, d1	33.7			25.7				11.9	11.3		
Progression Factor	1.00			1.00				1.00	1.00		
Incremental Delay, d2	2.8			1.7				1.4	0.3		
Delay (s)	36.5			27.4				13.3	11.6		
Level of Service	D			C				B	B		
Approach Delay (s)	36.5			27.4					11.9	0.0	
Approach LOS	D			C					B	A	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	65.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	9	0	0	5	32	48
Future Volume (vph)	9	0	0	5	32	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		25			25
Link Distance (ft)	851		608			294
Travel Time (s)	23.2		16.6			8.0
Confl. Peds. (#/hr)	10	11		15	15	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	16%	16%	0%	0%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	0	6	0	100
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	3.6

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	9	0	0	5	32	48
Future Vol, veh/h	9	0	0	5	32	48
Conflicting Peds, #/hr	10	11	0	15	15	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	0	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	16	16	0	0	3	3
Mvmt Flow	11	0	0	6	40	60

Major/Minor	Minor1		Major2	
Conflicting Flow All	165	-	15	0
Stage 1	15	-	-	-
Stage 2	150	-	-	-
Critical Hdwy	6.56	-	4.13	-
Critical Hdwy Stg 1	-	-	-	-
Critical Hdwy Stg 2	5.56	-	-	-
Follow-up Hdwy	3.644	-	2.227	-
Pot Cap-1 Maneuver	794	0	1596	-
Stage 1	-	0	-	-
Stage 2	845	0	-	-
Platoon blocked, %				-
Mov Cap-1 Maneuver	762	-	1573	-
Mov Cap-2 Maneuver	762	-	-	-
Stage 1	-	-	-	-
Stage 2	823	-	-	-

Approach	NW	SW
HCM Control Delay, s	9.8	2.9
HCM LOS	A	

Minor Lane/Major Mvmt	NWLn1	SWL	SWT
Capacity (veh/h)	762	1573	-
HCM Lane V/C Ratio	0.015	0.025	-
HCM Control Delay (s)	9.8	7.3	0
HCM Lane LOS	A	A	A
HCM 95th %tile Q(veh)	0	0.1	-

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	1	260	17	6	312	0	28	0	12	31	13	14
Future Volume (vph)	1	260	17	6	312	0	28	0	12	31	13	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		981			571			275			608	
Travel Time (s)		26.8			15.6			7.5			16.6	
Confl. Peds. (#/hr)	20		2	2		20	13		12	12		13
Confl. Bikes (#/hr)			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
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	309	0	0	354	0	0	44	0	0	64	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	1	260	17	6	312	0	28	0	12	31	13	14
Future Vol, veh/h	1	260	17	6	312	0	28	0	12	31	13	14
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
Heavy Vehicles, %	3	3	3	3	3	3	5	5	5	4	4	4
Mvmt Flow	1	289	19	7	347	0	31	0	13	34	14	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.6	11.4	9	9.2
HCM LOS	B	B	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	70%	2%	0%	53%
Vol Thru, %	0%	98%	94%	22%
Vol Right, %	30%	0%	6%	24%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	318	278	58
LT Vol	28	6	1	31
Through Vol	0	312	260	13
RT Vol	12	0	17	14
Lane Flow Rate	44	353	309	64
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.451	0.395	0.098
Departure Headway (Hd)	5.536	4.593	4.602	5.483
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	642	781	778	648
Service Time	3.615	2.636	2.647	3.559
HCM Lane V/C Ratio	0.069	0.452	0.397	0.099
HCM Control Delay	9	11.4	10.6	9.2
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	2.4	1.9	0.3

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	35	12	62	30	81	54	198	4	7	274	66
Future Volume (vph)	7	35	12	62	30	81	54	198	4	7	274	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		433			1312			589			981	
Travel Time (s)		11.8			35.8			16.1			26.8	
Confl. Peds. (#/hr)	8		11	11		8	14		4	4		14
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	180	0	0	266	0	0	361	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	7	35	12	62	30	81	54	198	4	7	274	66
Future Vol, veh/h	7	35	12	62	30	81	54	198	4	7	274	66
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	2	2	2	3	3	3	4	4	4
Mvmt Flow	7	36	13	65	31	84	56	206	4	7	285	69
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	SE	NW
Opposing Approach	WB	EB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	EB	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	10.4	11.3	12.7
HCM LOS	A	B	B	B

Lane	NWLn1	EBLn1	WBLn1	SELn1
Vol Left, %	2%	13%	36%	21%
Vol Thru, %	79%	65%	17%	77%
Vol Right, %	19%	22%	47%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	347	54	173	256
LT Vol	7	7	62	54
Through Vol	274	35	30	198
RT Vol	66	12	81	4
Lane Flow Rate	361	56	180	267
Geometry Grp	1	1	1	1
Degree of Util (X)	0.495	0.089	0.27	0.381
Departure Headway (Hd)	4.93	5.708	5.395	5.144
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	737	627	665	699
Service Time	2.93	3.754	3.433	3.173
HCM Lane V/C Ratio	0.49	0.089	0.271	0.382
HCM Control Delay	12.7	9.3	10.4	11.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.8	0.3	1.1	1.8

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	2	34	65	11	151	128	370	52	5	73	501	55
Future Volume (vph)	2	34	65	11	151	128	370	52	5	73	501	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0		0			300		0
Storage Lanes		0		0	0		1			1		1
Taper Length (ft)		25			25					25		
Right Turn on Red				No				Yes				No
Link Speed (mph)			30			30					30	
Link Distance (ft)			347			678					591	
Travel Time (s)			7.9			15.4					13.4	
Confl. Peds. (#/hr)	8	17		5	5		8	17	3	8		4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%	2%	2%	4%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	114	0	0	285	431	0	0	79	511	56
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Minimum Split (s)	31.0	31.0	31.0		31.0	31.0	39.0		11.5	11.5	30.0	30.0
Total Split (s)	31.0	31.0	31.0		31.0	31.0	70.0		26.0	26.0	65.0	65.0
Total Split (%)	23.0%	23.0%	23.0%		23.0%	23.0%	51.9%		19.3%	19.3%	48.1%	48.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	4.0		3.5	3.5	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		4.0	4.0	4.0	4.0
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			7.5	8.0	8.0
Lead/Lag	Lag	Lag	Lag		Lag	Lag			Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes			Yes	Yes		
v/c Ratio			0.93			1.16	0.57			0.27	0.35	0.09
Control Delay			120.3			155.2	22.8			25.9	27.3	24.0
Queue Delay			0.0			0.0	0.0			0.0	0.0	0.0
Total Delay			120.3			155.2	22.8			25.9	27.3	24.0
Queue Length 50th (ft)			100			~295	206			41	157	29
Queue Length 95th (ft)			#225			#477	312			76	203	58
Internal Link Dist (ft)			267			598					511	
Turn Bay Length (ft)										300		
Base Capacity (vph)			122			246	760			292	1465	634
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			1.16	0.57			0.27	0.35	0.09

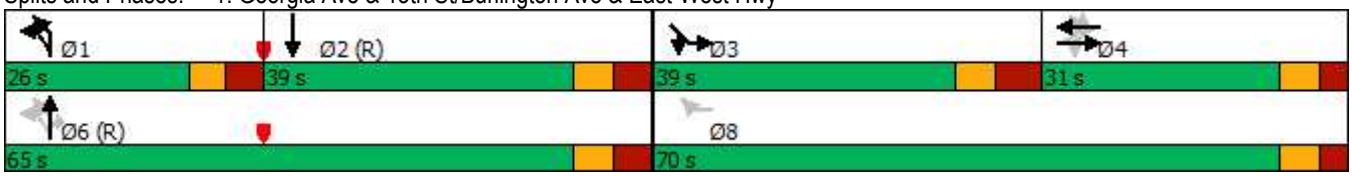
Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 60 (44%), Referenced to phase 2:SBT and 6:NBTL, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Lane Group	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	1124	22	32	250	145	55
Future Volume (vph)	1124	22	32	250	145	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0	
Storage Lanes		0		1	1	
Taper Length (ft)				25		
Right Turn on Red			Yes			No
Link Speed (mph)	30			30		
Link Distance (ft)	609			1120		
Travel Time (s)	13.8			25.5		
Confl. Peds. (#/hr)		3	8	4	5	3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1202	0	0	255	204	0
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Minimum Split (s)	30.0			13.5	13.5	
Total Split (s)	39.0			39.0	39.0	
Total Split (%)	28.9%			28.9%	28.9%	
Yellow Time (s)	4.0			4.0	4.0	
All-Red Time (s)	4.0			4.5	4.5	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	8.0			8.5	8.5	
Lead/Lag	Lag			Lead	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes	
v/c Ratio	1.05			0.64	0.57	
Control Delay	89.4			55.6	53.7	
Queue Delay	0.0			0.0	0.0	
Total Delay	89.4			55.6	53.7	
Queue Length 50th (ft)	~418			204	160	
Queue Length 95th (ft)	#516			301	246	
Internal Link Dist (ft)	529			1040		
Turn Bay Length (ft)						
Base Capacity (vph)	1148			399	357	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.05			0.64	0.57	

Intersection Summary

~ 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: 1: Georgia Ave & 13th St/Burlington Ave & East-West Hwy

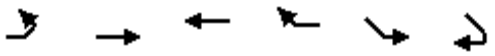


Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	2	34	65	11	151	128	370	52	5	73	501	55
Future Volume (vph)	2	34	65	11	151	128	370	52	5	73	501	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Util. Factor			1.00			1.00	1.00			1.00	0.95	1.00
Frpb, ped/bikes			1.00			1.00	0.96			1.00	1.00	0.97
Flpb, ped/bikes			0.99			1.00	1.00			1.00	1.00	1.00
Frt			0.99			1.00	0.85			1.00	1.00	0.85
Flt Protected			0.98			0.97	1.00			0.95	1.00	1.00
Satd. Flow (prot)			1759			1807	1515			1736	3471	1503
Flt Permitted			0.39			0.75	1.00			0.10	1.00	1.00
Satd. Flow (perm)			690			1385	1515			190	3471	1503
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	2	35	66	11	154	131	378	53	5	74	511	56
RTOR Reduction (vph)	0	0	0	0	0	0	54	0	0	0	0	0
Lane Group Flow (vph)	0	0	114	0	0	285	377	0	0	79	511	56
Confl. Peds. (#/hr)	8	17		5	5		8	17	3	8		4
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%	2%	2%	4%	4%	4%	4%
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Actuated Green, G (s)			24.0			24.0	63.0			57.0	57.0	57.0
Effective Green, g (s)			24.0			24.0	63.0			57.0	57.0	57.0
Actuated g/C Ratio			0.18			0.18	0.47			0.42	0.42	0.42
Clearance Time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Grp Cap (vph)			122			246	707			292	1465	634
v/s Ratio Prot										0.04	c0.15	
v/s Ratio Perm			0.17			c0.21	c0.25			0.08		0.04
v/c Ratio			0.93			1.16	0.53			0.27	0.35	0.09
Uniform Delay, d1			54.7			55.5	25.6			27.9	26.4	23.4
Progression Factor			1.00			1.00	1.00			1.00	1.00	1.00
Incremental Delay, d2			65.4			107.0	2.9			2.3	0.7	0.3
Delay (s)			120.1			162.5	28.4			30.2	27.1	23.7
Level of Service			F			F	C			C	C	C
Approach Delay (s)			120.1			81.8					27.2	
Approach LOS			F			F					C	

Intersection Summary			
HCM 2000 Control Delay	71.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	1124	22	32	250	145	55
Future Volume (vph)	1124	22	32	250	145	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0			8.5	8.5	
Lane Util. Factor	0.91			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.85	
Flt Protected	1.00			0.95	1.00	
Satd. Flow (prot)	4994			1770	1583	
Flt Permitted	1.00			0.95	1.00	
Satd. Flow (perm)	4994			1770	1583	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1147	22	33	255	148	56
RTOR Reduction (vph)	2	0	0	0	0	0
Lane Group Flow (vph)	1200	0	0	255	204	0
Confl. Peds. (#/hr)		3	8	4	5	3
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Actuated Green, G (s)	31.0			30.5	30.5	
Effective Green, g (s)	31.0			30.5	30.5	
Actuated g/C Ratio	0.23			0.23	0.23	
Clearance Time (s)	8.0			8.5	8.5	
Lane Grp Cap (vph)	1146			399	357	
v/s Ratio Prot	c0.24			0.14	0.13	
v/s Ratio Perm						
v/c Ratio	1.05			0.64	0.57	
Uniform Delay, d1	52.0			47.3	46.4	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	39.7			7.6	6.5	
Delay (s)	91.7			54.9	52.9	
Level of Service	F			D	D	
Approach Delay (s)	91.7			54.0		
Approach LOS	F			D		

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	6	82	190	27	26	17
Future Volume (vph)	6	82	190	27	26	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		543	347		851	
Travel Time (s)		14.8	9.5		23.2	
Confl. Peds. (#/hr)	11			11	17	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	6%	6%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	111	272	0	54	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	6	82	190	27	26	17
Future Vol, veh/h	6	82	190	27	26	17
Conflicting Peds, #/hr	11	0	0	11	17	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	6	6	5	5	2	2
Mvmt Flow	8	103	238	34	33	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	283	0	-	0	402	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	136	-
Critical Hdwy	4.16	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.254	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1257	-	-	-	604	773
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	890	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1244	-	-	-	588	765
Mov Cap-2 Maneuver	-	-	-	-	588	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	881	-

Approach	EB	WB	SE
HCM Control Delay, s	0.5	0	11.1
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1244	-	-	-	647
HCM Lane V/C Ratio	0.006	-	-	-	0.083
HCM Control Delay (s)	7.9	0	-	-	11.1
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lane Group	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	10	25	8	29	304	21	4	176	26	70	79	61
Future Volume (vph)	10	25	8	29	304	21	4	176	26	70	79	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25				25			25			25	
Link Distance (ft)	359				571			514			543	
Travel Time (s)	9.8				15.6			14.0			14.8	
Confl. Peds. (#/hr)			5	6		3	3		6	5		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	36	0	0	381	0	0	221	0	0	226	0
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	NBL	NBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	10	25	29	304	21	4	176	26	79	61
Future Vol, veh/h	10	25	29	304	21	4	176	26	79	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	3	3	3	5	5	5	2	2
Mvmt Flow	11	27	31	327	23	4	189	28	85	66
Number of Lanes	0	1	0	1	0	0	1	0	1	0

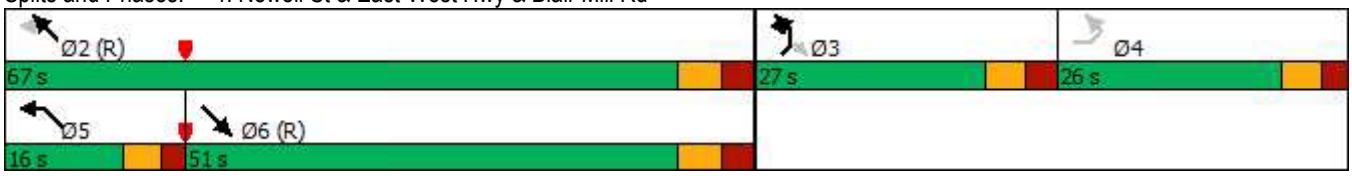
Approach	NB	SE	NW
Opposing Approach		NW	SE
Opposing Lanes	0	1	1
Conflicting Approach Left	SE	SW	NB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	SW	NB	SW
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.9	13.8	10.7
HCM LOS	A	B	B

Lane	NBLn1	NWLn1	SELn1	SWLn1
Vol Left, %	23%	2%	8%	71%
Vol Thru, %	0%	85%	86%	0%
Vol Right, %	77%	13%	6%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	206	354	210
LT Vol	10	4	29	149
Through Vol	0	176	304	0
RT Vol	33	26	21	61
Lane Flow Rate	46	222	381	226
Geometry Grp	1	1	1	1
Degree of Util (X)	0.07	0.322	0.536	0.346
Departure Headway (Hd)	5.465	5.234	5.065	5.521
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	653	687	716	650
Service Time	3.516	3.268	3.065	3.56
HCM Lane V/C Ratio	0.07	0.323	0.532	0.348
HCM Control Delay	8.9	10.7	13.8	11.5
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.2	1.4	3.2	1.5

Lane Group	EBL	EBR	SET	SER	SER2	NWL	NWT	NEL2	NEL	NER
Lane Configurations										
Traffic Volume (vph)	49	39	432	0	84	98	439	3	27	1
Future Volume (vph)	49	39	432	0	84	98	439	3	27	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0		100			0	0
Storage Lanes	1	0		0		1			1	1
Taper Length (ft)	25					25			25	
Right Turn on Red					No					Yes
Link Speed (mph)	25		30				30		25	
Link Distance (ft)	1312		657				1120		294	
Travel Time (s)	35.8		14.9				25.5		8.0	
Confl. Peds. (#/hr)	17	5		29	15	15		15	17	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%	6%	6%	6%
Shared Lane Traffic (%)										
Lane Group Flow (vph)	100	0	586	0	0	111	499	0	34	1
Turn Type	Perm		NA			pm+pt	NA	Prot	Prot	Perm
Protected Phases			6			5	2	3	3	
Permitted Phases	4					2				3
Minimum Split (s)	26.0		26.0			8.5	14.0	26.5	26.5	26.5
Total Split (s)	26.0		51.0			16.0	67.0	27.0	27.0	27.0
Total Split (%)	21.7%		42.5%			13.3%	55.8%	22.5%	22.5%	22.5%
Yellow Time (s)	3.5		4.0			3.5	4.0	3.5	3.5	3.5
All-Red Time (s)	2.5		3.0			2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0		7.0			5.5	7.0		6.5	6.5
Lead/Lag	Lag		Lag			Lead		Lead	Lead	Lead
Lead-Lag Optimize?	Yes		Yes			Yes		Yes	Yes	Yes
v/c Ratio	0.46		0.55			0.32	0.34		0.12	0.00
Control Delay	52.8		32.5			17.9	18.9		43.4	0.0
Queue Delay	0.0		0.0			0.0	0.0		0.0	0.0
Total Delay	52.8		32.5			17.9	18.9		43.4	0.0
Queue Length 50th (ft)	71		220			43	140		23	0
Queue Length 95th (ft)	125		280			74	182		52	0
Internal Link Dist (ft)	1232		577				1040		214	
Turn Bay Length (ft)						100				
Base Capacity (vph)	218		1068			347	1475		290	371
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	0.46		0.55			0.32	0.34		0.12	0.00

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 72 (60%), Referenced to phase 2:NWTL and 6:SET, Start of Green	
Natural Cycle: 90	
Control Type: Pretimed	

Splits and Phases: 4: Newell St & East-West Hwy & Blair Mill Rd



Movement	EBL	EBR	SET	SER	SER2	NWL	NWT	NEL2	NEL	NER
Lane Configurations										
Traffic Volume (vph)	49	39	432	0	84	98	439	3	27	1
Future Volume (vph)	49	39	432	0	84	98	439	3	27	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		7.0			5.5	7.0		6.5	6.5
Lane Util. Factor	1.00		*0.81			1.00	*0.80		1.00	1.00
Frpb, ped/bikes	0.99		0.99			1.00	1.00		1.00	0.98
Flpb, ped/bikes	0.99		1.00			1.00	1.00		1.00	1.00
Frt	0.94		0.98			1.00	1.00		1.00	0.85
Flt Protected	0.97		1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1664		2913			1748	2951		1703	1492
Flt Permitted	0.77		1.00			0.25	1.00		0.95	1.00
Satd. Flow (perm)	1309		2913			463	2951		1703	1492
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	56	44	491	0	95	111	499	3	31	1
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	1
Lane Group Flow (vph)	100	0	586	0	0	111	499	0	34	0
Confl. Peds. (#/hr)	17	5		29	15	15		15	17	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%	6%	6%	6%
Turn Type	Perm		NA			pm+pt	NA	Prot	Prot	Perm
Protected Phases			6			5	2	3	3	
Permitted Phases	4					2				3
Actuated Green, G (s)	20.0		44.0			60.0	60.0		20.5	20.5
Effective Green, g (s)	20.0		44.0			60.0	60.0		20.5	20.5
Actuated g/C Ratio	0.17		0.37			0.50	0.50		0.17	0.17
Clearance Time (s)	6.0		7.0			5.5	7.0		6.5	6.5
Lane Grp Cap (vph)	218		1068			343	1475		290	254
v/s Ratio Prot			c0.20			0.03	c0.17		c0.02	
v/s Ratio Perm	c0.08					0.13				0.00
v/c Ratio	0.46		0.55			0.32	0.34		0.12	0.00
Uniform Delay, d1	45.1		30.1			17.5	18.1		42.1	41.3
Progression Factor	1.00		1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	6.8		2.0			2.5	0.6		0.8	0.0
Delay (s)	51.9		32.2			20.0	18.7		42.9	41.3
Level of Service	D		C			C	B		D	D
Approach Delay (s)	51.9		32.2				18.9		42.9	
Approach LOS	D		C				B		D	

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	4	14	18	9	0	0
Future Volume (vph)	4	14	18	9	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		25			25
Link Distance (ft)	851		608			294
Travel Time (s)	23.2		16.6			8.0
Confl. Peds. (#/hr)	7	2		10	10	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	11%	11%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	37	0	0	0
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	3.5

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	4	14	18	9	0	0
Future Vol, veh/h	4	14	18	9	0	0
Conflicting Peds, #/hr	7	2	0	10	10	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	73	73	73	73	73	73
Heavy Vehicles, %	11	11	0	0	0	0
Mvmt Flow	5	19	25	12	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	48	43	0	0
Stage 1	41	-	-	-
Stage 2	7	-	-	-
Critical Hdwy	6.51	6.31	-	-
Critical Hdwy Stg 1	5.51	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.599	3.399	-	-
Pot Cap-1 Maneuver	939	1002	-	-
Stage 1	959	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	923	992	-	-
Mov Cap-2 Maneuver	923	-	-	-
Stage 1	949	-	-	-
Stage 2	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	8.8	0
HCM LOS	A	

Minor Lane/Major Mvmt	NET	NER	NWLn1
Capacity (veh/h)	-	-	976
HCM Lane V/C Ratio	-	-	0.025
HCM Control Delay (s)	-	-	8.8
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	8	329	43	26	225	9	6	5	9	9	12	5
Future Volume (vph)	8	329	43	26	225	9	6	5	9	9	12	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		981			571			275			608	
Travel Time (s)		26.8			15.6			7.5			16.6	
Confl. Peds. (#/hr)	7		3	3		7	10		6	6		10
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	0	0	280	0	0	21	0	0	28	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	8	329	43	26	225	9	6	5	9	9	12	5
Future Vol, veh/h	8	329	43	26	225	9	6	5	9	9	12	5
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	4	4	4	5	5	5	0	0	0	0	0	0
Mvmt Flow	9	354	46	28	242	10	6	5	10	10	13	5
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.5	10	8.4	8.7
HCM LOS	B	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	30%	10%	2%	35%
Vol Thru, %	25%	87%	87%	46%
Vol Right, %	45%	3%	11%	19%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	260	380	26
LT Vol	6	26	8	9
Through Vol	5	225	329	12
RT Vol	9	9	43	5
Lane Flow Rate	22	280	409	28
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.352	0.491	0.042
Departure Headway (Hd)	5.229	4.529	4.33	5.382
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	683	794	834	663
Service Time	3.277	2.552	2.351	3.429
HCM Lane V/C Ratio	0.032	0.353	0.49	0.042
HCM Control Delay	8.4	10	11.5	8.7
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.1	1.6	2.8	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	21	16	84	38	142	14	271	4	9	216	16
Future Volume (vph)	7	21	16	84	38	142	14	271	4	9	216	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		433			1312			589			981	
Travel Time (s)		11.8			35.8			16.1			26.8	
Confl. Peds. (#/hr)	3		6	6		3	2		5	5		2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	4%	4%	4%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	304	0	0	332	0	0	276	0
Sign Control		Stop			Stop			Stop			Stop	

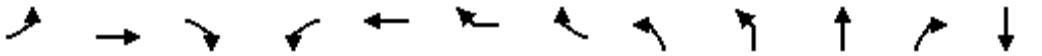
Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	7	21	16	84	38	142	14	271	4	9	216	16
Future Vol, veh/h	7	21	16	84	38	142	14	271	4	9	216	16
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	2	2	2	4	4	4	5	5	5
Mvmt Flow	8	24	18	97	44	163	16	311	5	10	248	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	SE	NW
Opposing Approach	WB	EB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	EB	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	12.9	13.8	12.5
HCM LOS	A	B	B	B

Lane	NWLn1	EBLn1	WBLn1	SELn1
Vol Left, %	4%	16%	32%	5%
Vol Thru, %	90%	48%	14%	94%
Vol Right, %	7%	36%	54%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	241	44	264	289
LT Vol	9	7	84	14
Through Vol	216	21	38	271
RT Vol	16	16	142	4
Lane Flow Rate	277	51	303	332
Geometry Grp	1	1	1	1
Degree of Util (X)	0.422	0.084	0.456	0.5
Departure Headway (Hd)	5.488	5.955	5.404	5.422
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	654	598	665	664
Service Time	3.538	4.026	3.453	3.469
HCM Lane V/C Ratio	0.424	0.085	0.456	0.5
HCM Control Delay	12.5	9.6	12.9	13.8
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.1	0.3	2.4	2.8



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBT
Lane Configurations												
Traffic Volume (vph)	57	149	9	118	56	238	44	11	141	836	280	553
Future Volume (vph)	57	149	9	118	56	238	44	11	141	836	280	553
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		0			300		0	
Storage Lanes	0		0	0		1			1		1	
Taper Length (ft)	25			25					25			
Right Turn on Red			No				Yes				No	
Link Speed (mph)		30			30					30		30
Link Distance (ft)		347			678					591		609
Travel Time (s)		7.9			15.4					13.4		13.8
Confl. Peds. (#/hr)	22		30	30		8	22	26	8		23	
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	226	0	0	183	297	0	0	160	880	295	673
Turn Type	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm	NA
Protected Phases		4			4			1	1	6		2
Permitted Phases	4			4		8		6	6		6	
Minimum Split (s)	31.0	31.0		31.0	31.0	39.0		11.5	11.5	30.0	30.0	30.0
Total Split (s)	33.0	33.0		33.0	33.0	69.0		18.0	18.0	66.0	66.0	48.0
Total Split (%)	24.4%	24.4%		24.4%	24.4%	51.1%		13.3%	13.3%	48.9%	48.9%	35.6%
Yellow Time (s)	4.0	4.0		4.0	4.0	4.0		3.5	3.5	4.0	4.0	4.0
All-Red Time (s)	3.0	3.0		3.0	3.0	3.0		4.0	4.0	4.0	4.0	4.0
Lost Time Adjust (s)		0.0			0.0	0.0			0.0	0.0	0.0	0.0
Total Lost Time (s)		7.0			7.0	7.0			7.5	8.0	8.0	8.0
Lead/Lag	Lag	Lag		Lag	Lag			Lead	Lead			Lag
Lead-Lag Optimize?	Yes	Yes		Yes	Yes			Yes	Yes			Yes
v/c Ratio		0.94			0.98	0.40			0.51	0.58	0.48	0.46
Control Delay		97.6			116.1	17.2			30.2	31.1	30.8	39.4
Queue Delay		0.0			0.0	0.0			0.0	0.0	0.0	0.0
Total Delay		97.6			116.1	17.2			30.2	31.1	30.8	39.4
Queue Length 50th (ft)		197			161	108			86	303	183	173
Queue Length 95th (ft)		#361			#318	183			136	371	270	215
Internal Link Dist (ft)		267			598					511		529
Turn Bay Length (ft)									300			
Base Capacity (vph)		241			186	745			311	1520	619	1454
Starvation Cap Reductn		0			0	0			0	0	0	0
Spillback Cap Reductn		0			0	0			0	0	0	0
Storage Cap Reductn		0			0	0			0	0	0	0
Reduced v/c Ratio		0.94			0.98	0.40			0.51	0.58	0.48	0.46

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 62 (46%), Referenced to phase 2:SBT and 6:NBTL, Start of Green	
Natural Cycle: 110	

Lane Group	SBR	SBR2	SEL	SER	SER2
Lane Configurations					
Traffic Volume (vph)	38	48	451	94	45
Future Volume (vph)	38	48	451	94	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0	
Storage Lanes	0		1	1	
Taper Length (ft)			25		
Right Turn on Red		Yes			No
Link Speed (mph)			30		
Link Distance (ft)			1120		
Travel Time (s)			25.5		
Confl. Peds. (#/hr)	26	8	23	30	26
Confl. Bikes (#/hr)	1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	1%	1%	1%
Shared Lane Traffic (%)					
Lane Group Flow (vph)	0	0	475	146	0
Turn Type			Prot	Prot	
Protected Phases			3	3	
Permitted Phases					
Minimum Split (s)			13.5	13.5	
Total Split (s)			36.0	36.0	
Total Split (%)			26.7%	26.7%	
Yellow Time (s)			4.0	4.0	
All-Red Time (s)			4.5	4.5	
Lost Time Adjust (s)			0.0	0.0	
Total Lost Time (s)			8.5	8.5	
Lead/Lag			Lead	Lead	
Lead-Lag Optimize?			Yes	Yes	
v/c Ratio			1.30	0.45	
Control Delay			198.1	52.3	
Queue Delay			0.0	0.0	
Total Delay			198.1	52.3	
Queue Length 50th (ft)			~533	113	
Queue Length 95th (ft)			#750	184	
Internal Link Dist (ft)			1040		
Turn Bay Length (ft)					
Base Capacity (vph)			364	325	
Starvation Cap Reductn			0	0	
Spillback Cap Reductn			0	0	
Storage Cap Reductn			0	0	
Reduced v/c Ratio			1.30	0.45	

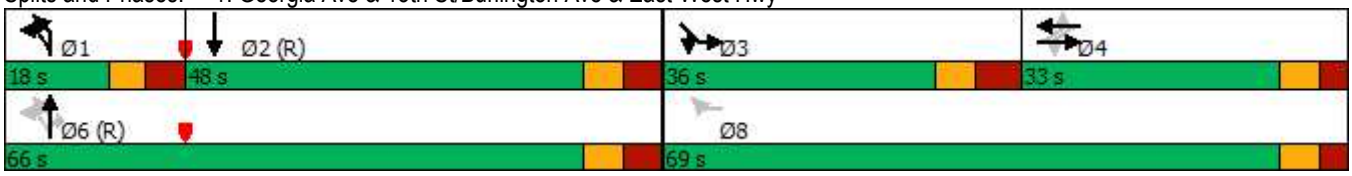
Intersection Summary

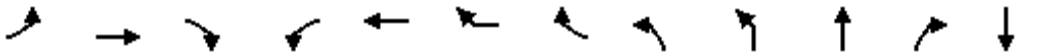
Control Type: Pretimed

~ 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: 1: Georgia Ave & 13th St/Burlington Ave & East-West Hwy





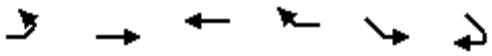
Movement	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR	SBT
Lane Configurations												
Traffic Volume (vph)	57	149	9	118	56	238	44	11	141	836	280	553
Future Volume (vph)	57	149	9	118	56	238	44	11	141	836	280	553
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		7.0			7.0	7.0			7.5	8.0	8.0	8.0
Lane Util. Factor		1.00			1.00	1.00			1.00	0.95	1.00	0.91
Frpb, ped/bikes		1.00			1.00	0.95			1.00	1.00	0.91	0.99
Flpb, ped/bikes		0.99			0.98	1.00			1.00	1.00	1.00	1.00
Frt		0.99			1.00	0.85			1.00	1.00	0.85	0.98
Flt Protected		0.99			0.97	1.00			0.95	1.00	1.00	1.00
Satd. Flow (prot)		1830			1769	1505			1763	3539	1442	4884
Flt Permitted		0.67			0.53	1.00			0.27	1.00	1.00	1.00
Satd. Flow (perm)		1251			967	1505			495	3539	1442	4884
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	60	157	9	124	59	251	46	12	148	880	295	582
RTOR Reduction (vph)	0	0	0	0	0	55	0	0	0	0	0	7
Lane Group Flow (vph)	0	226	0	0	183	242	0	0	160	880	295	666
Confl. Peds. (#/hr)	22		30	30		8	22	26	8		23	
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%	3%
Turn Type	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm	NA
Protected Phases		4			4			1	1	6		2
Permitted Phases	4			4		8		6	6		6	
Actuated Green, G (s)		26.0			26.0	62.0			58.0	58.0	58.0	40.0
Effective Green, g (s)		26.0			26.0	62.0			58.0	58.0	58.0	40.0
Actuated g/C Ratio		0.19			0.19	0.46			0.43	0.43	0.43	0.30
Clearance Time (s)		7.0			7.0	7.0			7.5	8.0	8.0	8.0
Lane Grp Cap (vph)		240			186	691			311	1520	619	1447
v/s Ratio Prot									0.04	c0.25		0.14
v/s Ratio Perm		0.18			c0.19	0.16			0.18		0.20	
v/c Ratio		0.94			0.98	0.35			0.51	0.58	0.48	0.46
Uniform Delay, d1		53.8			54.3	23.5			25.2	29.2	27.6	38.7
Progression Factor		1.00			1.00	1.00			1.00	1.00	1.00	1.00
Incremental Delay, d2		44.8			61.9	1.4			6.0	1.6	2.6	1.1
Delay (s)		98.5			116.2	24.9			31.1	30.8	30.2	39.8
Level of Service		F			F	C			C	C	C	D
Approach Delay (s)		98.5			59.7					30.7		39.8
Approach LOS		F			E					C		D

Intersection Summary			
HCM 2000 Control Delay	67.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBR	SBR2	SEL	SER	SER2
Lane Configurations					
Traffic Volume (vph)	38	48	451	94	45
Future Volume (vph)	38	48	451	94	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900
Total Lost time (s)			8.5	8.5	
Lane Util. Factor			1.00	1.00	
Frpb, ped/bikes			1.00	1.00	
Flpb, ped/bikes			1.00	1.00	
Frt			1.00	0.85	
Flt Protected			0.95	1.00	
Satd. Flow (prot)			1787	1599	
Flt Permitted			0.95	1.00	
Satd. Flow (perm)			1787	1599	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	40	51	475	99	47
RTOR Reduction (vph)	0	0	0	0	0
Lane Group Flow (vph)	0	0	475	146	0
Confl. Peds. (#/hr)	26	8	23	30	26
Confl. Bikes (#/hr)	1	1			
Heavy Vehicles (%)	3%	3%	1%	1%	1%
Turn Type			Prot	Prot	
Protected Phases			3	3	
Permitted Phases					
Actuated Green, G (s)			27.5	27.5	
Effective Green, g (s)			27.5	27.5	
Actuated g/C Ratio			0.20	0.20	
Clearance Time (s)			8.5	8.5	
Lane Grp Cap (vph)			364	325	
v/s Ratio Prot			c0.27	0.09	
v/s Ratio Perm					
v/c Ratio			1.30	0.45	
Uniform Delay, d1			53.8	47.1	
Progression Factor			1.00	1.00	
Incremental Delay, d2			155.9	4.4	
Delay (s)			209.6	51.6	
Level of Service			F	D	
Approach Delay (s)			172.4		
Approach LOS			F		

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	6	182	111	38	27	14
Future Volume (vph)	6	182	111	38	27	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		543	347		851	
Travel Time (s)		14.8	9.5		23.2	
Confl. Peds. (#/hr)	18			18		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	205	162	0	44	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.3

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	6	182	111	38	27	14
Future Vol, veh/h	6	182	111	38	27	14
Conflicting Peds, #/hr	18	0	0	18	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	3	5	5
Mvmt Flow	7	198	121	41	29	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	180	0	-	0	372	160
Stage 1	-	-	-	-	160	-
Stage 2	-	-	-	-	212	-
Critical Hdwy	4.12	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.218	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1396	-	-	-	623	877
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	816	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1372	-	-	-	598	862
Mov Cap-2 Maneuver	-	-	-	-	598	-
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	802	-

Approach	EB	WB	SE
HCM Control Delay, s	0.2	0	10.8
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1372	-	-	-	668
HCM Lane V/C Ratio	0.005	-	-	-	0.067
HCM Control Delay (s)	7.6	0	-	-	10.8
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.2

Lane Group	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	21	90	28	69	191	13	15	285	28	49	36	35
Future Volume (vph)	21	90	28	69	191	13	15	285	28	49	36	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25				25			25			25	
Link Distance (ft)	359				571			514			543	
Travel Time (s)	9.8				15.6			14.0			14.8	
Confl. Peds. (#/hr)	6		6	23		2	2		23	6		6
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	122	0	0	281	0	0	338	0	0	124	0
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11.5
Intersection LOS	B

Movement	NBL	NBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	21	90	69	191	13	15	285	28	36	35
Future Vol, veh/h	21	90	69	191	13	15	285	28	36	35
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	1	1	3	3	3	2	2	2	3	3
Mvmt Flow	22	93	71	197	13	15	294	29	37	36
Number of Lanes	0	1	0	1	0	0	1	0	1	0

Approach	NB	SE	NW
Opposing Approach		NW	SE
Opposing Lanes	0	1	1
Conflicting Approach Left	SE	SW	NB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	SW	NB	SW
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.7	11.8	12.6
HCM LOS	A	B	B

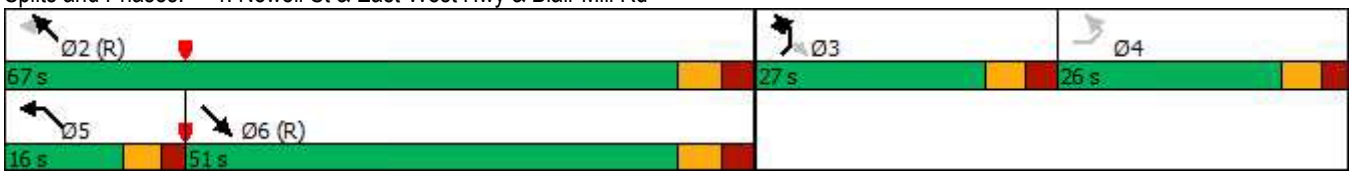
Lane	NBLn1	NWLn1	SELn1	SWLn1
Vol Left, %	15%	5%	25%	71%
Vol Thru, %	0%	87%	70%	0%
Vol Right, %	85%	9%	5%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	139	328	273	120
LT Vol	21	15	69	85
Through Vol	0	285	191	0
RT Vol	118	28	13	35
Lane Flow Rate	143	338	281	124
Geometry Grp	1	1	1	1
Degree of Util (X)	0.209	0.475	0.407	0.198
Departure Headway (Hd)	5.261	5.058	5.21	5.765
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	681	713	692	622
Service Time	3.303	3.088	3.242	3.806
HCM Lane V/C Ratio	0.21	0.474	0.406	0.199
HCM Control Delay	9.7	12.6	11.8	10.2
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.8	2.6	2	0.7

Lane Group	EBL	EBR	SET	SER	SER2	NWL	NWT	NEL2	NEL	NER
Lane Configurations										
Traffic Volume (vph)	40	63	547	0	54	97	399	2	23	12
Future Volume (vph)	40	63	547	0	54	97	399	2	23	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0		100			0	0
Storage Lanes	1	0		0		1			1	1
Taper Length (ft)	25					25			25	
Right Turn on Red					No					Yes
Link Speed (mph)	25		30				30		25	
Link Distance (ft)	1312		657				1120		294	
Travel Time (s)	35.8		14.9				25.5		8.0	
Confl. Peds. (#/hr)	51	10		39	34	34		34	51	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%	1%	5%	5%	5%
Shared Lane Traffic (%)										
Lane Group Flow (vph)	108	0	633	0	0	102	420	0	26	13
Turn Type	Perm		NA			pm+pt	NA	Prot	Prot	Perm
Protected Phases			6			5	2	3	3	
Permitted Phases	4					2				3
Minimum Split (s)	26.0		26.0			8.5	14.0	26.5	26.5	26.5
Total Split (s)	26.0		51.0			16.0	67.0	27.0	27.0	27.0
Total Split (%)	21.7%		42.5%			13.3%	55.8%	22.5%	22.5%	22.5%
Yellow Time (s)	3.5		4.0			3.5	4.0	3.5	3.5	3.5
All-Red Time (s)	2.5		3.0			2.0	3.0	3.0	3.0	3.0
Lost Time Adjust (s)	0.0		0.0			0.0	0.0		0.0	0.0
Total Lost Time (s)	6.0		7.0			5.5	7.0		6.5	6.5
Lead/Lag	Lag		Lag			Lead		Lead	Lead	Lead
Lead-Lag Optimize?	Yes		Yes			Yes		Yes	Yes	Yes
v/c Ratio	0.48		0.58			0.30	0.28		0.09	0.04
Control Delay	53.5		33.2			17.7	18.1		43.0	0.2
Queue Delay	0.0		0.0			0.0	0.0		0.0	0.0
Total Delay	53.5		33.2			17.7	18.1		43.0	0.2
Queue Length 50th (ft)	77		241			39	114		17	0
Queue Length 95th (ft)	137		314			70	156		44	0
Internal Link Dist (ft)	1232		577				1040		214	
Turn Bay Length (ft)						100				
Base Capacity (vph)	224		1089			335	1505		293	371
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		0.58			0.30	0.28		0.09	0.04

Intersection Summary

Area Type: Other
Cycle Length: 120
Actuated Cycle Length: 120
Offset: 75 (63%), Referenced to phase 2:NWTL and 6:SET, Start of Green
Natural Cycle: 90
Control Type: Pretimed

Splits and Phases: 4: Newell St & East-West Hwy & Blair Mill Rd



Movement	EBL	EBR	SET	SER	SER2	NWL	NWT	NEL2	NEL	NER
Lane Configurations										
Traffic Volume (vph)	40	63	547	0	54	97	399	2	23	12
Future Volume (vph)	40	63	547	0	54	97	399	2	23	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		7.0			5.5	7.0		6.5	6.5
Lane Util. Factor	1.00		*0.81			1.00	*0.80		1.00	1.00
Frpb, ped/bikes	0.98		0.99			1.00	1.00		1.00	0.97
Flpb, ped/bikes	0.97		1.00			1.00	1.00		1.00	1.00
Frt	0.92		0.99			1.00	1.00		1.00	0.85
Flt Protected	0.98		1.00			0.95	1.00		0.95	1.00
Satd. Flow (prot)	1580		2972			1787	3010		1719	1493
Flt Permitted	0.84		1.00			0.22	1.00		0.95	1.00
Satd. Flow (perm)	1346		2972			421	3010		1719	1493
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	42	66	576	0	57	102	420	2	24	13
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	11
Lane Group Flow (vph)	108	0	633	0	0	102	420	0	26	2
Confl. Peds. (#/hr)	51	10		39	34	34		34	51	10
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%	1%	5%	5%	5%
Turn Type	Perm		NA			pm+pt	NA	Prot	Prot	Perm
Protected Phases			6			5	2	3	3	
Permitted Phases	4					2				3
Actuated Green, G (s)	20.0		44.0			60.0	60.0		20.5	20.5
Effective Green, g (s)	20.0		44.0			60.0	60.0		20.5	20.5
Actuated g/C Ratio	0.17		0.37			0.50	0.50		0.17	0.17
Clearance Time (s)	6.0		7.0			5.5	7.0		6.5	6.5
Lane Grp Cap (vph)	224		1089			330	1505		293	255
v/s Ratio Prot			c0.21			0.03	c0.14		c0.02	
v/s Ratio Perm	c0.08					0.13				0.00
v/c Ratio	0.48		0.58			0.31	0.28		0.09	0.01
Uniform Delay, d1	45.3		30.6			17.8	17.4		41.9	41.3
Progression Factor	1.00		1.00			1.00	1.00		1.00	1.00
Incremental Delay, d2	7.3		2.3			2.4	0.5		0.6	0.1
Delay (s)	52.6		32.9			20.2	17.9		42.5	41.4
Level of Service	D		C			C	B		D	D
Approach Delay (s)	52.6		32.9				18.3		42.1	
Approach LOS	D		C				B		D	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	25.0
Intersection Capacity Utilization	76.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	7	12	24	15	0	0
Future Volume (vph)	7	12	24	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		25			25
Link Distance (ft)	851		608			294
Travel Time (s)	23.2		16.6			8.0
Confl. Peds. (#/hr)	10	11		15	15	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	16%	16%	0%	0%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	24	0	49	0	0	0
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	2.9

Movement	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Vol, veh/h	7	12	24	15	0	0
Future Vol, veh/h	7	12	24	15	0	0
Conflicting Peds, #/hr	10	11	0	15	15	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	16	16	0	0	3	3
Mvmt Flow	9	15	30	19	0	0

Major/Minor	Minor1		Major1	
Conflicting Flow All	65	66	0	0
Stage 1	55	-	-	-
Stage 2	10	-	-	-
Critical Hdwy	6.56	6.36	-	-
Critical Hdwy Stg 1	5.56	-	-	-
Critical Hdwy Stg 2	-	-	-	-
Follow-up Hdwy	3.644	3.444	-	-
Pot Cap-1 Maneuver	907	960	-	-
Stage 1	933	-	-	-
Stage 2	-	-	-	-
Platoon blocked, %			-	-
Mov Cap-1 Maneuver	885	946	-	-
Mov Cap-2 Maneuver	885	-	-	-
Stage 1	920	-	-	-
Stage 2	-	-	-	-

Approach	NW	NE
HCM Control Delay, s	9	0
HCM LOS	A	

Minor Lane/Major Mvmt	NET	NER	NWLn1
Capacity (veh/h)	-	-	923
HCM Lane V/C Ratio	-	-	0.026
HCM Control Delay (s)	-	-	9
HCM Lane LOS	-	-	A
HCM 95th %tile Q(veh)	-	-	0.1

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	23	248	13	18	312	13	17	11	12	11	5	1
Future Volume (vph)	23	248	13	18	312	13	17	11	12	11	5	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		981			571			275			608	
Travel Time (s)		26.8			15.6			7.5			16.6	
Confl. Peds. (#/hr)	20		2	2		20	13		12	12		13
Confl. Bikes (#/hr)			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
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	316	0	0	381	0	0	44	0	0	19	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	10.8
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	23	248	13	18	312	13	17	11	12	11	5	1
Future Vol, veh/h	23	248	13	18	312	13	17	11	12	11	5	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
Heavy Vehicles, %	3	3	3	3	3	3	5	5	5	4	4	4
Mvmt Flow	26	276	14	20	347	14	19	12	13	12	6	1
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.5	11.4	8.9	8.9
HCM LOS	B	B	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	42%	5%	8%	65%
Vol Thru, %	28%	91%	87%	29%
Vol Right, %	30%	4%	5%	6%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	343	284	17
LT Vol	17	18	23	11
Through Vol	11	312	248	5
RT Vol	12	13	13	1
Lane Flow Rate	44	381	316	19
Geometry Grp	1	1	1	1
Degree of Util (X)	0.067	0.471	0.395	0.03
Departure Headway (Hd)	5.445	4.447	4.512	5.666
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	655	812	798	629
Service Time	3.5	2.474	2.542	3.727
HCM Lane V/C Ratio	0.067	0.469	0.396	0.03
HCM Control Delay	8.9	11.4	10.5	8.9
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	2.5	1.9	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	35	12	58	30	94	44	208	4	7	261	55
Future Volume (vph)	7	35	12	58	30	94	44	208	4	7	261	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		433			1312			589			981	
Travel Time (s)		11.8			35.8			16.1			26.8	
Confl. Peds. (#/hr)	8		11	11		8	14		4	4		14
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	189	0	0	267	0	0	336	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11.3
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	7	35	12	58	30	94	44	208	4	7	261	55
Future Vol, veh/h	7	35	12	58	30	94	44	208	4	7	261	55
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	2	2	2	3	3	3	4	4	4
Mvmt Flow	7	36	13	60	31	98	46	217	4	7	272	57
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	SE	NW
Opposing Approach	WB	EB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	EB	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	10.4	11.3	12.2
HCM LOS	A	B	B	B

Lane	NWLn1	EBLn1	WBLn1	SELn1
Vol Left, %	2%	13%	32%	17%
Vol Thru, %	81%	65%	16%	81%
Vol Right, %	17%	22%	52%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	323	54	182	256
LT Vol	7	7	58	44
Through Vol	261	35	30	208
RT Vol	55	12	94	4
Lane Flow Rate	336	56	190	267
Geometry Grp	1	1	1	1
Degree of Util (X)	0.463	0.088	0.279	0.381
Departure Headway (Hd)	4.95	5.661	5.302	5.14
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	730	632	677	704
Service Time	2.959	3.705	3.338	3.15
HCM Lane V/C Ratio	0.46	0.089	0.281	0.379
HCM Control Delay	12.2	9.3	10.4	11.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.5	0.3	1.1	1.8

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	22	34	66	11	151	128	370	52	5	73	501	55
Future Volume (vph)	22	34	66	11	151	128	370	52	5	73	501	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0		0			300		0
Storage Lanes		0		0	0		1			1		1
Taper Length (ft)		25			25					25		
Right Turn on Red				No				Yes				No
Link Speed (mph)			30			30					30	
Link Distance (ft)			347			678					591	
Travel Time (s)			7.9			15.4					13.4	
Confl. Peds. (#/hr)	8	17		5	5		8	17	3	8		4
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%	2%	2%	4%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	135	0	0	285	431	0	0	79	511	56
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Minimum Split (s)	31.0	31.0	31.0		31.0	31.0	39.0		11.5	11.5	30.0	30.0
Total Split (s)	31.0	31.0	31.0		31.0	31.0	70.0		26.0	26.0	65.0	65.0
Total Split (%)	23.0%	23.0%	23.0%		23.0%	23.0%	51.9%		19.3%	19.3%	48.1%	48.1%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	4.0		3.5	3.5	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		4.0	4.0	4.0	4.0
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			7.5	8.0	8.0
Lead/Lag	Lag	Lag	Lag		Lag	Lag			Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes			Yes	Yes		
v/c Ratio			1.38			1.19	0.57			0.27	0.35	0.09
Control Delay			262.4			165.4	22.8			25.9	27.3	24.0
Queue Delay			0.0			0.0	0.0			0.0	0.0	0.0
Total Delay			262.4			165.4	22.8			25.9	27.3	24.0
Queue Length 50th (ft)			~156			~300	206			41	157	29
Queue Length 95th (ft)			#294			#482	312			76	203	58
Internal Link Dist (ft)			267			598					511	
Turn Bay Length (ft)										300		
Base Capacity (vph)			98			240	760			292	1465	634
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			1.38			1.19	0.57			0.27	0.35	0.09

Intersection Summary

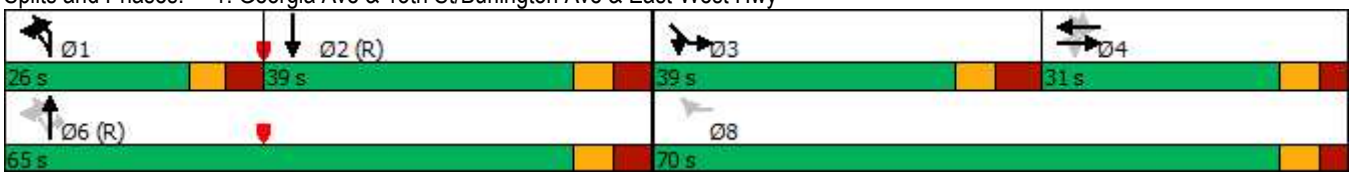
Area Type: Other
Cycle Length: 135
Actuated Cycle Length: 135
Offset: 60 (44%), Referenced to phase 2:SBT and 6:NBTL, Start of Green
Natural Cycle: 90
Control Type: Pretimed

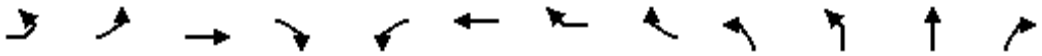
Lane Group	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	1124	22	32	249	145	55
Future Volume (vph)	1124	22	32	249	145	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0	
Storage Lanes		0		1	1	
Taper Length (ft)				25		
Right Turn on Red			Yes			No
Link Speed (mph)	30			30		
Link Distance (ft)	609			1120		
Travel Time (s)	13.8			25.5		
Confl. Peds. (#/hr)		3	8	4	5	3
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	1202	0	0	254	204	0
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Minimum Split (s)	30.0			13.5	13.5	
Total Split (s)	39.0			39.0	39.0	
Total Split (%)	28.9%			28.9%	28.9%	
Yellow Time (s)	4.0			4.0	4.0	
All-Red Time (s)	4.0			4.5	4.5	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	8.0			8.5	8.5	
Lead/Lag	Lag			Lead	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes	
v/c Ratio	1.05			0.64	0.57	
Control Delay	89.4			55.5	53.7	
Queue Delay	0.0			0.0	0.0	
Total Delay	89.4			55.5	53.7	
Queue Length 50th (ft)	~418			203	160	
Queue Length 95th (ft)	#516			298	246	
Internal Link Dist (ft)	529			1040		
Turn Bay Length (ft)						
Base Capacity (vph)	1148			399	357	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	1.05			0.64	0.57	

Intersection Summary

~ 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: 1: Georgia Ave & 13th St/Burlington Ave & East-West Hwy



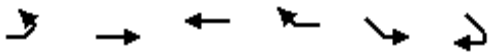


Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	22	34	66	11	151	128	370	52	5	73	501	55
Future Volume (vph)	22	34	66	11	151	128	370	52	5	73	501	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Util. Factor			1.00			1.00	1.00			1.00	0.95	1.00
Frpb, ped/bikes			1.00			1.00	0.96			1.00	1.00	0.97
Flpb, ped/bikes			0.99			1.00	1.00			1.00	1.00	1.00
Frt			0.99			1.00	0.85			1.00	1.00	0.85
Flt Protected			0.98			0.97	1.00			0.95	1.00	1.00
Satd. Flow (prot)			1751			1808	1515			1736	3471	1503
Flt Permitted			0.31			0.73	1.00			0.10	1.00	1.00
Satd. Flow (perm)			554			1351	1515			190	3471	1503
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	22	35	67	11	154	131	378	53	5	74	511	56
RTOR Reduction (vph)	0	0	0	0	0	0	54	0	0	0	0	0
Lane Group Flow (vph)	0	0	135	0	0	285	377	0	0	79	511	56
Confl. Peds. (#/hr)	8	17		5	5		8	17	3	8		4
Heavy Vehicles (%)	4%	4%	4%	4%	2%	2%	2%	2%	4%	4%	4%	4%
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Actuated Green, G (s)			24.0			24.0	63.0			57.0	57.0	57.0
Effective Green, g (s)			24.0			24.0	63.0			57.0	57.0	57.0
Actuated g/C Ratio			0.18			0.18	0.47			0.42	0.42	0.42
Clearance Time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Grp Cap (vph)			98			240	707			292	1465	634
v/s Ratio Prot										0.04	c0.15	
v/s Ratio Perm			c0.24			0.21	c0.25			0.08		0.04
v/c Ratio			1.38			1.19	0.53			0.27	0.35	0.09
Uniform Delay, d1			55.5			55.5	25.6			27.9	26.4	23.4
Progression Factor			1.00			1.00	1.00			1.00	1.00	1.00
Incremental Delay, d2			221.3			118.3	2.9			2.3	0.7	0.3
Delay (s)			276.8			173.8	28.4			30.2	27.1	23.7
Level of Service			F			F	C			C	C	C
Approach Delay (s)			276.8			86.3					27.2	
Approach LOS			F			F					C	

Intersection Summary			
HCM 2000 Control Delay	79.7	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	1124	22	32	249	145	55
Future Volume (vph)	1124	22	32	249	145	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0			8.5	8.5	
Lane Util. Factor	0.91			1.00	1.00	
Frpb, ped/bikes	1.00			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.99			1.00	0.85	
Flt Protected	1.00			0.95	1.00	
Satd. Flow (prot)	4994			1770	1583	
Flt Permitted	1.00			0.95	1.00	
Satd. Flow (perm)	4994			1770	1583	
Peak-hour factor, PHF	0.98	0.98	0.98	0.98	0.98	0.98
Adj. Flow (vph)	1147	22	33	254	148	56
RTOR Reduction (vph)	2	0	0	0	0	0
Lane Group Flow (vph)	1200	0	0	254	204	0
Confl. Peds. (#/hr)		3	8	4	5	3
Heavy Vehicles (%)	3%	3%	3%	2%	2%	2%
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Actuated Green, G (s)	31.0			30.5	30.5	
Effective Green, g (s)	31.0			30.5	30.5	
Actuated g/C Ratio	0.23			0.23	0.23	
Clearance Time (s)	8.0			8.5	8.5	
Lane Grp Cap (vph)	1146			399	357	
v/s Ratio Prot	c0.24			0.14	0.13	
v/s Ratio Perm						
v/c Ratio	1.05			0.64	0.57	
Uniform Delay, d1	52.0			47.2	46.4	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	39.7			7.6	6.5	
Delay (s)	91.7			54.8	52.9	
Level of Service	F			D	D	
Approach Delay (s)	91.7			54.0		
Approach LOS	F			D		

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	6	92	190	27	37	17
Future Volume (vph)	6	92	190	27	37	17
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		543	347		851	
Travel Time (s)		14.8	9.5		23.2	
Confl. Peds. (#/hr)	11			11	17	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	6%	6%	5%	5%	2%	2%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	123	272	0	67	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	6	92	190	27	37	17
Future Vol, veh/h	6	92	190	27	37	17
Conflicting Peds, #/hr	11	0	0	11	17	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	80	80	80	80	80	80
Heavy Vehicles, %	6	6	5	5	2	2
Mvmt Flow	8	115	238	34	46	21

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	283	0	-	0	414	266
Stage 1	-	-	-	-	266	-
Stage 2	-	-	-	-	148	-
Critical Hdwy	4.16	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.254	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1257	-	-	-	595	773
Stage 1	-	-	-	-	779	-
Stage 2	-	-	-	-	880	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1244	-	-	-	579	765
Mov Cap-2 Maneuver	-	-	-	-	579	-
Stage 1	-	-	-	-	766	-
Stage 2	-	-	-	-	871	-

Approach	EB	WB	SE
HCM Control Delay, s	0.5	0	11.4
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1244	-	-	-	627
HCM Lane V/C Ratio	0.006	-	-	-	0.108
HCM Control Delay (s)	7.9	0	-	-	11.4
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Lane Group	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	10	25	8	30	304	21	4	167	35	70	79	61
Future Volume (vph)	10	25	8	30	304	21	4	167	35	70	79	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25				25			25			25	
Link Distance (ft)	359				571			514			543	
Travel Time (s)	9.8				15.6			14.0			14.8	
Confl. Peds. (#/hr)			5	6		3	3		6	5		
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	0%	0%	0%	3%	3%	3%	5%	5%	5%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	11	36	0	0	382	0	0	222	0	0	226	0
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	12.2
Intersection LOS	B

Movement	NBL	NBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	10	25	30	304	21	4	167	35	79	61
Future Vol, veh/h	10	25	30	304	21	4	167	35	79	61
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	0	0	3	3	3	5	5	5	2	2
Mvmt Flow	11	27	32	327	23	4	180	38	85	66
Number of Lanes	0	1	0	1	0	0	1	0	1	0

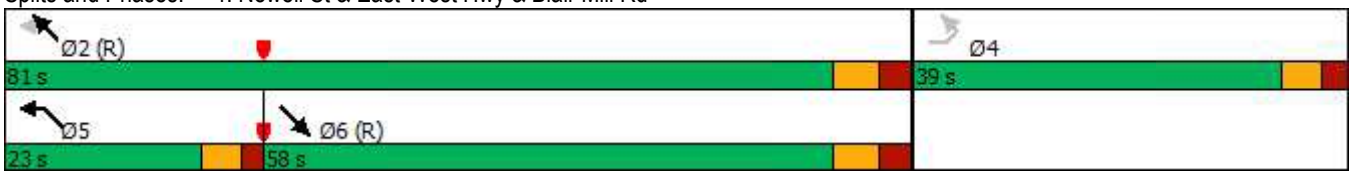
Approach	NB	SE	NW
Opposing Approach		NW	SE
Opposing Lanes	0	1	1
Conflicting Approach Left	SE	SW	NB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	SW	NB	SW
Conflicting Lanes Right	1	1	1
HCM Control Delay	8.9	13.8	10.7
HCM LOS	A	B	B

Lane	NBLn1	NWLn1	SELn1	SWLn1
Vol Left, %	23%	2%	8%	71%
Vol Thru, %	0%	81%	86%	0%
Vol Right, %	77%	17%	6%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	43	206	355	210
LT Vol	10	4	30	149
Through Vol	0	167	304	0
RT Vol	33	35	21	61
Lane Flow Rate	46	222	382	226
Geometry Grp	1	1	1	1
Degree of Util (X)	0.07	0.321	0.537	0.346
Departure Headway (Hd)	5.465	5.21	5.064	5.521
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	653	689	718	650
Service Time	3.516	3.243	3.064	3.56
HCM Lane V/C Ratio	0.07	0.322	0.532	0.348
HCM Control Delay	8.9	10.7	13.8	11.5
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.2	1.4	3.2	1.5

Lane Group	EBL	EBR	SET	SER	SER2	NWL	NWT	NEL	NER
Lane Configurations									
Traffic Volume (vph)	54	39	432	0	84	98	459	0	0
Future Volume (vph)	54	39	432	0	84	98	459	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0		100		0	0
Storage Lanes	1	0		0		1		0	0
Taper Length (ft)	25					25		25	
Right Turn on Red					No				No
Link Speed (mph)	25		30				30	25	
Link Distance (ft)	1312		657				1120	294	
Travel Time (s)	35.8		14.9				25.5	8.0	
Confl. Peds. (#/hr)	17	5		29	15	15		17	5
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%	6%	6%
Shared Lane Traffic (%)									
Lane Group Flow (vph)	105	0	586	0	0	111	522	0	0
Turn Type	Perm		NA			pm+pt	NA		
Protected Phases			6			5	2		
Permitted Phases	4					2			
Minimum Split (s)	26.0		26.0			8.5	14.0		
Total Split (s)	39.0		58.0			23.0	81.0		
Total Split (%)	32.5%		48.3%			19.2%	67.5%		
Yellow Time (s)	3.5		4.0			3.5	4.0		
All-Red Time (s)	2.5		3.0			2.0	3.0		
Lost Time Adjust (s)	0.0		0.0			0.0	0.0		
Total Lost Time (s)	6.0		7.0			5.5	7.0		
Lead/Lag			Lag			Lead			
Lead-Lag Optimize?			Yes			Yes			
v/c Ratio	0.29		0.47			0.22	0.29		
Control Delay	36.9		26.4			9.9	11.2		
Queue Delay	0.0		0.0			0.0	0.0		
Total Delay	36.9		26.4			9.9	11.2		
Queue Length 50th (ft)	64		198			32	110		
Queue Length 95th (ft)	112		252			54	142		
Internal Link Dist (ft)	1232		577				1040	214	
Turn Bay Length (ft)						100			
Base Capacity (vph)	366		1238			502	1819		
Starvation Cap Reductn	0		0			0	0		
Spillback Cap Reductn	0		0			0	0		
Storage Cap Reductn	0		0			0	0		
Reduced v/c Ratio	0.29		0.47			0.22	0.29		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SET, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	

Splits and Phases: 4: Newell St & East-West Hwy & Blair Mill Rd



Movement	EBL	EBR	SET	SER	SER2	NWL	NWT	NEL	NER
Lane Configurations									
Traffic Volume (vph)	54	39	432	0	84	98	459	0	0
Future Volume (vph)	54	39	432	0	84	98	459	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		7.0			5.5	7.0		
Lane Util. Factor	1.00		*0.81			1.00	*0.80		
Frpb, ped/bikes	0.99		0.99			1.00	1.00		
Flpb, ped/bikes	0.98		1.00			1.00	1.00		
Frt	0.94		0.98			1.00	1.00		
Flt Protected	0.97		1.00			0.95	1.00		
Satd. Flow (prot)	1667		2913			1747	2951		
Flt Permitted	0.78		1.00			0.28	1.00		
Satd. Flow (perm)	1334		2913			516	2951		
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	61	44	491	0	95	111	522	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	105	0	586	0	0	111	522	0	0
Confl. Peds. (#/hr)	17	5		29	15	15		17	5
Heavy Vehicles (%)	2%	2%	2%	2%	2%	3%	3%	6%	6%
Turn Type	Perm		NA			pm+pt	NA		
Protected Phases			6			5	2		
Permitted Phases	4					2			
Actuated Green, G (s)	33.0		51.0			74.0	74.0		
Effective Green, g (s)	33.0		51.0			74.0	74.0		
Actuated g/C Ratio	0.28		0.42			0.62	0.62		
Clearance Time (s)	6.0		7.0			5.5	7.0		
Lane Grp Cap (vph)	366		1238			497	1819		
v/s Ratio Prot			c0.20			0.03	c0.18		
v/s Ratio Perm	c0.08					0.10			
v/c Ratio	0.29		0.47			0.22	0.29		
Uniform Delay, d1	34.2		24.8			10.7	10.7		
Progression Factor	1.00		1.00			1.00	1.00		
Incremental Delay, d2	2.0		1.3			1.0	0.4		
Delay (s)	36.2		26.1			11.7	11.1		
Level of Service	D		C			B	B		
Approach Delay (s)	36.2		26.1				11.2	0.0	
Approach LOS	D		C				B	A	

Intersection Summary			
HCM 2000 Control Delay	19.8	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.39		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	7	0	0	9	0	0
Future Volume (vph)	7	0	0	9	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		25			25
Link Distance (ft)	851		608			294
Travel Time (s)	23.2		16.6			8.0
Confl. Peds. (#/hr)	7	2		10	10	
Peak Hour Factor	0.73	0.73	0.73	0.73	0.73	0.73
Heavy Vehicles (%)	11%	11%	0%	0%	0%	0%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	10	0	0	12	0	0
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	7	330	43	26	225	0	11	0	9	9	12	8
Future Volume (vph)	7	330	43	26	225	0	11	0	9	9	12	8
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		981			571			275			608	
Travel Time (s)		26.8			15.6			7.5			16.6	
Confl. Peds. (#/hr)	7		3	3		7	10		6	6		10
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles (%)	4%	4%	4%	5%	5%	5%	0%	0%	0%	0%	0%	0%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	409	0	0	270	0	0	22	0	0	32	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	7	330	43	26	225	0	11	0	9	9	12	8
Future Vol, veh/h	7	330	43	26	225	0	11	0	9	9	12	8
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Heavy Vehicles, %	4	4	4	5	5	5	0	0	0	0	0	0
Mvmt Flow	8	355	46	28	242	0	12	0	10	10	13	9
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	11.5	9.9	8.5	8.6
HCM LOS	B	A	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	55%	10%	2%	31%
Vol Thru, %	0%	90%	87%	41%
Vol Right, %	45%	0%	11%	28%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	251	380	29
LT Vol	11	26	7	9
Through Vol	0	225	330	12
RT Vol	9	0	43	8
Lane Flow Rate	22	270	409	31
Geometry Grp	1	1	1	1
Degree of Util (X)	0.031	0.342	0.491	0.046
Departure Headway (Hd)	5.268	4.559	4.33	5.307
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	677	791	834	673
Service Time	3.317	2.582	2.35	3.354
HCM Lane V/C Ratio	0.032	0.341	0.49	0.046
HCM Control Delay	8.5	9.9	11.5	8.6
HCM Lane LOS	A	A	B	A
HCM 95th-tile Q	0.1	1.5	2.8	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	21	16	84	38	139	14	271	4	9	219	21
Future Volume (vph)	7	21	16	84	38	139	14	271	4	9	219	21
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		433			1312			589			981	
Travel Time (s)		11.8			35.8			16.1			26.8	
Confl. Peds. (#/hr)	3		6	6		3	2		5	5		2
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	4%	4%	4%	5%	5%	5%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	50	0	0	301	0	0	332	0	0	286	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Intersection Delay, s/veh	13
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	7	21	16	84	38	139	14	271	4	9	219	21
Future Vol, veh/h	7	21	16	84	38	139	14	271	4	9	219	21
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Heavy Vehicles, %	0	0	0	2	2	2	4	4	4	5	5	5
Mvmt Flow	8	24	18	97	44	160	16	311	5	10	252	24
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	SE	NW
Opposing Approach	WB	EB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	EB	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.6	12.9	13.8	12.7
HCM LOS	A	B	B	B

Lane	NWLn1	EBLn1	WBLn1	SELn1
Vol Left, %	4%	16%	32%	5%
Vol Thru, %	88%	48%	15%	94%
Vol Right, %	8%	36%	53%	1%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	249	44	261	289
LT Vol	9	7	84	14
Through Vol	219	21	38	271
RT Vol	21	16	139	4
Lane Flow Rate	286	51	300	332
Geometry Grp	1	1	1	1
Degree of Util (X)	0.435	0.084	0.453	0.501
Departure Headway (Hd)	5.472	5.977	5.431	5.429
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	655	596	660	661
Service Time	3.521	4.051	3.481	3.477
HCM Lane V/C Ratio	0.437	0.086	0.455	0.502
HCM Control Delay	12.7	9.6	12.9	13.8
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.2	0.3	2.4	2.8

Lane Group	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	23	57	161	9	118	56	238	44	11	141	836	280
Future Volume (vph)	23	57	161	9	118	56	238	44	11	141	836	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0		0			300		0
Storage Lanes		0		0	0		1			1		1
Taper Length (ft)		25			25					25		
Right Turn on Red				No				Yes				No
Link Speed (mph)			30			30					30	
Link Distance (ft)			347			678					591	
Travel Time (s)			7.9			15.4					13.4	
Confl. Peds. (#/hr)	8	22		30	30		8	22	26	8		23
Confl. Bikes (#/hr)												
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	0	262	0	0	183	297	0	0	160	880	295
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Minimum Split (s)	31.0	31.0	31.0		31.0	31.0	39.0		11.5	11.5	30.0	30.0
Total Split (s)	33.0	33.0	33.0		33.0	33.0	69.0		18.0	18.0	66.0	66.0
Total Split (%)	24.4%	24.4%	24.4%		24.4%	24.4%	51.1%		13.3%	13.3%	48.9%	48.9%
Yellow Time (s)	4.0	4.0	4.0		4.0	4.0	4.0		3.5	3.5	4.0	4.0
All-Red Time (s)	3.0	3.0	3.0		3.0	3.0	3.0		4.0	4.0	4.0	4.0
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			7.5	8.0	8.0
Lead/Lag	Lag	Lag	Lag		Lag	Lag			Lead	Lead		
Lead-Lag Optimize?	Yes	Yes	Yes		Yes	Yes			Yes	Yes		
v/c Ratio			1.13			1.01	0.40			0.51	0.58	0.48
Control Delay			146.9			122.1	17.2			30.2	31.1	30.8
Queue Delay			0.0			0.0	0.0			0.0	0.0	0.0
Total Delay			146.9			122.1	17.2			30.2	31.1	30.8
Queue Length 50th (ft)			~265			~163	108			86	303	183
Queue Length 95th (ft)			#442			#322	183			136	371	270
Internal Link Dist (ft)			267			598					511	
Turn Bay Length (ft)										300		
Base Capacity (vph)			232			182	745			311	1520	619
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			1.13			1.01	0.40			0.51	0.58	0.48

Intersection Summary	
Area Type:	Other
Cycle Length: 135	
Actuated Cycle Length: 135	
Offset: 62 (46%), Referenced to phase 2:SBT and 6:NBTL, Start of Green	
Natural Cycle: 110	

Lane Group	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	553	38	48	439	94	45
Future Volume (vph)	553	38	48	439	94	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0		0	0	
Storage Lanes		0		1	1	
Taper Length (ft)				25		
Right Turn on Red			Yes			No
Link Speed (mph)	30			30		
Link Distance (ft)	609			1120		
Travel Time (s)	13.8			25.5		
Confl. Peds. (#/hr)		26	8	23	30	26
Confl. Bikes (#/hr)		1	1			
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	673	0	0	462	146	0
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Minimum Split (s)	30.0			13.5	13.5	
Total Split (s)	48.0			36.0	36.0	
Total Split (%)	35.6%			26.7%	26.7%	
Yellow Time (s)	4.0			4.0	4.0	
All-Red Time (s)	4.0			4.5	4.5	
Lost Time Adjust (s)	0.0			0.0	0.0	
Total Lost Time (s)	8.0			8.5	8.5	
Lead/Lag	Lag			Lead	Lead	
Lead-Lag Optimize?	Yes			Yes	Yes	
v/c Ratio	0.46			1.27	0.45	
Control Delay	39.4			184.5	52.3	
Queue Delay	0.0			0.0	0.0	
Total Delay	39.4			184.5	52.3	
Queue Length 50th (ft)	173			~510	113	
Queue Length 95th (ft)	215			#726	184	
Internal Link Dist (ft)	529			1040		
Turn Bay Length (ft)						
Base Capacity (vph)	1454			364	325	
Starvation Cap Reductn	0			0	0	
Spillback Cap Reductn	0			0	0	
Storage Cap Reductn	0			0	0	
Reduced v/c Ratio	0.46			1.27	0.45	

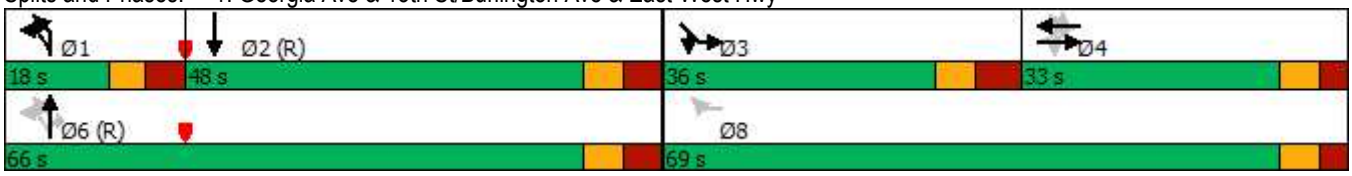
Intersection Summary

Control Type: Pretimed

~ 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: 1: Georgia Ave & 13th St/Burlington Ave & East-West Hwy



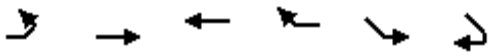
Movement	EBL2	EBL	EBT	EBR	WBL	WBT	WBR	WBR2	NBL2	NBL	NBT	NBR
Lane Configurations												
Traffic Volume (vph)	23	57	161	9	118	56	238	44	11	141	836	280
Future Volume (vph)	23	57	161	9	118	56	238	44	11	141	836	280
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Util. Factor			1.00			1.00	1.00			1.00	0.95	1.00
Frpb, ped/bikes			1.00			1.00	0.95			1.00	1.00	0.91
Flpb, ped/bikes			0.99			0.98	1.00			1.00	1.00	1.00
Frt			1.00			1.00	0.85			1.00	1.00	0.85
Flt Protected			0.98			0.97	1.00			0.95	1.00	1.00
Satd. Flow (prot)			1818			1773	1505			1763	3539	1442
Flt Permitted			0.65			0.52	1.00			0.27	1.00	1.00
Satd. Flow (perm)			1209			947	1505			495	3539	1442
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	24	60	169	9	124	59	251	46	12	148	880	295
RTOR Reduction (vph)	0	0	0	0	0	0	55	0	0	0	0	0
Lane Group Flow (vph)	0	0	262	0	0	183	242	0	0	160	880	295
Confl. Peds. (#/hr)	8	22		30	30		8	22	26	8		23
Confl. Bikes (#/hr)												
Heavy Vehicles (%)	1%	1%	1%	1%	2%	2%	2%	2%	2%	2%	2%	2%
Turn Type	Perm	Perm	NA		Perm	NA	custom		pm+pt	pm+pt	NA	Perm
Protected Phases			4			4			1	1	6	
Permitted Phases	4	4			4		8		6	6		6
Actuated Green, G (s)			26.0			26.0	62.0			58.0	58.0	58.0
Effective Green, g (s)			26.0			26.0	62.0			58.0	58.0	58.0
Actuated g/C Ratio			0.19			0.19	0.46			0.43	0.43	0.43
Clearance Time (s)			7.0			7.0	7.0			7.5	8.0	8.0
Lane Grp Cap (vph)			232			182	691			311	1520	619
v/s Ratio Prot										0.04	c0.25	
v/s Ratio Perm			c0.22			0.19	0.16			0.18		0.20
v/c Ratio			1.13			1.01	0.35			0.51	0.58	0.48
Uniform Delay, d1			54.5			54.5	23.5			25.2	29.2	27.6
Progression Factor			1.00			1.00	1.00			1.00	1.00	1.00
Incremental Delay, d2			98.3			68.1	1.4			6.0	1.6	2.6
Delay (s)			152.8			122.6	24.9			31.1	30.8	30.2
Level of Service			F			F	C			C	C	C
Approach Delay (s)			152.8			62.2					30.7	
Approach LOS			F			E					C	

Intersection Summary			
HCM 2000 Control Delay	70.1	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	31.0
Intersection Capacity Utilization	98.0%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group

Movement	SBT	SBR	SBR2	SEL	SER	SER2
Lane Configurations						
Traffic Volume (vph)	553	38	48	439	94	45
Future Volume (vph)	553	38	48	439	94	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	8.0			8.5	8.5	
Lane Util. Factor	0.91			1.00	1.00	
Frpb, ped/bikes	0.99			1.00	1.00	
Flpb, ped/bikes	1.00			1.00	1.00	
Frt	0.98			1.00	0.85	
Flt Protected	1.00			0.95	1.00	
Satd. Flow (prot)	4884			1787	1599	
Flt Permitted	1.00			0.95	1.00	
Satd. Flow (perm)	4884			1787	1599	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	582	40	51	462	99	47
RTOR Reduction (vph)	7	0	0	0	0	0
Lane Group Flow (vph)	666	0	0	462	146	0
Confl. Peds. (#/hr)		26	8	23	30	26
Confl. Bikes (#/hr)		1	1			
Heavy Vehicles (%)	3%	3%	3%	1%	1%	1%
Turn Type	NA			Prot	Prot	
Protected Phases	2			3	3	
Permitted Phases						
Actuated Green, G (s)	40.0			27.5	27.5	
Effective Green, g (s)	40.0			27.5	27.5	
Actuated g/C Ratio	0.30			0.20	0.20	
Clearance Time (s)	8.0			8.5	8.5	
Lane Grp Cap (vph)	1447			364	325	
v/s Ratio Prot	0.14			c0.26	0.09	
v/s Ratio Perm						
v/c Ratio	0.46			1.27	0.45	
Uniform Delay, d1	38.7			53.8	47.1	
Progression Factor	1.00			1.00	1.00	
Incremental Delay, d2	1.1			141.2	4.4	
Delay (s)	39.8			194.9	51.6	
Level of Service	D			F	D	
Approach Delay (s)	39.8			160.5		
Approach LOS	D			F		

Intersection Summary



Lane Group	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Volume (vph)	6	207	111	38	37	14
Future Volume (vph)	6	207	111	38	37	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25	25		25	
Link Distance (ft)		543	347		851	
Travel Time (s)		14.8	9.5		23.2	
Confl. Peds. (#/hr)	18			18		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles (%)	2%	2%	3%	3%	5%	5%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	232	162	0	55	0
Sign Control		Free	Free		Stop	

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Intersection	
Int Delay, s/veh	1.5

Movement	EBL	EBT	WBT	WBR	SEL	SER
Lane Configurations						
Traffic Vol, veh/h	6	207	111	38	37	14
Future Vol, veh/h	6	207	111	38	37	14
Conflicting Peds, #/hr	18	0	0	18	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	3	3	5	5
Mvmt Flow	7	225	121	41	40	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	180	0	-	0	399	160
Stage 1	-	-	-	-	160	-
Stage 2	-	-	-	-	239	-
Critical Hdwy	4.12	-	-	-	6.45	6.25
Critical Hdwy Stg 1	-	-	-	-	5.45	-
Critical Hdwy Stg 2	-	-	-	-	5.45	-
Follow-up Hdwy	2.218	-	-	-	3.545	3.345
Pot Cap-1 Maneuver	1396	-	-	-	601	877
Stage 1	-	-	-	-	861	-
Stage 2	-	-	-	-	794	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1372	-	-	-	577	862
Mov Cap-2 Maneuver	-	-	-	-	577	-
Stage 1	-	-	-	-	841	-
Stage 2	-	-	-	-	781	-

Approach	EB	WB	SE
HCM Control Delay, s	0.2	0	11.2
HCM LOS			B

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SELn1
Capacity (veh/h)	1372	-	-	-	635
HCM Lane V/C Ratio	0.005	-	-	-	0.087
HCM Control Delay (s)	7.6	0	-	-	11.2
HCM Lane LOS	A	A	-	-	B
HCM 95th %tile Q(veh)	0	-	-	-	0.3

Lane Group	NBL	NBR	NBR2	SEL	SET	SER	NWL	NWT	NWR	SWL2	SWL	SWR
Lane Configurations												
Traffic Volume (vph)	21	90	28	81	191	13	15	272	41	49	36	35
Future Volume (vph)	21	90	28	81	191	13	15	272	41	49	36	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25				25			25			25	
Link Distance (ft)	359				571			514			543	
Travel Time (s)	9.8				15.6			14.0			14.8	
Confl. Peds. (#/hr)	6		6	23		2	2		23	6		6
Confl. Bikes (#/hr)						2						
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles (%)	1%	1%	1%	3%	3%	3%	2%	2%	2%	3%	3%	3%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	22	122	0	0	294	0	0	337	0	0	124	0
Sign Control	Stop				Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	NBL	NBR	SEL	SET	SER	NWL	NWT	NWR	SWL	SWR
Lane Configurations										
Traffic Vol, veh/h	21	90	81	191	13	15	272	41	36	35
Future Vol, veh/h	21	90	81	191	13	15	272	41	36	35
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Heavy Vehicles, %	1	1	3	3	3	2	2	2	3	3
Mvmt Flow	22	93	84	197	13	15	280	42	37	36
Number of Lanes	0	1	0	1	0	0	1	0	1	0

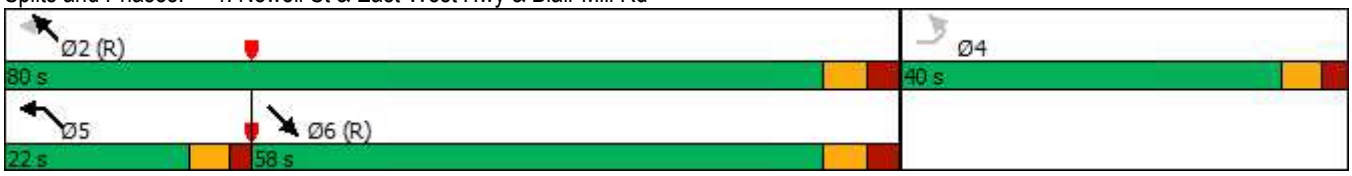
Approach	NB	SE	NW
Opposing Approach		NW	SE
Opposing Lanes	0	1	1
Conflicting Approach Left	SE	SW	NB
Conflicting Lanes Left	1	1	1
Conflicting Approach Right	SW	NB	SW
Conflicting Lanes Right	1	1	1
HCM Control Delay	9.8	12.1	12.6
HCM LOS	A	B	B

Lane	NBLn1	NWLn1	SELn1	SWLn1
Vol Left, %	15%	5%	28%	71%
Vol Thru, %	0%	83%	67%	0%
Vol Right, %	85%	12%	5%	29%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	139	328	285	120
LT Vol	21	15	81	85
Through Vol	0	272	191	0
RT Vol	118	41	13	35
Lane Flow Rate	143	338	294	124
Geometry Grp	1	1	1	1
Degree of Util (X)	0.211	0.475	0.426	0.199
Departure Headway (Hd)	5.293	5.057	5.221	5.797
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	676	713	690	617
Service Time	3.338	3.09	3.256	3.844
HCM Lane V/C Ratio	0.212	0.474	0.426	0.201
HCM Control Delay	9.8	12.6	12.1	10.3
HCM Lane LOS	A	B	B	B
HCM 95th-tile Q	0.8	2.6	2.1	0.7

Lane Group	EBL	EBR	SET	SER	SER2	NWL	NWT	NEL	NER
Lane Configurations									
Traffic Volume (vph)	51	63	547	0	54	97	422	0	0
Future Volume (vph)	51	63	547	0	54	97	422	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		0		100		0	0
Storage Lanes	1	0		0		1		0	0
Taper Length (ft)	25					25		25	
Right Turn on Red					No				No
Link Speed (mph)	25		30				30	25	
Link Distance (ft)	1312		657				1120	294	
Travel Time (s)	35.8		14.9				25.5	8.0	
Confl. Peds. (#/hr)	51	10		39	34	34		51	10
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%	1%	5%	5%
Shared Lane Traffic (%)									
Lane Group Flow (vph)	120	0	633	0	0	102	444	0	0
Turn Type	Perm		NA			pm+pt	NA		
Protected Phases			6			5	2		
Permitted Phases	4					2			
Minimum Split (s)	26.0		26.0			8.5	14.0		
Total Split (s)	40.0		58.0			22.0	80.0		
Total Split (%)	33.3%		48.3%			18.3%	66.7%		
Yellow Time (s)	3.5		4.0			3.5	4.0		
All-Red Time (s)	2.5		3.0			2.0	3.0		
Lost Time Adjust (s)	0.0		0.0			0.0	0.0		
Total Lost Time (s)	6.0		7.0			5.5	7.0		
Lead/Lag			Lag			Lead			
Lead-Lag Optimize?			Yes			Yes			
v/c Ratio	0.32		0.50			0.22	0.24		
Control Delay	36.7		26.9			10.3	11.2		
Queue Delay	0.0		0.0			0.0	0.0		
Total Delay	36.7		26.9			10.3	11.2		
Queue Length 50th (ft)	73		217			30	92		
Queue Length 95th (ft)	128		282			53	125		
Internal Link Dist (ft)	1232		577				1040	214	
Turn Bay Length (ft)						100			
Base Capacity (vph)	379		1262			470	1831		
Starvation Cap Reductn	0		0			0	0		
Spillback Cap Reductn	0		0			0	0		
Storage Cap Reductn	0		0			0	0		
Reduced v/c Ratio	0.32		0.50			0.22	0.24		

Intersection Summary	
Area Type:	Other
Cycle Length: 120	
Actuated Cycle Length: 120	
Offset: 0 (0%), Referenced to phase 2:NWTL and 6:SET, Start of Green	
Natural Cycle: 65	
Control Type: Pretimed	

Splits and Phases: 4: Newell St & East-West Hwy & Blair Mill Rd



Movement	EBL	EBR	SET	SER	SER2	NWL	NWT	NEL	NER
Lane Configurations									
Traffic Volume (vph)	51	63	547	0	54	97	422	0	0
Future Volume (vph)	51	63	547	0	54	97	422	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	6.0		7.0			5.5	7.0		
Lane Util. Factor	1.00		*0.81			1.00	*0.80		
Frpb, ped/bikes	0.98		0.99			1.00	1.00		
Flpb, ped/bikes	0.96		1.00			0.99	1.00		
Frt	0.93		0.99			1.00	1.00		
Flt Protected	0.98		1.00			0.95	1.00		
Satd. Flow (prot)	1584		2972			1778	3010		
Flt Permitted	0.83		1.00			0.25	1.00		
Satd. Flow (perm)	1341		2972			476	3010		
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	54	66	576	0	57	102	444	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	120	0	633	0	0	102	444	0	0
Confl. Peds. (#/hr)	51	10		39	34	34		51	10
Heavy Vehicles (%)	3%	3%	1%	1%	1%	1%	1%	5%	5%
Turn Type	Perm		NA			pm+pt	NA		
Protected Phases			6			5	2		
Permitted Phases	4					2			
Actuated Green, G (s)	34.0		51.0			73.0	73.0		
Effective Green, g (s)	34.0		51.0			73.0	73.0		
Actuated g/C Ratio	0.28		0.42			0.61	0.61		
Clearance Time (s)	6.0		7.0			5.5	7.0		
Lane Grp Cap (vph)	379		1263			468	1831		
v/s Ratio Prot			c0.21			0.03	c0.15		
v/s Ratio Perm	c0.09					0.10			
v/c Ratio	0.32		0.50			0.22	0.24		
Uniform Delay, d1	33.9		25.2			11.3	10.8		
Progression Factor	1.00		1.00			1.00	1.00		
Incremental Delay, d2	2.2		1.4			1.1	0.3		
Delay (s)	36.0		26.6			12.4	11.1		
Level of Service	D		C			B	B		
Approach Delay (s)	36.0		26.6				11.3	0.0	
Approach LOS	D		C				B	A	

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	64.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Lane Group	NWL	NWR	NET	NER	SWL	SWT
Lane Configurations						
Traffic Volume (vph)	9	0	0	15	0	0
Future Volume (vph)	9	0	0	15	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Link Speed (mph)	25		25			25
Link Distance (ft)	851		608			294
Travel Time (s)	23.2		16.6			8.0
Confl. Peds. (#/hr)	10	11		15	15	
Peak Hour Factor	0.80	0.80	0.80	0.80	0.80	0.80
Heavy Vehicles (%)	16%	16%	0%	0%	3%	3%
Shared Lane Traffic (%)						
Lane Group Flow (vph)	11	0	0	19	0	0
Sign Control	Stop		Free			Free

Intersection Summary	
Area Type:	Other
Control Type: Unsignalized	

Lane Group	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Volume (vph)	11	260	13	18	312	0	28	0	12	11	5	3
Future Volume (vph)	11	260	13	18	312	0	28	0	12	11	5	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		981			571			275			608	
Travel Time (s)		26.8			15.6			7.5			16.6	
Confl. Peds. (#/hr)	20		2	2		20	13		12	12		13
Confl. Bikes (#/hr)			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
Heavy Vehicles (%)	3%	3%	3%	3%	3%	3%	5%	5%	5%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	315	0	0	367	0	0	44	0	0	21	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	10.7
Intersection LOS	B

Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations												
Traffic Vol, veh/h	11	260	13	18	312	0	28	0	12	11	5	3
Future Vol, veh/h	11	260	13	18	312	0	28	0	12	11	5	3
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
Heavy Vehicles, %	3	3	3	3	3	3	5	5	5	4	4	4
Mvmt Flow	12	289	14	20	347	0	31	0	13	12	6	3
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	SE	NW	NE	SW
Opposing Approach	NW	SE	SW	NE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SW	NE	SE	NW
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NE	SW	NW	SE
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	10.4	11.2	8.9	8.8
HCM LOS	B	B	A	A

Lane	NELn1	NWLn1	SELn1	SWLn1
Vol Left, %	70%	5%	4%	58%
Vol Thru, %	0%	95%	92%	26%
Vol Right, %	30%	0%	5%	16%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	40	330	284	19
LT Vol	28	18	11	11
Through Vol	0	312	260	5
RT Vol	12	0	13	3
Lane Flow Rate	44	367	316	21
Geometry Grp	1	1	1	1
Degree of Util (X)	0.068	0.456	0.394	0.033
Departure Headway (Hd)	5.476	4.475	4.497	5.566
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	651	803	798	640
Service Time	3.533	2.505	2.529	3.626
HCM Lane V/C Ratio	0.068	0.457	0.396	0.033
HCM Control Delay	8.9	11.2	10.4	8.8
HCM Lane LOS	A	B	B	A
HCM 95th-tile Q	0.2	2.4	1.9	0.1

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Volume (vph)	7	35	12	58	30	92	44	208	4	7	263	66
Future Volume (vph)	7	35	12	58	30	92	44	208	4	7	263	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Link Speed (mph)		25			25			25			25	
Link Distance (ft)		433			1312			589			981	
Travel Time (s)		11.8			35.8			16.1			26.8	
Confl. Peds. (#/hr)	8		11	11		8	14		4	4		14
Confl. Bikes (#/hr)									1			
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles (%)	0%	0%	0%	2%	2%	2%	3%	3%	3%	4%	4%	4%
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	187	0	0	267	0	0	350	0
Sign Control		Stop			Stop			Stop			Stop	

Intersection Summary	
Area Type:	Other

Control Type: Unsignalized

Intersection	
Intersection Delay, s/veh	11.4
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	SEL	SET	SER	NWL	NWT	NWR
Lane Configurations												
Traffic Vol, veh/h	7	35	12	58	30	92	44	208	4	7	263	66
Future Vol, veh/h	7	35	12	58	30	92	44	208	4	7	263	66
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Heavy Vehicles, %	0	0	0	2	2	2	3	3	3	4	4	4
Mvmt Flow	7	36	13	60	31	96	46	217	4	7	274	69
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	SE	NW
Opposing Approach	WB	EB	NW	SE
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SE	NW	WB	EB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NW	SE	EB	WB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	9.3	10.4	11.3	12.4
HCM LOS	A	B	B	B

Lane	NWLn1	EBLn1	WBLn1	SELn1
Vol Left, %	2%	13%	32%	17%
Vol Thru, %	78%	65%	17%	81%
Vol Right, %	20%	22%	51%	2%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	336	54	180	256
LT Vol	7	7	58	44
Through Vol	263	35	30	208
RT Vol	66	12	92	4
Lane Flow Rate	350	56	188	267
Geometry Grp	1	1	1	1
Degree of Util (X)	0.481	0.089	0.278	0.381
Departure Headway (Hd)	4.943	5.692	5.337	5.139
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	735	628	673	701
Service Time	2.943	3.739	3.375	3.168
HCM Lane V/C Ratio	0.476	0.089	0.279	0.381
HCM Control Delay	12.4	9.3	10.4	11.3
HCM Lane LOS	B	A	B	B
HCM 95th-tile Q	2.6	0.3	1.1	1.8

Attachment E

Intersection movement MOE results for AM and PM Peak (Proposed Alternatives)

					AM Peak																				
					Alternative 1					Alternative 2					Alternative 3					Alternative 4				
Intersection #	Control	Intersection	Approach	Movement	V/C	Delay (sec)	LOS	50th Queue (ft)	95th Queue (ft)	V/C	Delay (sec)	LOS	50th Queue (ft)	95th Queue (ft)	V/C	Delay (sec)	LOS	50th Queue (ft)	95th Queue (ft)	V/C	Delay (sec)	LOS	50th Queue (ft)	95th Queue (ft)
1	Signalized	Georgia Ave & 13th St & Burlington Ave & East-West Hwy	13th St	EB Left/Thru/Right	0.80	88.8	F	97	#206	1.14	182.3	F	~138	#276	0.93	120.1	F	100	#225	1.38	276.8	F	~156	#294
			Burlington Ave	WB Left/Thru	1.09	140	F	~259	#438	1.12	151.7	F	~265	#443	1.16	162.5	F	~295	#477	1.19	173.8	F	~300	#482
				WB Right	0.56	29.3	C	223	338	0.56	29.3	C	223	338	0.53	28.4	C	206	312	0.53	28.4	C	206	312
			Georgia Ave	NB Left	0.27	30.2	C	41	76	0.27	30.2	C	41	76	0.27	30.2	C	41	76	0.27	30.2	C	41	76
				NB Thru	0.35	27.1	C	157	203	0.35	27.1	C	157	203	0.35	27.1	C	157	203	0.35	27.1	C	157	203
				NB Right	0.09	23.7	C	29	58	0.09	23.7	C	29	58	0.09	23.7	C	29	58	0.09	23.7	C	29	58
				SB Thru/Right	1.05	91.7	F	~418	#516	1.05	91.7	F	~418	#516	1.05	91.7	F	~418	#516	1.05	91.7	F	~418	#516
			East-West Hwy	SEB Left	0.64	54.9	D	204	301	0.64	54.8	D	203	298	0.64	54.9	D	204	301	0.64	54.8	D	203	298
				SEB Right	0.42	48.4	D	114	184	0.42	48.4	D	114	184	0.57	52.9	D	160	246	0.57	52.9	D	160	246
			Overall		**0.84**	**67.9**	**E**	**-**	**-**	**0.85**	**73.1**	**E**	**-**	**-**	**0.84**	**71.7**	**E**	**-**	**-**	**0.89**	**79.7**	**E**	**-**	**-**
2	Unsignalized	13th St & Kennett St	13th St	EB Left	0.006	7.7	A	-	0	0.006	7.7	A	-	0	0.006	7.9	A	-	0	0.006	7.9	A	-	0
				EB Thru	-	0	A	-	-	-	0	A	-	-	-	0	A	-	-	-	0	A	-	-
				WB Thru/Right	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			Kennett St	SEB Left/Right	0.07	10.4	B	-	0.2	0.10	10.7	B	-	0.3	0.08	11.1	B	-	0.3	0.11	11.4	B	-	0.4
			Overall		**-**	**1.8**	**-**	**-**	**-**	**-**	**2.1**		**-**	**-**	**-**	**1.5**	**-**	**-**	**-**	**-**	**1.8**	**-**	**-**	**-**
3	Unsignalized	13th St NW & Eastern Ave NW and 13th St	13th St NW	NB Left/Thru/Right	0.07	8.8	A	-	0.2	0.07	8.8	A	-	0.2	0.07	8.9	A	-	0.2	0.07	8.9	A	-	0.2
			Eastern Ave NW	SEB Left/Thru/Right	0.57	13.8	B	-	3.5	0.57	13.9	B	-	3.5	0.53	13.8	B	-	3.5	0.53	13.8	B	-	3.2
				NWB Left/Thru/Right	0.31	10.4	B	-	1.3	0.31	10.3	B	-	1.3	0.32	10.7	B	-	1.4	0.32	10.7	B	-	1.4
			13th St	SWB Left/Thru/Right	0.25	10.5	B	-	1	0.25	10.5	B	-	1	0.35	11.5	B	-	1.5	0.35	11.5	B	-	1.5
			Overall		**-**	**12**	**B**	**-**	**-**	**-**	**12**	**B**	**-**	**-**	**-**	**12.2**	**B**	**-**	**-**	**-**	**12.2**	**B**	**-**	**-**
4	Signalized	Newell St & East-West Hwy & Blair Mill Road	Blair Mill Rd	EB Left/Right	0.51	54.5	D	76	133	0.33	38	D	69	120	0.46	51.9	D	71	125	0.29	36.2	D	64	112
			East-West Hwy	SEB Thru/Right	0.61	33.6	C	235	300	0.51	26.3	C	208	266	0.55	32.2	C	220	280	0.47	26.1	C	198	252
				NWB Left	0.41	21.8	C	53	88	0.28	12	B	38	63	0.32	20	C	43	74	0.22	11.7	B	32	54
				NWB Thru	0.34	18.7	B	140	182	0.28	10.6	B	107	138	0.34	18.7	B	140	182	0.29	11.1	B	110	142
			Newell St	NEB Left/Right	0.12	43	D	23	52	-	-	-	-	-	0.12	42.9	D	23	52	-	-	-	-	-
			Overall		**0.46**	**28.9**	**C**	**-**	**-**	**0.42**	**19.9**	**B**	**-**	**-**	**0.42**	**27.9**	**C**	**-**	**-**	**0.39**	**19.8**	**B**	**-**	**-**
5	Unsignalized	Newell St & Kennett St	Kennett St	NWB Left/Right	0.03	9.1	A	-	0.1	0.01	10.1	B	-	0	0.03	8.8	A	-	0.1	-	-	-	-	-
			Newell	NEB Thru/Right	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				SWB Left	0.02	7.3	A	-	0	0.02	7.3	A	-	0	-	-	-	-	-	-	-	-	-	-
				SWB Thru	-	0	A	-	-	-	0	A	-	-	-	-	-	-	-	-	-	-	-	-
			Overall		**-**	**1.7**	**-**	**-**	**-**	**-**	**1.4**	**-**	**-**	**-**	**-**	**3.5**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
6	Unsignalized	14 St NW & Newell St & Eastern Ave NW	Eastern Ave NW	SEB Left/Thru/Right	0.48	12	B	-	2.6	0.48	11.9	B	-	2.6	0.49	11.5	B	-	2.8	0.49	11.5	B	-	2.8
				NWB Left/Thru/Right	0.35	10.4	B	-	1.5	0.33	10.3	B	-	1.5	0.35	10	A	-	1.6	0.34	9.9	A	-	1.5
			14th St NW	NEB Left/Thru/Right	0.03	8.6	A	-	0.1	0.03	8.7	A	-	0.1	0.03	8.4	A	-	0.1	0.03	8.5	A	-	0.1
			Newell St	SWB Left/Thru/Right	0.20	9.8	A	-	0.7	0.20	9.8	A	-	0.7	0.04	8.7	A	-	0.1	0.05	8.6	A	-	0.1
			Overall		**-**	**11**	**B**	**-**	**-**	**-**	**10.9**	**B**	**-**	**-**	**-**	**10.7**	**B**	**-**	**-**	**-**	**10.7**	**B**	**-**	**-**
7	Unsignalized	Eastern Ave NW & Northgate Rd NW	Northgate Rd NW	EB Left/Thru/Right	0.08	9.4	A	-	0.3	0.08	9.4	A	-	0.3	0.35	10	A	-	1.6	0.09	9.6	A	-	0.3
			Blair Mill Rd	WB Left/Thru/Right	0.39	11.7	B	-	1.8	0.39	11.7	B	-	1.8	0.49	11.5	B	-	2.8	0.46	12.9	B	-	2.4
			Eastern Ave NW	SEB Left/Thru/Right	0.49	13.3	B	-	2.7	0.49	13.3	B	-	2.7	0.04	8.7	A	-	0.1	0.50	13.8	B	-	2.8
				NWB Left/Thru/Right	0.42	12.1	B	-	2.1	0.43	12.3	B	-	2.1	0.03	8.4	A	-	0.1	0.44	12.7	B	-	2.2
			Overall		**-**	**12.3**	**B**	**-**	**-**	**-**	**12.3**	**B**	**-**	**-**	**-**	**10.7**	**B**	**-**	**-**	**-**	**13**	**B**	**-**	**-**

~ (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.

					PM Peak																	
					Alternative 1					Alternative 2					Alternative 3					Alternative 4				
Intersection #	Control	Intersection	Approach	Movement	V/C	Delay (sec)	LOS	50th Queue (ft)	95th Queue (ft)	V/C	Delay (sec)	LOS	50th Queue (ft)	95th Queue (ft)	V/C	Delay (sec)	LOS	50th Queue (ft)	95th Queue (ft)	V/C	Delay (sec)	LOS	50th Queue (ft)	95th Queue (ft)
1	Signalized	Georgia Ave & 13th St & Burlington Ave & East-West Hwy	13th St	EB Left/Thru/Right	0.89	87.8	F	195	#350	1.07	131.6	F	~254	#431	0.94	98.5	F	197	#361	1.13	152.8	F	~265	#442
			Burlington Ave	WB Left/Thru	0.94	107.7	F	149	#297	0.97	113.5	F	149	#300	0.98	116.2	F	161	#318	1.01	122.6	F	~163	#322
				WB Right	0.37	25.3	C	117	194	0.37	25.3	C	117	194	0.35	24.9	C	108	183	0.35	24.9	C	108	183
			Georgia Ave	NB Left	0.51	31.1	C	86	136	0.51	31.1	C	86	136	0.51	31.1	C	86	136	0.51	31.1	C	86	136
				NB Thru	0.58	30.8	C	303	371	0.58	30.8	C	303	371	0.58	30.8	C	303	371	0.58	30.8	C	303	371
				NB Right	0.48	30.2	C	183	270	0.46	30.2	C	183	270	0.48	30.2	C	183	270	0.48	30.2	C	183	270
				SB Thru/Right	0.46	39.8	D	173	215	0.46	39.8	D	173	215	0.46	39.8	D	173	215	0.46	39.8	D	173	215
			East-West Hwy	SEB Left	1.30	209.6	F	~533	#750	1.27	194.9	F	~510	#726	1.30	209.6	F	~533	#750	1.27	194.9	F	~510	#726
				SEB Right	0.31	48.2	D	77	133	0.31	48.2	D	77	133	0.45	51.6	D	113	184	0.45	51.6	D	113	184
			Overall		**0.90**	**66.3**	**E**	**-**	**-**	**0.93**	**67.7**	**E**	**-**	**-**	**0.91**	**67.7**	**E**	**-**	**-**	**0.94**	**70.1**	**E**	**-**	**-**
2	Unsignalized	13th St & Kennett St	13th St	EB Left	0.005	7.5	A	-	0	0.005	7.5	A	-	0	0.005	7.6	A	-	0	0.005	7.6	A	-	0
				EB Thru	-	0	A	-	-	-	0	A	-	-	-	0	A	-	-	-	0	A	-	-
				WB Thru/Right	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			Kennett St	SEB Left/Right	0.06	10.4	B	-	0.2	0.08	10.8	B	-	0.3	0.07	10.8	B	-	0.2	0.09	11.2	B	-	0.3
			Overall		**-**	**1.4**	**-**	**-**	**-**	**-**	**1.7**	**-**	**-**	**-**	**-**	**1.3**	**-**	**-**	**-**	**-**	**1.5**	**-**	**-**	**-**
3	Unsignalized	13th St NW & Eastern Ave NW and 13th St	13th St NW	NB Left/Thru/Right	0.21	9.6	A	-	0.8	0.21	9.7	A	-	0.8	0.21	9.7	A	-	0.8	0.21	9.8	A	-	0.8
			Eastern Ave NW	SEB Left/Thru/Right	0.43	11.9	B	-	2.1	0.44	12.2	B	-	2.3	0.41	11.8	B	-	2	0.43	12.1	B	-	2.1
				NWB Left/Thru/Right	0.47	12.4	B	-	2.5	0.47	12.3	B	-	2.5	0.47	12.6	B	-	2.6	0.47	12.6	B	-	2.6
			13th St	SWB Left/Thru/Right	0.15	9.9	A	-	0.5	0.15	9.9	A	-	0.5	0.20	10.2	B	-	0.7	0.20	10.3	B	-	0.7
			Overall		**-**	**11.5**	**B**	**-**	**-**	**-**	**11.6**	**B**	**-**	**-**	**-**	**11.5**	**B**	**-**	**-**	**-**	**11.7**	**B**	**-**	**-**
4	Signalized	Newell St & East-West Hwy & Blair Mill Road	Blair Mill Rd	EB Left/Right	0.58	57.6	E	86	151	0.36	36.5	D	80	139	0.48	52.6	D	77	137	0.32	36	D	73	128
			East-West Hwy	SEB Thru/Right	0.62	34	C	250	327	0.54	27.4	C	225	294	0.58	32.9	C	241	314	0.50	26.6	C	217	282
				NWB Left	0.35	21.1	C	45	78	0.26	13.3	B	35	60	0.31	20.2	C	39	70	0.22	12.4	B	30	53
				NWB Thru	0.28	17.9	B	114	156	0.25	11.6	A	95	128	0.28	17.9	B	114	156	0.24	11.1	B	92	125
			Newell St	NEB Left/Right	0.14	43.3	D	26	59	-	-	-	-	-	0.09	42.5	D	17	44	-	-	-	-	-
			Overall		**0.48**	**30.2**	**C**	**-**	**-**	**0.44**	**21.8**	**C**	**-**	**-**	**0.43**	**28.9**	**C**	**-**	**-**	**0.40**	**21.1**	**C**	**-**	**-**
5	Unsignalized	Newell St & Kennett St	Kennett St	NWB Left/Right	0.03	9.4	A	-	0.1	0.02	9.8	A	-	0	0.03	9	A	-	0.1	-	-	-	-	-
			Newell	NEB Thru/Right	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
				SWB Left	0.03	7.4	A	-	0.1	0.03	7.3	A	-	0.1	-	-	-	-	-	-	-	-	-	-
				SWB Thru	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			Overall		**-**	**3.3**	**-**	**-**	**-**	**-**	**3.6**	**-**	**-**	**-**	**-**	**2.9**	**-**	**-**	**-**	**-**	**-**	**-**	**-**	**-**
6	Unsignalized	14 St NW & Newell St & Eastern Ave NW	Eastern Ave NW	SEB Left/Thru/Right	0.40	10.7	B	-	1.9	0.40	10.6	B	-	1.9	0.40	10.5	B	-	1.9	0.40	10.4	B	-	-
				NWB Left/Thru/Right	0.47	11.6	B	-	2.5	0.45	11.4	B	-	2.4	0.47	11.4	B	-	2.5	0.46	11.2	B	-	-
			14th St NW	NEB Left/Thru/Right	0.07	9	A	-	0.2	0.07	9	A	-	0.2	0.07	8.9	A	-	0.2	0.07	8.9	A	-	-
			Newell St	SWB Left/Thru/Right	0.10	9.2	A	-	0.3	0.10	9.2	A	-	0.3	0.03	8.9	A	-	0.1	0.03	8.8	A	-	-
			Overall		**-**	**10.9**	**B**	**-**	**-**	**-**	**10.8**	**B**	**-**	**-**	**-**	**10.8**	**B**	**-**	**-**	**-**	**10.7**	**B**	**-**	**-**
7	Unsignalized	Eastern Ave NW & Northgate Rd NW	Northgate Rd NW	EB Left/Thru/Right	0.09	9.3	A	-	0.3	0.09	9.3	A	-	0.3	0.50	11.4	A	-	2.5	0.09	9.3	A	-	0.3
			Blair Mill Rd	WB Left/Thru/Right	0.27	10.4	B	-	1.1	0.27	10.4	B	-	1.1	0.40	10.5	B	-	1.9	0.28	10.4	B	-	1.1
			Eastern Ave NW	SEB Left/Thru/Right	0.38	11.3	B	-	1.8	0.38	11.3	B	-	1.8	0.03	8.9	B	-	0.1	0.38	11.3	B	-	1.8
				NWB Left/Thru/Right	0.47	12.4	B	-	2.6	0.49	12.4	B	-	2.8	0.07	8.9	A	-	0.2	0.48	12.4	B	-	2.6
			Overall		**-**	**11.4**	**B**	**-**	**-**	**-**	**11.6**	**B**	**-**	**-**	**-**	**10.8**	**B**	**-**	**-**	**-**	**11.4**	**B**	**-**	**-**

~ (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.