Downtown Morgantown Microsimulation Study

FINAL REPORT

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Prepared for:

MMMPO
morgantown monongalia
metropolitan planning organization

Prepared by:

Kimley»Horn

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1. Project Background

1.1 INTRODUCTION

The Downtown Morgantown Traffic Study was commissioned to identify improvements to the transportation network in Downtown Morgantown, West Virginia. This initiative was included in the MPO's Metropolitan Transportation Plan as a Tier One project. The purpose of the Study was to address current and future mobility challenges, enhance multimodal safety, and support economic development. Issues addressed in the study included the congestion created at the pedestrian crossing of University Avenue at the Mountainlair known as "Grumbein's Island" and future redevelopment of an area in the vicinity of Richwood Avenue and Willey Street, referred to as the "East End Village."

Emphasis was placed on data-driven decisions and incorporating public input and local stakeholder recommendations. Kimley-Horn performed a comprehensive microsimulation of downtown traffic, focusing on motorized and non-motorized traffic operations, safety, community input, and constructability to identify improvements that achieved the following goals:

- Improved vehicular traffic flow throughout downtown Morgantown
- Enhanced safety and accessibility for all users, including pedestrians and bicyclists
- Support access to downtown businesses and planned development areas.

1.2 STAKEHOLDER ENGAGEMENT AND STUDY OVERSIGHT

One defining element of this project was continuous collaboration with a steering committee of representatives from the public and local stakeholders, including West Virginia University, the City of Morgantown, and the Morgantown Area Partnership. Six steering committee meetings were held, shaping the study's direction and ensuring decisions reflected community priorities. Contributions included defining performance metrics, assessing the feasibility of initial concepts, guiding the selection of alternatives, and participating in the alternative selection and recommendation process. This structure ensured that the recommended improvements align with community needs, interests, and specific considerations.

1.3 STUDY AREA AND EXISTING DATA COLLECTION

The study included analysis of 34 intersections: 16 signalized and 18 unsignalized, as well as 11 pedestrian crossing locations, listed below and shown in **Figure 1-1**. The project team collected 14-hour turning movement counts (TMCs) at the study intersections and pedestrian crossing locations on a typical weekday (Tuesday, October 24th, 2023) during normal West Virginia University and local public K-12 schools' operations, and in the absence of any major events such as a WVU home football game. Based on this data, mid-day (12:15-1:15 PM) and evening peak hour (4:30-5:30 PM) were selected as the analysis periods for the study. A traditional morning peak hour was not included given the relatively low vehicular and pedestrian/bicyclist volumes observed during that timeframe and the high pedestrian/bicyclist activity during the mid-day time period, as shown in **Figure 1-2**. A summary of the balanced peak hour vehicular and pedestrian and bicyclist crossing volumes is included in **Appendix A**. The project team also made peak period observations of general operations and safety conditions and collected travel times during weekdays that TMCs were counted. Note that during the data collection period, there was ongoing construction on Beechurst Avenue, but the project team used information from the Beechurst Traffic Analysis Study conducted by Stantec in 2019 to help inform conditions in this area. This study is included in **Appendix B**.

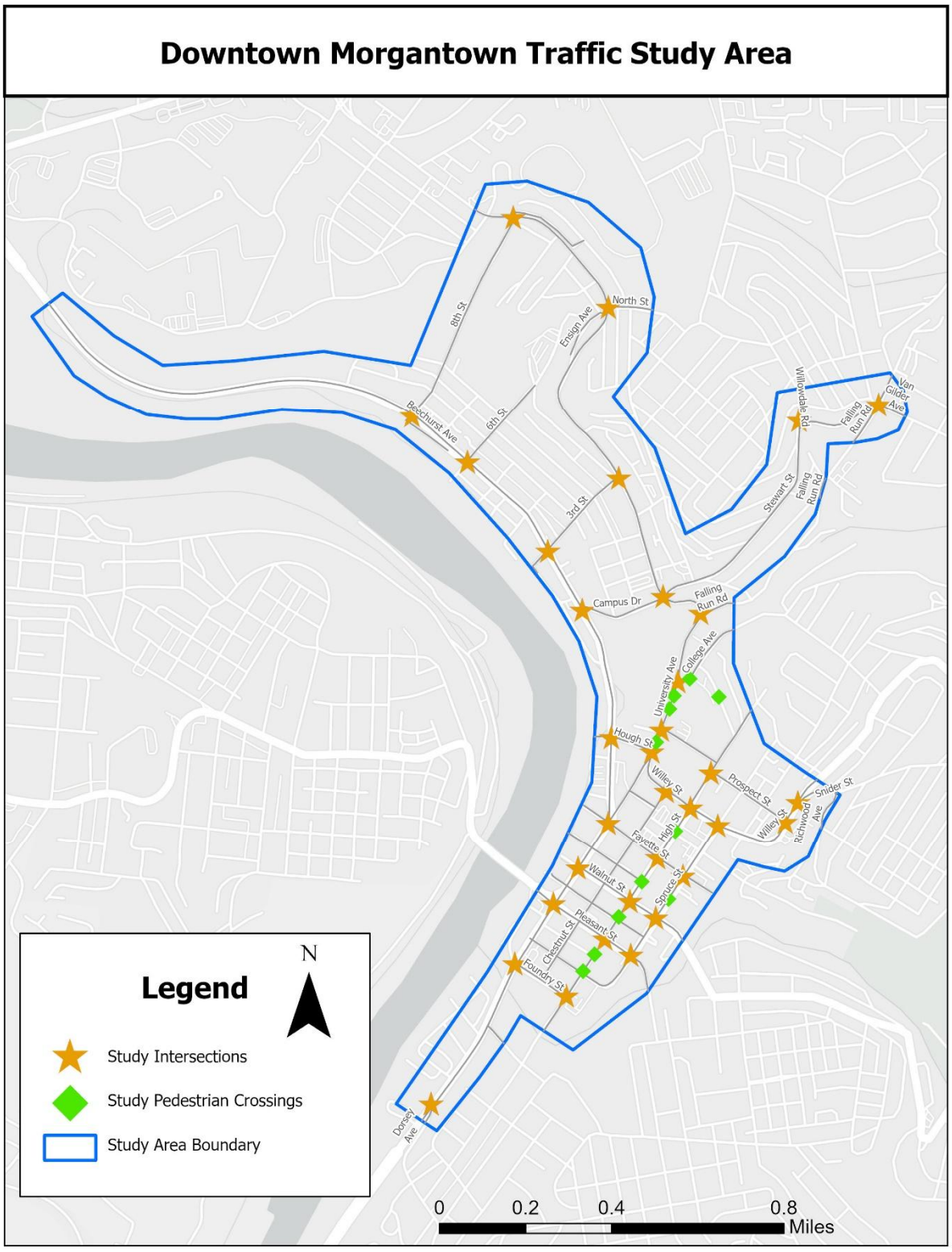


Figure 1-1: MMMPO Downtown Microsimulation Study Area

1.3.1. Intersections Included in Study

- High Street and Foundry Street
- High Street and Pleasant Street
- High Street and Walnut Street
- High Street and Fayette Street
- Spruce Street and Pleasant Street
- Spruce Street and Walnut Street
- University Avenue and Walnut Street
- University Avenue and Pleasant Street
- University Avenue and Foundry Street
- University Avenue and Willey Street
- University Avenue and Beechurst Avenue/Fayette Street
- Willey Street and Chestnut Street
- Willey Street and High Street
- Willey Street and Spruce Street
- 8th Street and Beechurst Avenue
- 8th Street and University Avenue
- North Street and University Avenue
- 3rd Street and Beechurst Avenue
- Willey Street and Richwood Avenue
- Willey Street and Prospect Street
- 3rd Street and University Avenue
- Campus Drive and Beechurst Avenue
- Fayette Street and Spruce Street
- N High Street and Prospect Street
- University Avenue and Falling Run Road
- University Avenue and College Avenue
- Stewart Street and Willowdale Road
- Stewart Street and Protzman Street
- Don Knotts Boulevard and Dorsey Avenue
- Campus Drive/Stewart Street and University Avenue
- Beechurst Avenue and 6th Street
- Beechurst Avenue and Hough Street
- University Avenue and Hough Street
- University Avenue and Prospect Street

1.3.2. Additional Pedestrian Crossings Included in Study

- Grumbein's Island Crossing
- Oglebay Hall to Book Store Crosswalk
- E. Moore Hall to Stewart Hall Crosswalk
- Colson Hall to Clark Hall Crosswalk
- Mountainlair to Stalnaker Hall Crosswalk
- High Street at Forest Avenue Crosswalk
- High Street at Wall Street Crosswalk
- High Street at Chancery Row Crosswalk
- High Street at Moreland Street Crosswalk
- High Street at Kirk Street Crosswalk
- Spruce Street at Wall Street crosswalk

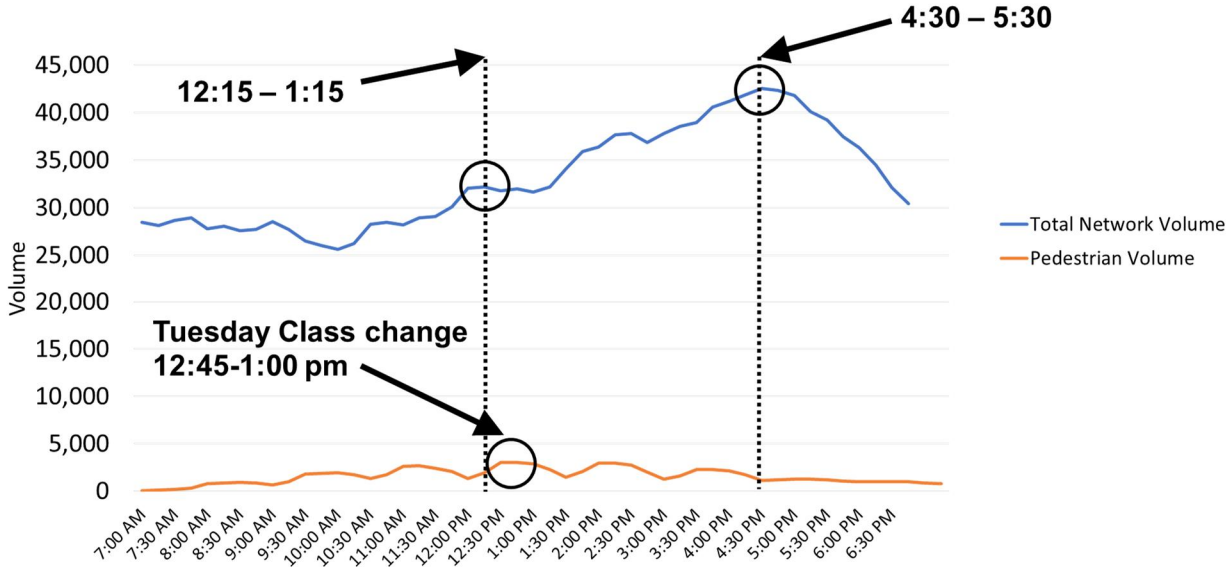


Figure 1-2: Total Network Volume and Pedestrian Volumes

1.3.3. Streetlight Origin-Destination Data

Streetlight origin-destination (OD) datasets were collected to determine OD patterns in the study area. This analysis identified the most heavily traveled routes, revealing key corridors and dominant commuting patterns. **Figure 1-3** shows the patterns revealed by the data for a typical weekday PM peak, indicating that the heaviest movements are through movements along Monongahela Boulevard/University Avenue as well as movements to/from the Westover Bridge.

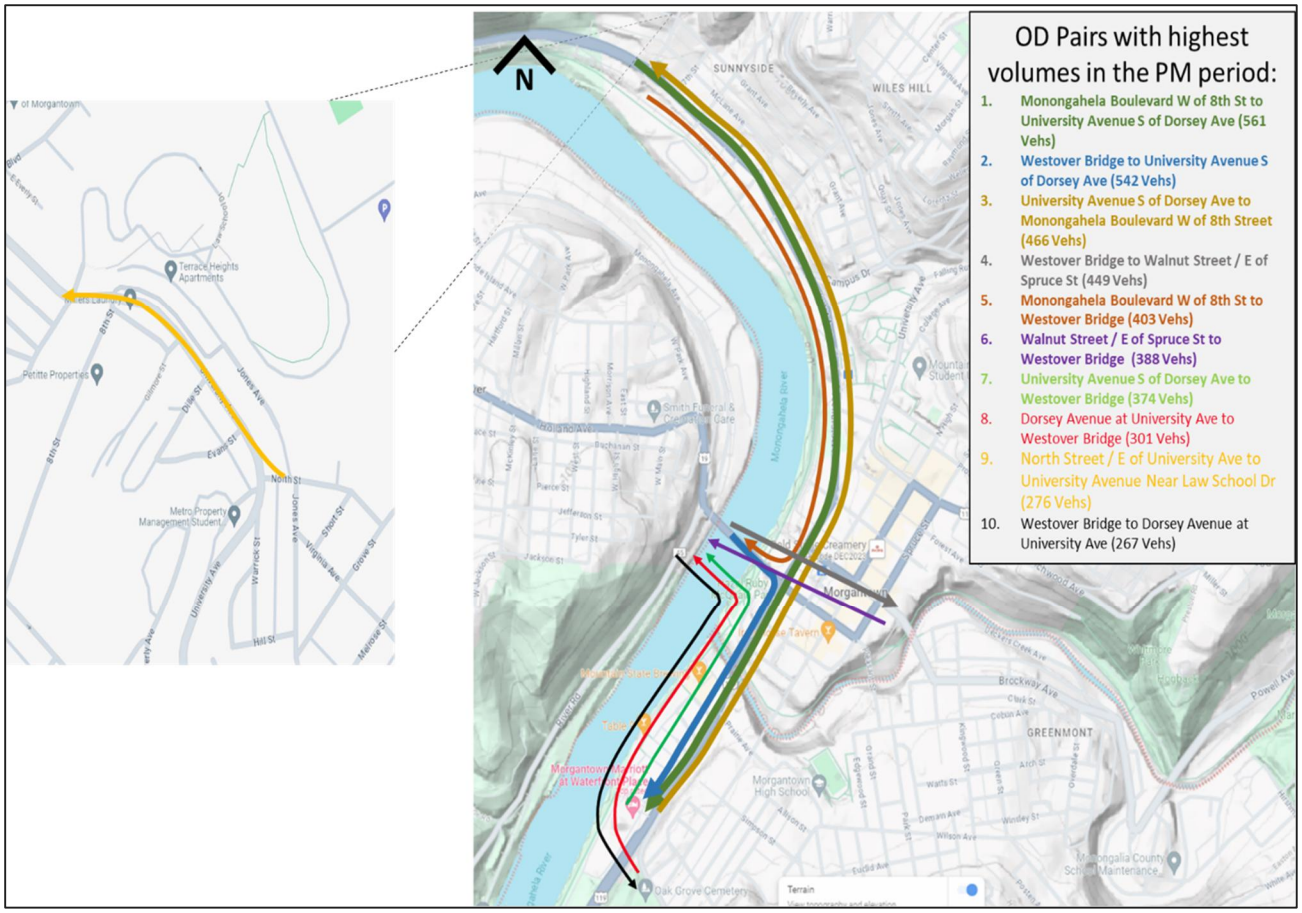


Figure 1-3: PM Peak Streetlight Origin-Destination Pairs

1.3.4. Safety Analysis

Utilizing a five-year time frame (2018-2022), crashes within the study area were comprehensively analyzed to determine the frequency and severity of crashes in the study area. This analysis yielded a total of 1,343 crashes identified within the study area. A breakdown of the crash types revealed that angle crashes constituted the largest portion (40%), followed by rear-end crashes (26%), and sideswipe crashes (17%). The remaining 17% included single vehicle crashes (12%), head-on crashes (3%), and crashes where a vehicle backed into another vehicle (2%).

Road conditions during crashes were primarily dry (67%) and wet (25%). A smaller percentage occurred in snowy (6%) and icy/frosty (2%) conditions. Regarding crash severity, 2021 had the highest number of injury crashes, while 2018 saw the most property damage only (PDO) crashes. Importantly, no fatalities were recorded during the five-year period.

The crash data was imported into ArcGIS software for spatial analysis. A kernel density estimation technique was applied to create a heat map, identifying hotspots and intersections with high crash frequencies within the study area. High-frequency crash intersections as shown in **Figure 1-4** include:

- University Avenue and Pleasant Street
- University Avenue and Garrett Street/Foundry Street
- University Avenue and Beechurst Avenue/Fayette Street

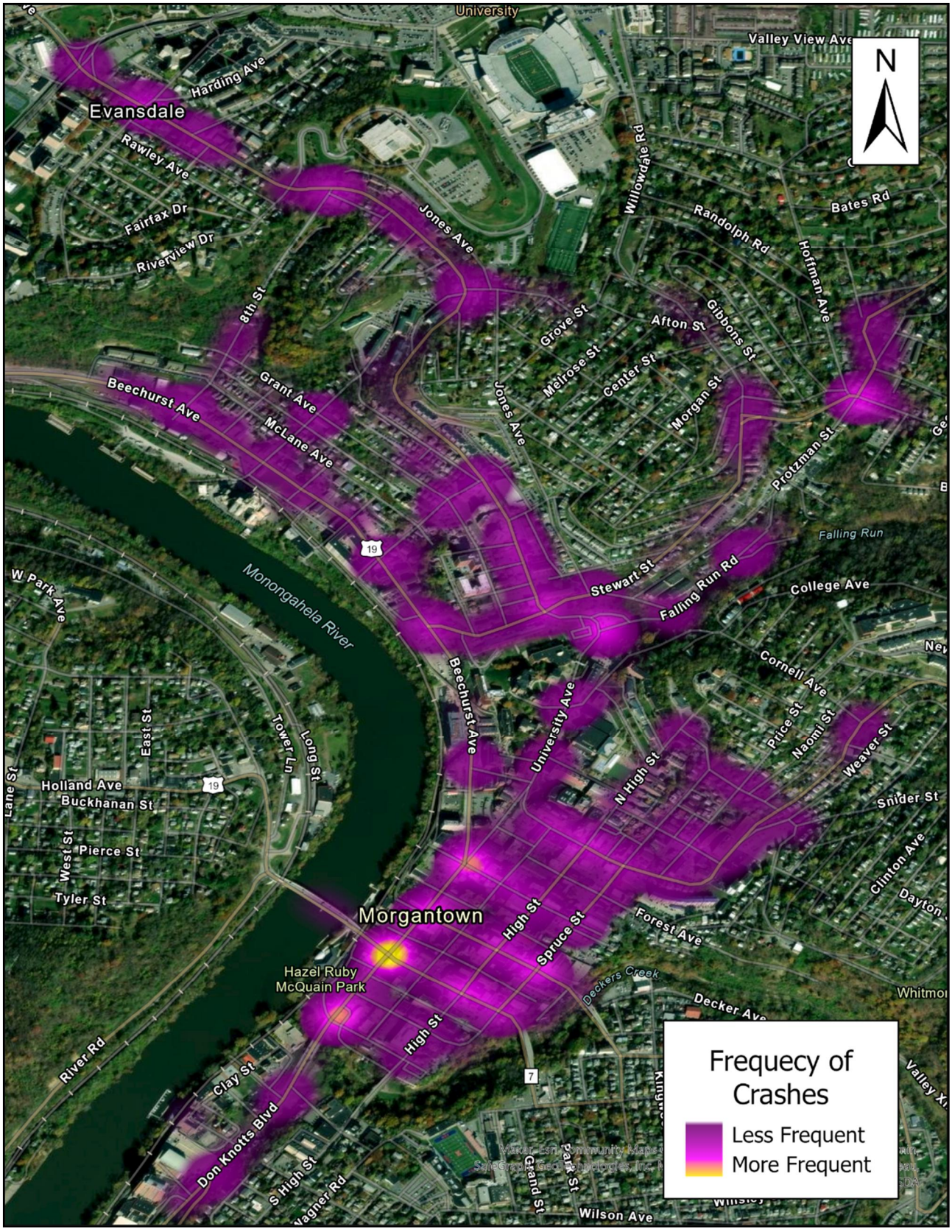


Figure 1-4: Frequency of Crashes in Morgantown, WV

To assess crash severity, the following formula was used[1]:

$$Severity = [(\#of\ Injury\ Crashes) * 11.2] + (\#\ of\ PDO\ Crashes)$$

High-severity crash intersections as shown in **Figure 1-5** include:

- University Avenue and Pleasant Street
- University Avenue/Don Knotts Boulevard and Garrett Street/Foundry Street
- University Avenue and Beechurst Avenue/Fayette Street
- High Street and Pleasant Street
- University Avenue and Walnut Street/Water Street
- University Avenue and Campus Drive/Stewart Street
- University Avenue and Falling Run Road
- Stewart Street and Van Glider Avenue

These intersections were identified as locations where crashes were more likely to result in severe injuries or fatalities.

[1]Highway Safety Manual, 1st Edition with 2014 Supplement, American Association of State Highway and Transportation Officials (AASHTO), 2010. Chapter 4: Network Screening. The injury-to-PDO crash severity ratio of 11.2 is derived from national average crash cost estimates provided by the Federal Highway Administration, where the average cost of an injury crash ($7,400).

Figure 1-5: Severity of Crashes in Morgantown, WV

1.4 PRIOR PLANS AND REPORTS

The Morgantown Downtown Microsimulation Study builds upon a comprehensive foundation of prior research conducted within the study area, drawing insights from relevant reports and studies to inform the analysis and interpretation of findings.

The following reports, plans, and studies were considered throughout the analysis:

- Richwood-Willey Intersection Report
- University Avenue Complete Streets Study
- 2020 Regional Bike and Pedestrian Plan
- Beechurst Traffic Analysis
- Morgantown Pedestrian Safety Study
- West Virginia VRU Assessment

The *Richwood-Willey Intersection Report* highlights how the unsafe skew of the subject intersection affects traffic operations and reveals that the curvature of Willey Street limits the sight distance for motorists entering from Richwood Avenue.

The analysis concluded that the study area has high pedestrian volumes in the AM and PM peak hours and meets the 2009 MUTCD pedestrian signal warrants for both four-hour volumes and peak hour volumes.

Two alternatives were considered in the analysis. The short-term option (One-Way Circle) would convert Richwood Avenue between Willey Street and E Prospect Street into a one-way street, with E Prospect extended as a one-way to form a stop-controlled T-intersection at Willey Street. The long-term option would close the Willey–Richwood intersection and extend E Prospect Street as a two-way road, creating a four-way intersection at Richwood Avenue. Both alternatives include reducing the speed limit to 25 MPH and adding a driveway to access parcel 412.

The *University Avenue Complete Streets Study* planned to make improvements to University Avenue to improve vehicular safety and operations and enhance pedestrian safety. The northbound direction of University Avenue had a level of service ‘E’ for pedestrians. While the southbound direction had a pedestrian level of service “C.” other modes of travel, like bicycles, had a level of service ‘D’ for both directions of University Avenue. With transit having a level of service ‘B’ in both directions.

Three pedestrian friendly design options at the Grumbein’s island crossing were considered. The first option, studied originally by Alpha Associates in 2011, proposed a pedestrian plaza bridge/tunnel that grade separated the pedestrian and vehicular movements to avoid conflicts. This option would greatly improve safety but was anticipated to incur substantial constructions costs and constructability issues. The second design option was considered by WVU in 2014 and proposed a “European” style “shared space” pedestrian-friendly intersection, which would include a redesign of Grumbein’s Island to have pedestrians cross the corridor at any given location and moment. This option was anticipated to be much less expensive than the grade separation but without a similar project in WV or the surrounding states a perceived risk was noted. The final design option, which was selected as the preferred alternative, proposed a raised intersection at Grumbein’s island with a pedestrian crossing signal. This option would improve safety at a relative low construction cost but not address the congestion observed within the network.

The *2020 Regional Bike and Pedestrian Transportation Plan* Report aimed to improve the safety, connectivity, equity, feasibility, and health in Morgantown. The report mentions the lack of connectivity

throughout the existing bicycle and pedestrian network in Morgantown, making it difficult and unsafe for pedestrians and cyclists. Pedestrian and bicycle crashing was a growing concern in Morgantown, with pedestrian fatalities on state roads being higher than the international average. Demographically, low-income residents and residents with disabilities have limited access to safe and reliable walking and cycling facilities. The key list of recommendations from this plan included:

- Construct new sidewalks and bike lanes
- Improve existing crosswalks and intersections
- Create greenways and trails to connect different parts of the city
- Implement traffic calming measures to slow traffic to provide safety for all modes of travel
- Develop educational programs to teach people about safe walking and biking practices
- Secure funding for the implementation of the plan

The Morgantown Monongalia Metropolitan Planning Organization (MMMPO) estimates that it will take 20 years to fully implement the plan, but the city has already begun making progress.

The *Beechurst Traffic Analysis Report* analyzed the existing geometry and safety conditions of Beechurst Avenue to then develop suggested improvements where needed. The crash analysis showed there was a total of 191 vehicle crashes withing the study area which includes 6 pedestrians, 40% of all incidents occurred at three separate intersections:

- University Avenue and Pleasant Street/Westover Bridge with 28 crashes
- Beechurst Avenue and University Avenue/Pleasant Street with 27 crashes
- Beechurst Avenue and 8th Street with 24 crashes

The simulation model for Beechurst Avenue verified the field observations, demonstrating vehicles queueing at the northbound approach for Beechurst Avenue at the signalized intersection with Campus Drive. The AM peak hour demonstrated a level of service E or lower for the following intersections:

- University Avenue and Walnut Street – LOS E for the westbound approach
- Beechurst and Fayette Street/University Avenue – LOS F for the westbound approach
- Beechurst Avenue and Campus Drive – LOS F for the northbound approach, LOS E for the westbound approach, and LOS F for the overall intersection
- Beechurst Avenue and 6th Street – LOS E for the eastbound approach

Additionally, the PM peak hour demonstrated a level of service E or lower at the following intersections:

- University Avenue and Walnut Street – LOS E for the westbound approach
- Beechurst Avenue and Campus Drive – LOS E for the southbound and westbound approach, LOS for the northbound approach, and LOS E for the overall intersection
- Beechurst Avenue and 6th Street – LOS E for the westbound approach

After further evaluation of the future growth rates and considering there is no planned reconfiguration, the following alternatives were considered:

- Alternative 1: Widen to four lanes between 6th Street and 8th Street
- Alternative 2: Two lanes northbound for AM peak hour
- Alternative 3: Two lanes southbound for PM peak hour
- Alternative 4: Two lanes northbound for PM peak hour
- Alternative 5: Hybrid with intersection improvements
- Alternative 6: Intersection improvements only

The long-term recommendation was Alternative 4, with two lanes heading northbound in the PM peak hour. Alternative 6 was the recommended short-term improvement. At the time of data collection, Alternative 4 was under construction.

The WV Division of Highways (WVDOH) recently completed the *Morgantown Pedestrian Safety Study* (2022) and statewide *Vulnerable Road Users (VRU) Assessment* (2023). The *Morgantown* study noted that 134 pedestrian involved crashes occurred within the City between 2014 and 2019, many of which occurred on a weekday during the primary school months of August through April and involved college-aged pedestrians. This study identified the Don Knotts Boulevard, University Avenue within the WVU Downtown campus, Monongahela Boulevard adjacent to the WVU Coliseum and Creative Arts Center, and Patteson Drive between Monongahela Boulevard and University Avenue as high priority corridors for improvements. Recommendations included updated pavement markings, increased signage, new pedestrian signals, and consideration of raised medians. The statewide VRU study identified segments of roadway within the state where the highest concentrations of VRU crashes, specifically fatal or serious injury VRU crashes occur. Eight of the top 75 statewide segments were located in Monongalia County, including Patteson Drive from Baldwin Street to Beechurst Avenue (rank #2) and Rogers Avenue from Woodrow Street to CR 857 (rank #11). A systemic analysis was also conducted identifying routes that exhibit characteristics leading to a higher risk for VRU involved crashes. 34 of the top 100 ranked routes were located within Monongalia County and 11 of the top 14 routes were located within the City of Morgantown.

1.5 PUBLIC INVOLVEMENT FEEDBACK

A survey was conducted from May 29th, 2024, to June 19th, 2024 (3 weeks) among Morgantown residents and businesses to gather public input on traffic concerns using an online interactive mapping tool. With a total of 70 participants, **Table 1-1** below indicates the total volume of responses collected during this initiative. Comments from the survey were categorized into three main areas: congestion concerns, multimodal issues (bike/pedestrian/transit), and safety. Below is a summary of the comments received and the corresponding responses.

Table 1-1: Public Input Comment Summary

Category Name	Parent Comments	Replies	Total Input
Congestion Concern	35	43	78
Multimodal (Bike/Pedestrian/Transit) Concerns	52	29	81
Safety Concern	83	57	140
Total	170	129	299
Total Respondents	**70**		

Public input on the existing conditions of Morgantown was categorized into three primary themes:

Safety Concerns

- Truck Traffic on Walnut Street: A significant concern was raised regarding large trucks turning left onto Walnut Street from Spruce Street, often impeding traffic flow on Spruce Street.
- Environmental Impact: Public comments expressed concerns about the environmental impact of truck traffic, particularly regarding noise pollution, air quality, and potential damage to infrastructure. Suggestions included banning or rerouting truck traffic and enforcing stricter regulations on load coverage.

- Foundry Street Bridge Railings: The existing railings on the Foundry Street bridge were identified as limiting sight lines, which could potentially compromise safety.

Figure 1-6 presents public input on the existing conditions in Morgantown, highlighting locations frequently identified as having safety concerns. Areas with higher concentration of responses indicate a greater prevalence of reported safety issues.

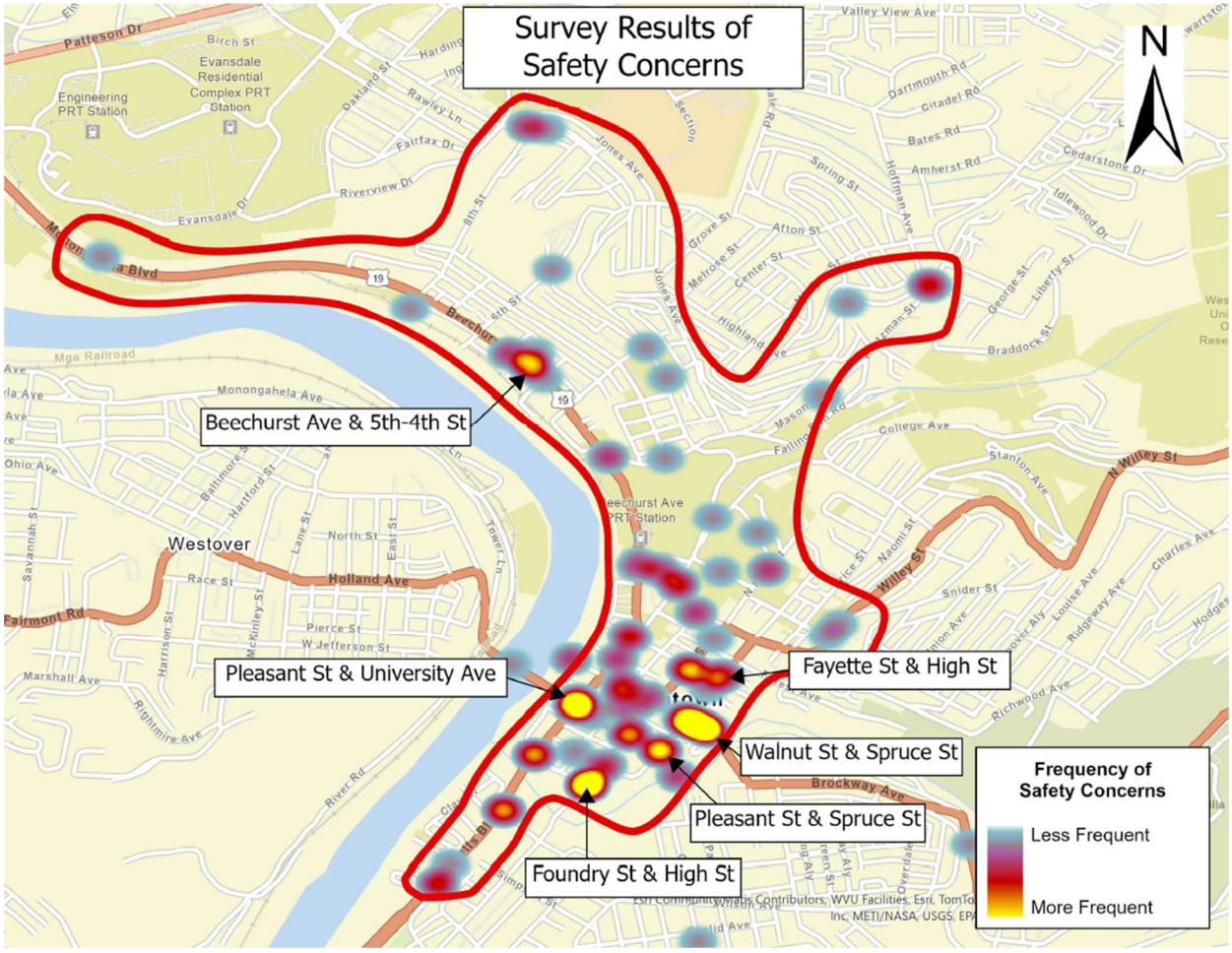


Figure 1-6: Survey Results of Safety Concerns

Congestion Concerns

- High Street Congestion: A major concern was the high level of congestion on the High Street, particularly during peak hours.
- Parking and Sidewalk Issues: Public input highlighted the need to eliminate unnecessary parking along High Street to increase sidewalk width and improve pedestrian safety.

Figure 1-7 presents public input on the existing conditions in Morgantown, highlighting locations frequently identified as having congestion concerns. Areas with higher concentration of responses indicate a greater prevalence of reported congestion issues.

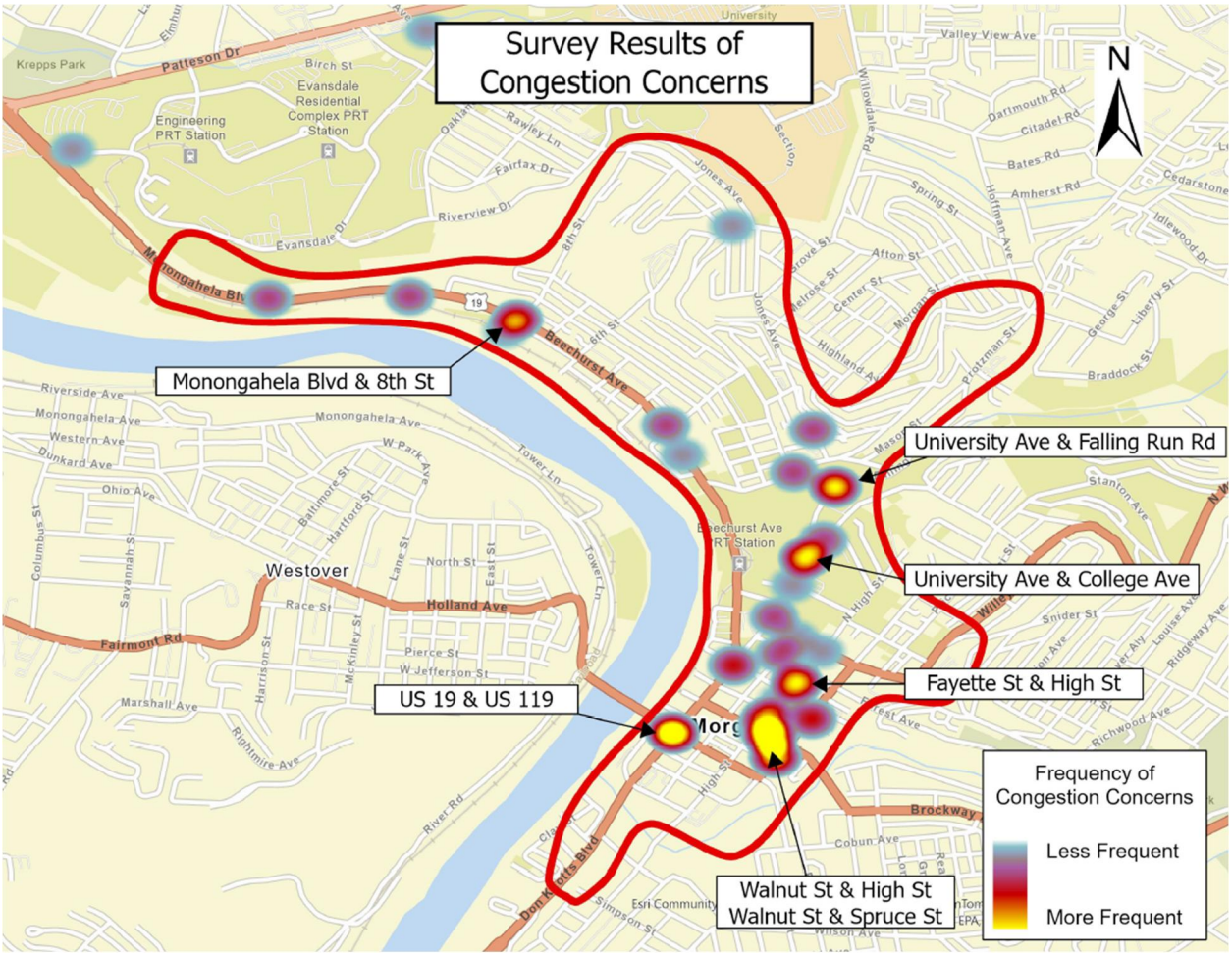


Figure 1-7: Survey Results of Congestion Concerns

Multimodal Concerns

- High Street Pedestrian Activity: Many respondents expressed concerns about the safety of pedestrians on the High Street, particularly given the high volume of vehicular traffic.
- Pedestrian Mall Proposal: Some suggested closing a portion of High Street between Willey Street and Kirk Street to create a pedestrian mall, prioritizing pedestrian safety and enhancing the public realm.
- Traffic Yielding to Pedestrians: Enforcing stricter regulations on traffic yielding to pedestrians was another common suggestion to improve safety for all users.

Figure 1-8 presents public input on the existing conditions in Morgantown, highlighting locations frequently identified as having multimodal concerns. Areas with higher concentration of responses indicate a greater prevalence of reported multimodal issues.

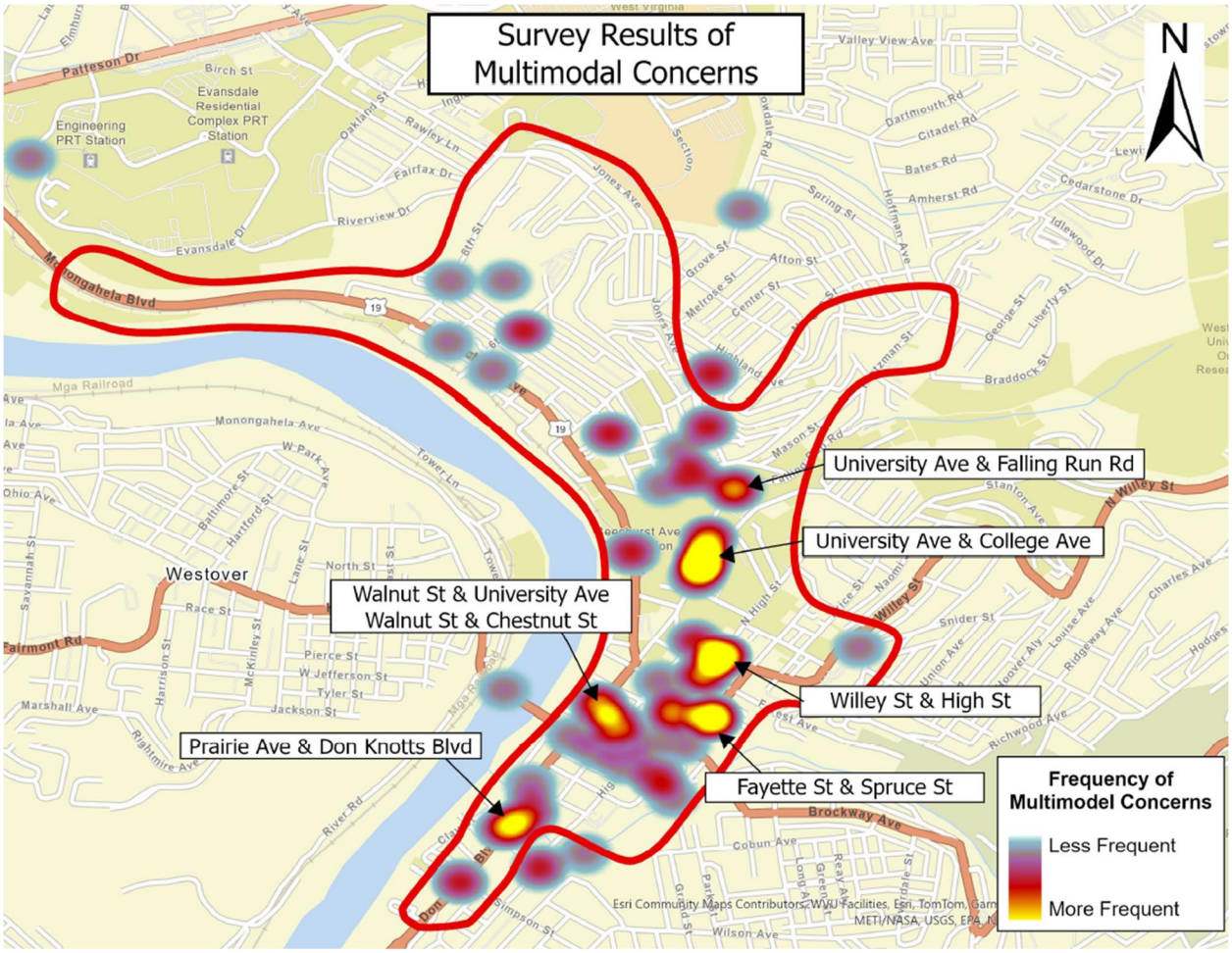


Figure 1-8: Survey Results of Multimodal Concerns

2. Microsimulation Analysis Methodology

A traffic analysis was performed using TransModeler simulation software (version 6.1, Build 8655) to model both existing (2023) and future (2050) conditions (No-Build and Build alternatives) during the mid-day peak hour (12:15-1:15 PM) and PM peak hour (4:30-5:30 PM).

2.1 EXISTING CONDITIONS VOLUME DEVELOPMENT

As noted previously, turning movement counts were performed at all study intersections. Due to the size of the network and the nature of the build alternatives, it was desired to create an OD matrix to simulate traffic volumes at the study intersections. The OD matrix for the existing conditions model was developed using Origin-Destination Matrix Estimation (ODME) which relies on target link volumes, turning movements, and a seed matrix to develop a comprehensive OD matrix reflecting existing conditions. Upon review of the link volumes counted at each study intersection, it was determined that there were some imbalances between the turning movement counts in some locations, so the study area was broken up to include mid-block nodes to act as the natural volume sources and sinks that exist in the area between major intersections.

To properly model the trend of the collected volumes within the peak hours, a unique OD matrix was developed for each 15-minute interval within the hour. Additionally, within each 15-minute interval, OD

matrices were developed for passenger cars, buses, and trucks based on the percentage of those vehicle types collected in the counts. The seed matrix informing the ODME process was developed from the Streetlight OD data. The initial seed matrix was re-scaled from Streetlight values to values proportional to the traffic volumes using the Iterative Proportional Fitting (IPF) method using a spreadsheet tool developed by Patriot Transportation Engineering.

As a part of the ODME process, weights were applied to the links (using a scale between 1 and 10) to give major streets greater weight in the ODME balancing process. Additionally, constraint matrices were used to establish lower and upper bounds within which TransModeler can operate during the ODME process. This helps ensure that there is not any substantial altering of the original volume patterns to meet target link volumes.

When setting up the simulation, the project team used a warmup period to allow the network to load background traffic before the analysis period begins. A warmup period of 15 minutes was chosen since this covers the expected travel time for the longest path in the model. Based on the counts collected, unit scaling factors of 1.0 and 0.95 were used for the midday and PM peak hour warmup period OD matrices, respectively.

Due to the nature of this study area, there is high pedestrian activity at many of the intersections and at the additional mid-block crosswalks at which data was collected. Therefore, the model includes the simulation of pedestrians at all study intersection crosswalks using the volumes collected.

2.2 TRAFFIC SIGNAL SETTINGS

Signalized intersections were modeled using existing signal plans, phasing and timings which were obtained from WVDOH. A few intersections had signals settings that were modified to specifically match field conditions obtained from WVDOH. For example, the west leg at the intersection of University Avenue/Beechurst Avenue at Fayette Street had “Max Recall” turned on for this side street phase since the detector was not working properly per WVDOH. Additionally, the side street phases at the following four intersections were assumed to have “Max Recall” turned on in the existing conditions model since WVDOH shared that many signals in this study area experience regularly faulty detectors and clock drift.

- Stewart/Campus at University
- Pleasant at University
- Walnut at University
- Beechurst at Campus

Note that Grumbein’s Island is a unique pedestrian crossing with extremely high volumes of pedestrians crossing during peak times, which can be a challenge for microsimulation software to properly simulate. To create a simulation that reflected observed vehicular queues and spillback from the field, Grumbein’s Island was modeled as a traffic signal in TransModeler with separate plans every 15 minutes during the peak hours to mimic the peak hour distribution of observed pedestrians to mimic the length of time vehicles are typically stopped during these peak crossings.

2.3 MODEL VALIDATION

Part of the development of the existing conditions model included qualitative visual validation to determine if the animated vehicle behavior is realistic and if it is representative of observed operations in the field. A field visit was performed in Fall 2023 and used for the basis of visually validating the model. Additionally, simulated node turning movement volumes and simulated internal segment volumes were compared to target volumes from the turning movement counts. Based on these comparisons and the field observations, some adjustments were made to the initial OD matrix to better match the target

volumes and observed queues. Adjustments were also made within the downtown grid to eliminate unrealistic routes (i.e., vehicles making circular routes through the grid). Note that the roadway laneage modeled on Beechurst in the existing condition was based on the condition of the road during construction and the number of lanes observed in Fall 2023.

2.4 FUTURE YEAR MODEL DEVELOPMENT

The future year (2050) No-Build model was developed to include anticipated traffic growth between the existing conditions and 2050 as well as committed improvements from other projects within the study area. The following committed projects were under construction at the time of the study or are anticipated to be constructed within the timeframe of the analysis:

- Widening of Beechurst Avenue from University Avenue to Campus Drive
- Beechurst Avenue at Campus Drive intersection Improvements

Projected traffic volumes for 2050 were developed using historic AADT information as well as projected growth rates from the travel demand model. Additionally, the project team reviewed planned development in the area as well as anticipated growth trends for WVU. The chosen growth patterns for the 2050 simulation were reviewed in coordination with MMMPO staff. To develop simulated traffic volumes for the future year (2050) No-Build condition, ODME was performed again in TransModeler using future year target link volumes and the existing conditions model OD matrices as the seed matrices.

Based on projected growth, pedestrian volumes were also grown proportionately for all existing crossings.

3. Existing Conditions Results

All study intersections were evaluated based on average vehicle delay and corresponding Levels of Service (LOS). LOS is a qualitative measure describing roadway operating conditions. For intersections, LOS is determined by control delay. Signalized intersections report the average control delay for the entire intersection, while unsignalized report LOS separately for each stop-controlled approach. **Table 3-1** presents the HCM criteria for assigning LOS based on control delay for signalized and unsignalized intersections.

Table 3-1: HCM LOS Criteria for Signalized and Unsignalized Intersections

Level of Service (LOS)	Intersection Type		Relative Delay
	Signalized	Unsignalized	
A	≤ 10 seconds	≤ 10 seconds	Short Delays
B	< 20 seconds	< 15 seconds	Moderate Delays
C	< 35 seconds	< 25 seconds	
D	< 55 seconds	< 35 seconds	
E	< 80 seconds	< 50 seconds	Long Delays
F	≥ 80 seconds	≥ 60 seconds	Very Long Delays

The intersection LOS (at signals) and average vehicle delay by approach (at stop-controlled approaches) are summarized in **Figure 3-1** for the Existing (2023) condition.

The Existing (2023) conditions analysis indicates that several signalized intersections, as well as movements at unsignalized intersections, are currently operating at unacceptable levels of service (LOS E or F) during one or both of the study's peak hours. Significant delays and poor performance are particularly evident along Beechurst Avenue and University Avenue corridors. A key area of concern is

the intersection of University Avenue & Campus Drive/Stewart Street, which operates at a failing LOS during the PM peak hour.

Additional operational challenges are observed at and around the Grumbein's Island pedestrian crossing, located just north of Downtown. High pedestrian volumes at this location significantly impact vehicular flow, contributing to strained operations. Prolonged delays and queuing are also evident along unsignalized side streets intersecting Beechurst Avenue, University Avenue, and Willey Street.

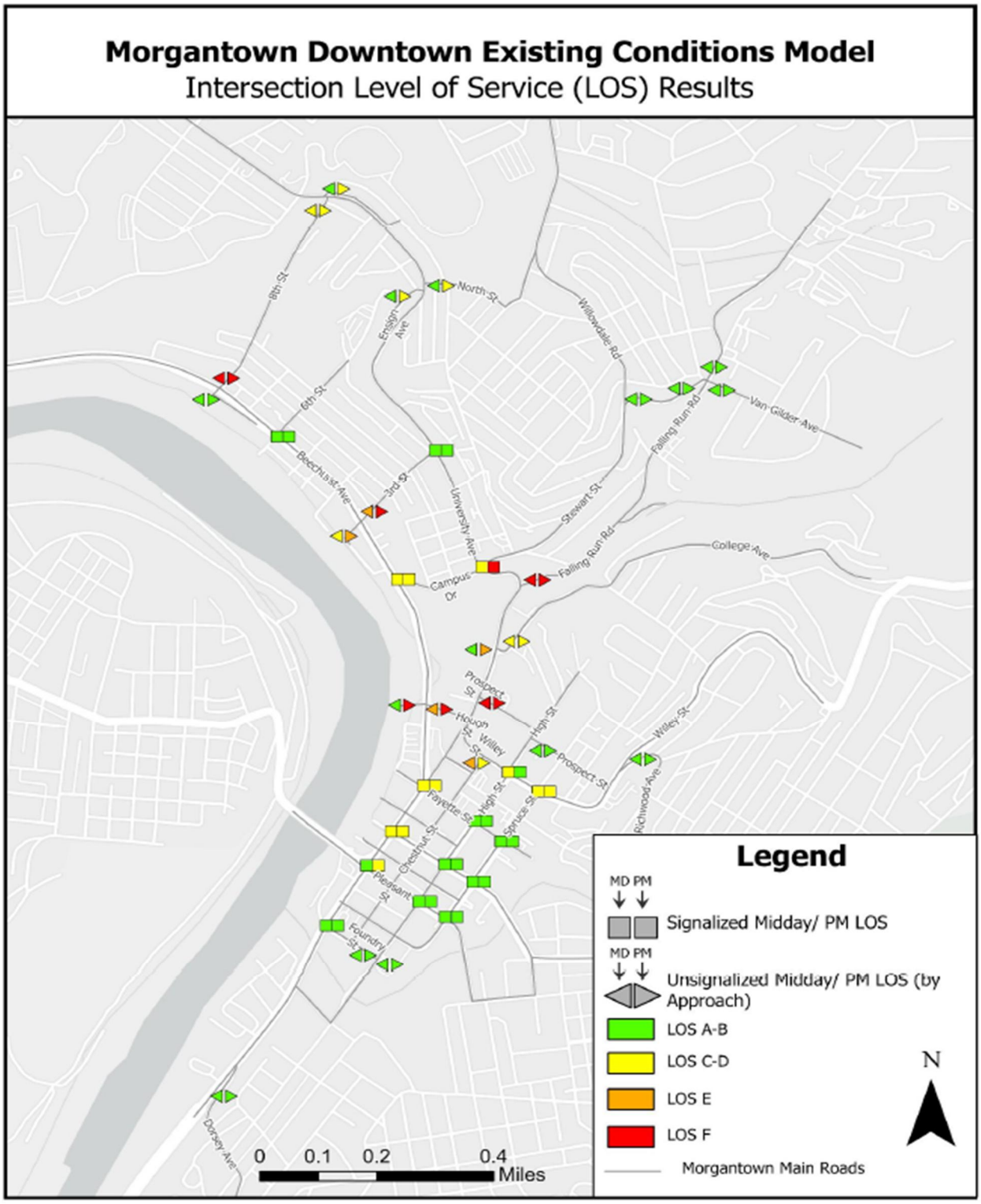


Figure 3-1: Existing Intersection LOS Results

4. Alternatives Development

Based on the existing conditions analysis and public feedback, the project team, in cooperation with the steering committee, defined the need to assess within the modeling as the evaluation of congestion

improvements at hotspots with substantial delay while also testing the impacts of safety and multimodal access improvements on congestion. This was used as a guiding principle when determining which alternatives to evaluate. Many potential improvements were discussed, mainly in Steering Committee meetings #3 and #4 (see **Appendix C**), and narrowed down to a smaller subset which could be carried forward for evaluation in the model. Concepts were either carried forward for modeling or screened out based on consensus from the study team and the steering committee as shown in **Figure 4-1**. Improvements were then compiled into packages known as alternatives which could be modeled. Improvements were packaged together based on whether they were complimentary to each other or separate enough in the network that there would be little effect on each other, or there was a desire by the steering committee to observe the effects on the network when completed concurrently. Six total alternatives, described in more detail in **Chapter 4.2**, were compiled for modeling. Based on initial results, a seventh alternative was selected to create an "ultimate" scenario which forecasted the operational conditions of all preferred improvements in a single model. Once selected for modeling, the project team evaluated concepts based on technical feasibility, operational benefits, and cost considerations. Below is a summary of the process and the final alternatives modeled.

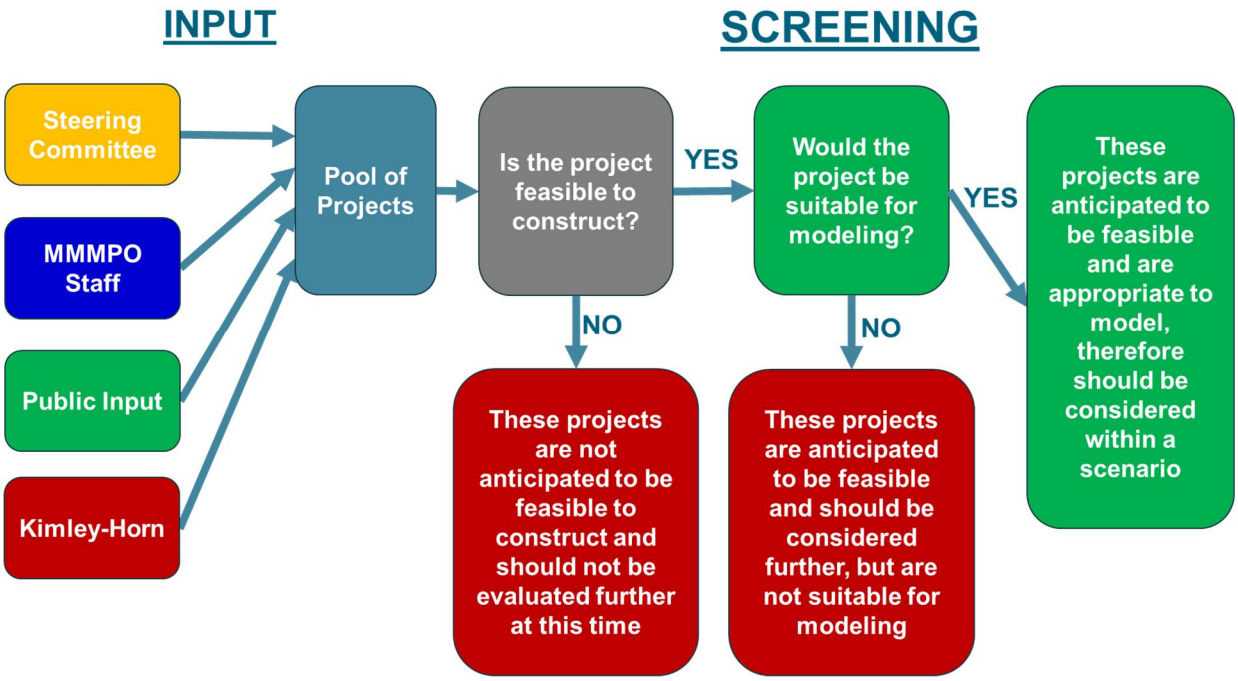


Figure 4-1: Modeling Alternatives Screening Approach

4.1 ALTERNATIVES NOT CARRIED FORWARD FOR MODELING

The following improvements were discussed and agreed to have value for the network that could be pursued further, but were not applicable to include in the model because of a lack of anticipated effect to the modeling parameters and operations results, being located outside the extents of the model, having estimated prohibitive right-of-way or other impacts, or not being selected as a priority improvement by the steering committee.

- Additional signage, especially on High Street
- Truck traffic restrictions
- Campus Connector Trail (8th Street and Grant Street to Evansdale Campus)
- Signal timing along Route 705

- Conversion of Grant Avenue and McLane Avenue to two-way street
- Crosswalks on Beechurst Avenue at Reynolds Hall and/or Hough Street
- Additional sidewalk on the opposite side of Walnut Street Bridge
- Widening of Beechurst Avenue between Campus Drive and 8th Street
- Re-allocation of laneage to improve lane continuity along University Avenue between Foundry Street and Fayette Street

4.2 ALTERNATIVES CARRIED FORWARD FOR MODELING

Seven total alternatives were compiled by the project team and steering committee to be tested within the model:

1. Signal timing and multimodal improvements, including:
    - Signal timing optimization and corridor coordination along study intersections and corridors
    - Improved bicycle and pedestrian access:
        i. New crosswalks in Downtown and along Beechurst Avenue
        ii. Leading Pedestrian Intervals (LPIs) and pedestrian recalls at Downtown signals
        iii. RTOR (Right Turn on Red) restrictions at key intersections
2. Grumbein's Island closure, including:
    - Closure of University Avenue to vehicular traffic between Beechurst Avenue and College Avenue, along with other vehicle access points to Grumbein's Island
    - Realignment of portions of Willey Street with a new connection to Beechurst Avenue
3. One-way to Two-way Street Conversions on High Street, Spruce Street, Pleasant Street and Walnut Street
4. Willey Street Improvements
    - Alternative 4A (Interim Alternative): Realignment of Richwood Avenue and Willey Street Improvements
    - Alternative 4B (Final Alternative): Realignment of US 199 to Snider Street and Conversion of Willey Street to a local connection
5. Intersection Improvements and Beechurst Corridor Improvements from Campus Drive to 8th Street, including:
    - Converting Beechurst/8th, Stewart/VanGilder/Protzman to roundabouts
    - Intersection Improvements at University/Pleasant
    - Converting Beechurst into a Reduced Conflict Intersection (RCI) corridor where left-turn movements from minor streets are redirected to adjacent intersections as U-turns
6. Combined Grumbein's Island (Alternative 2), Willey Street (Alternative 4B) and One-way Conversions (Alternative 3)
7. Combined Grumbein's Island (Alternative 3), Willey Street (Alternative 4B), Intersection Improvements (Alternative 5), and Signal Optimization (Alternative 1).

The following sections provide more details on the proposed improvements included in each of the alternatives carried forward for modeling. Detailed microsimulation results for each alternative, in addition to other quantitative and qualitative based performance metrics and comparison between different alternatives are presented in **Chapter 5** of this report.

4.2.1. Build Alternative 1: Signal Timing and Multimodal Improvements

Alternative 1 would include signal timing optimization at many intersections within the study area as well as corridor optimizations of the main study corridors. This alternative would also include the proposed

Monongahela Boulevard Road Diet which would reduce the vehicular capacity between Evansdale Drive and 8th Street from the existing four-lane typical section to a two-lane typical section. Additionally, this alternative aims to enhance bicycle and pedestrian access by installing new crosswalks in Downtown and along Beechurst Avenue, implementing leading pedestrian intervals (LPIs) and pedestrian recalls on every cycle at Downtown signals, and restricting right turns on red (RTOR) at select intersections. See **Table 4-1** through **Table 4-3** for a detailed list of specific locations and intersections where those enhancements are to be modelled. **Figure 4-2** highlights all proposed improvements under Alternative 1, excluding signal timing and corridor coordination.

Table 4-1: Alternative 1 Additional Proposed Crosswalk Locations

New Crosswalks	
On Spruce Street at Forest Ave	On Beechurst Avenue at 4 1/2 Street

Table 4-2: Alternative 1 RTOR Restriction Locations

Restrict Right Turn on Red (RTOR)	
Beechurst Avenue and 6th Street	Willey Street and High Street
Beechurst Avenue and 3rd Street	Willey Street and Spruce Street
Beechurst Avenue and Campus Drive	High Street and Fayette Street
University Avenue and 3rd Street	High Street and Walnut Street
University Avenue and Stewart Street/Campus Drive	High Street and Pleasant Street
Beechurst Avenue/University Avenue and Fayette Street	Spruce Street and Fayette Street
Beechurst Avenue and Walnut Street	Spruce Street and Walnut Street
Beechurst Avenue and Pleasant Street	Spruce Street and Pleasant Street
Beechurst Avenue and Foundry Street	

Table 4-3: Alternative 1 LPI Introduction Locations

Pedestrian Crossing Actuations and Leading Pedestrian Intervals (LPIs)	
Beechurst Avenue/University Avenue and Fayette Street	High Street and Fayette Street
Beechurst Avenue and Walnut Street	High Street and Walnut Street
Beechurst Avenue and Pleasant Street	High Street and Pleasant Street
Beechurst Avenue and Foundry Street	Spruce Street and Fayette Street
Willey Street and High Street	Spruce Street and Walnut Street
Willey Street and Spruce Street	Spruce Street and Pleasant Street

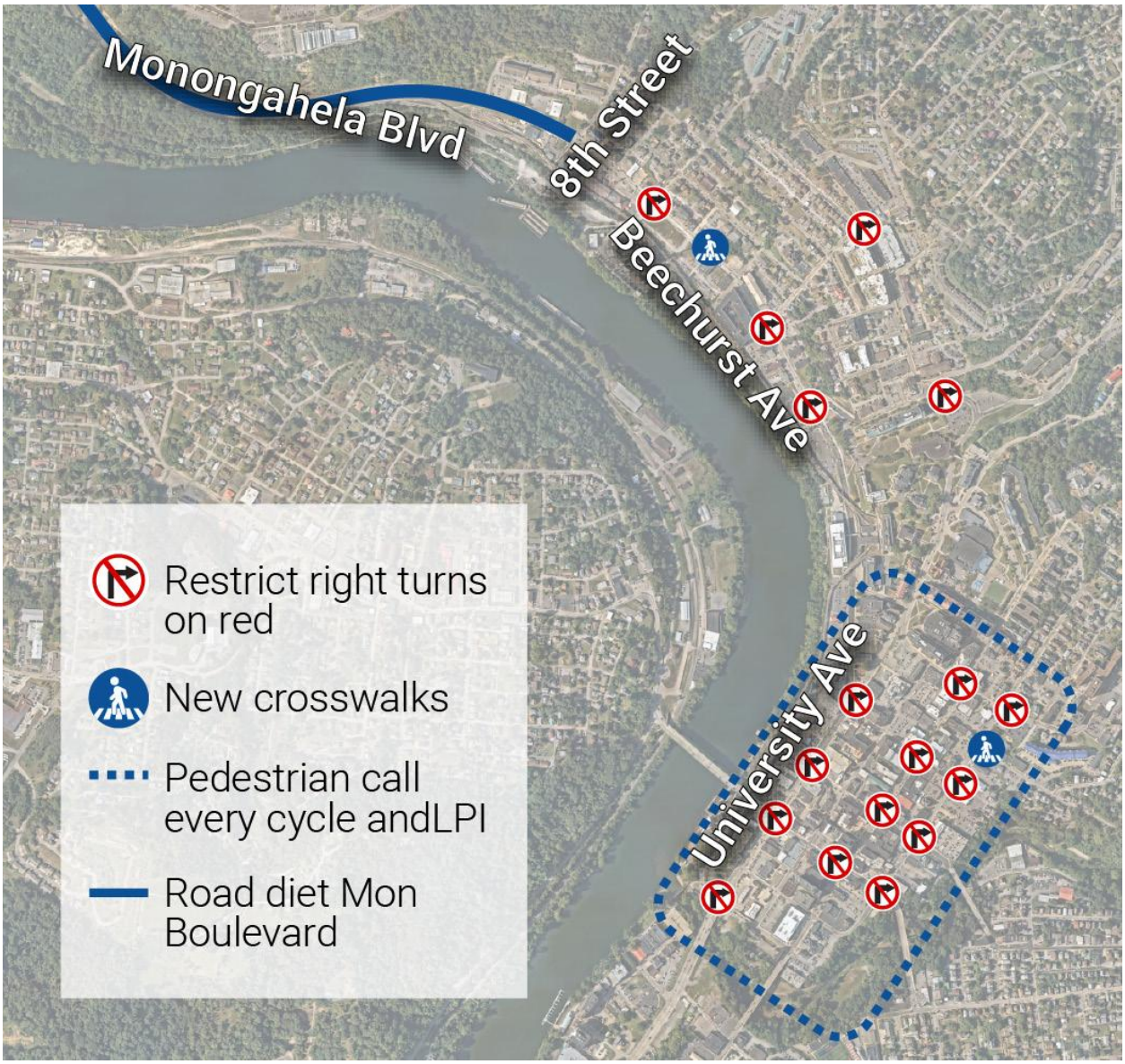


Figure 4-2: Alternative 1 Proposed Improvements (in addition to signal coordination)

4.2.2. Build Alternative 2: Grumbein's Island Closure

Alternative 2 would include the closure of Grumbein's Island and provide alternative route options for affected traffic. This would mean the closure of University Avenue to vehicular traffic between Beechurst Avenue and Falling Run Road, and the existing access points to University Avenue within this section at College Avenue, Prospect Street (proposed to be converted to a two-way street between the WVU parking garage and North High Street), and Hough Street. This alternative also includes a proposed realignment of Willey Street to intersect with Beechurst Avenue just north of Fayette Street and the realignment of Falling Run Road to align with University Avenue at the intersection of Stewart Street/Campus Drive. In this proposed configuration, the intersection of Fayette Street and Beechurst Avenue/University Avenue would be converted to a northbound right-in only intersection. Access to the WVU Downtown Campus is assumed to be maintained for emergency, transit, and maintenance vehicles through access control measures such as electronic gates. **Figure 4-3** illustrates these proposed closures

and changes in the Grumbein's Island area. Due to the change in network connections, a build-scenario run of the MMMPO's travel demand model was completed to predict the changes in travel patterns in the network based on these changes. The primary objective of this alternative is to enhance pedestrian safety by minimizing vehicle-pedestrian interactions near Grumbein's Island.

Figure 4-3: Grumbein's Island Closure Alternative

4.2.3. Build Alternative 3: Downtown One-way to Two-way Street Conversions

Alternative 3 involves converting four one-way streets (High Street, Spruce Street, Pleasant Street, and Walnut Street) in the downtown area into two-way operations, as shown in **Figure 4-4**. The primary objective of these conversions is to calm traffic speeds and enhance downtown connectivity for drivers

traveling through the area by providing more direct and flexible routing options. While the two-way conversions are expected to result in increased congestion and reduced travel speeds at some downtown intersections, calming traffic is expected to improve safety for pedestrians, and access to local businesses would improve with more direct routes. Additionally, signal timing modifications required to manage the new two-way operations may result in longer signal cycle lengths during peak hours, potentially leading to increased wait times for pedestrians at crossings. Due to the change in network connections, a build-scenario run of the MMMPO's travel demand model was completed to predict the changes in travel patterns in the network based on these changes.

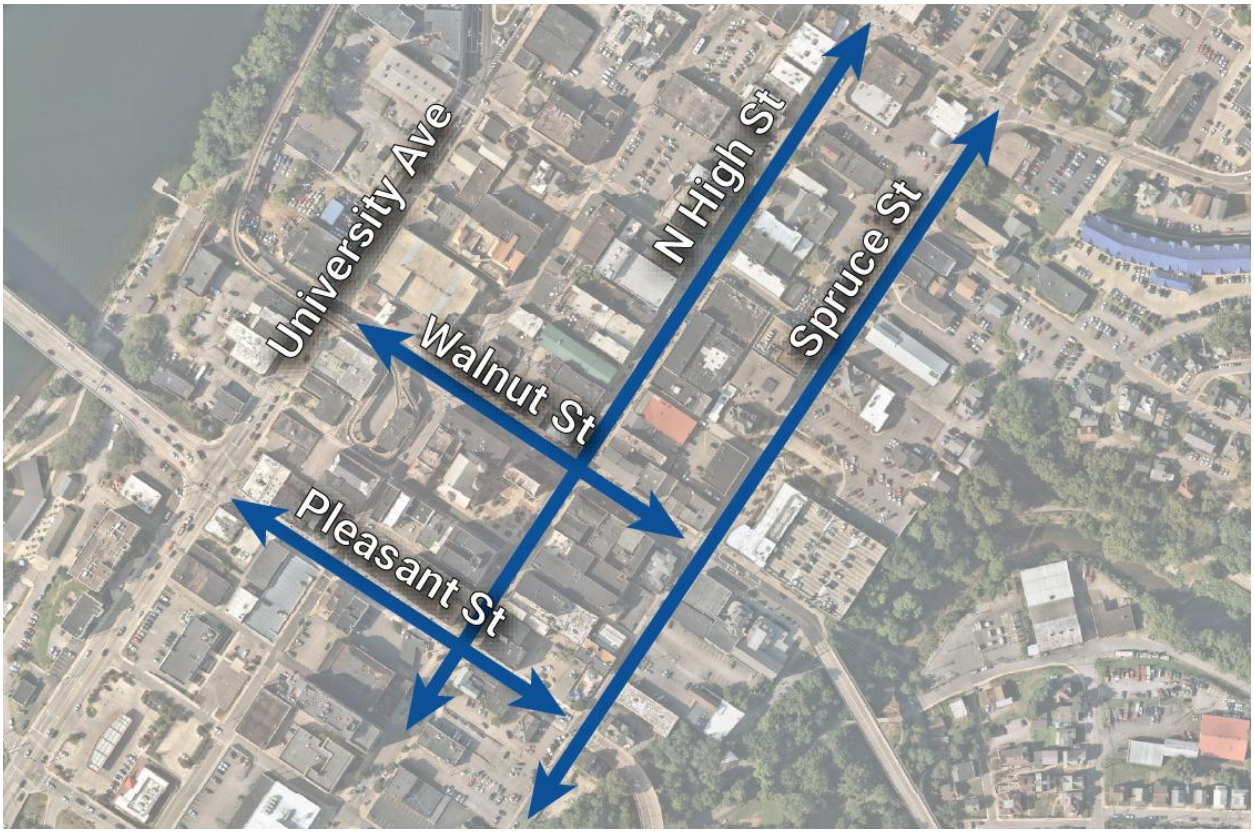


Figure 4-4: Downtown One-way to Two-way Street Conversions Alternative

4.2.4. Build Alternative 4: Willey Street/ Richwood Avenue Improvements

This alternative would include capacity improvements and/or realignment along Willey Street. Alternative 4 was analyzed with two different scenarios: an interim (4A) and long-term (4B).

Build Alternative 4A: Interim Improvement

This alternative proposes to widen the lanes along Willey Street and add or improve existing sidewalks to meet current design standards between Richwood Avenue and Snider Street. The intersection of Richwood Avenue and Willey Street is proposed to be realigned to a right angle following the existing East Prospect Street right-of-way. The existing segment of Richwood Avenue near Willey Street would terminate with a cul-de-sac. The segment of Richwood Avenue between East Prospect Street and Snider Street is proposed to become the through movement to Snider Street. Richwood Avenue's re-alignment includes a proposed one-way stop-controlled intersection with Willey Street and another with Snider Street. In the southbound direction, Richwood Avenue would be stop-controlled at E Prospect Street. A schematic of the proposed interim Alternative 4A improvements is shown in **Figure 4-5.**

Figure 4-5: Alternative 4A - Interim Willey Street/ Richwood Avenue Improvements

Build Alternative 4B: Long Term Improvement

This alternative builds upon alternative 4A to also include the realignment of US 119 to Snider Street and the conversion of Willey Street to a local connection. This alternative proposes to re-align Willey Street to connect with the existing Snider Street which would be upgraded to become US-119. The new Snider Street would also provide multimodal elements such as bike lanes and sidewalks. The intersection of Willey Street and Snider Street would be converted to a one-way stop-controlled T-intersection. The intersection of Snider Street and Richwood Avenue would operate as a two-way stop-controlled intersection, with stop control along Richwood Avenue. The north end of Richwood Avenue would include a cul-de-sac at Willey Street. The southern end of Richwood Avenue would be realigned to follow the existing East Prospect Street right-of-way and be stop controlled at the intersection with Willey Street. This alternative provides a more direct connection between The Mileground and the core downtown

Morgantown area for vehicles and multi-modal users. Due to the change in network connections, a build-scenario run of the MMMPO's travel demand model was completed to predict the changes in travel patterns in the network based on these changes. **Figure 4-6** shows the proposed long-term Willey Street/ Richwood Avenue improvements.

Figure 4-6: Alternative 4B - Long-term Willey Street/Richwood Avenue Proposed Improvements

4.2.5. Build Alternative 5: Intersection Improvements and Beechurst Corridor Improvements from Campus Drive to 8th Street

This alternative includes several intersection improvements throughout the study area, as well as corridor upgrades along Beechurst Avenue from Campus Drive to 8th Street. Specifically, the proposed improvements include the following, shown in **Figure 4-7**.

1. Converting Beechurst Avenue into a Reduced Conflict Intersection (RCI)/Reduced Conflict U-Turn (RCUT) corridor with a median in the existing two-way left-turn lane, in which through and left-turn movements from minor streets are redirected via U-turns at adjacent intersections or by using the adjacent network. A single lane roundabout at the intersection of Beechurst Avenue and 8th Street is also proposed.
2. Converting the intersection of University Avenue (US 119) & Pleasant Street (US 19) into a hybrid roundabout
3. Converting the intersection of Stewart Street, VanGilder Avenue, Protzman Street, Hoffman Avenue, and Junction Street into a single lane roundabout
4. Improving signal timing, phasing, and implementing turn prohibitions at the intersection of University Avenue & Falling Run Road (no westbound left-turns from Falling Run Road)
5. Improving signal timing, phasing, and implementing turn prohibitions at the intersection of University Avenue & Campus Drive / Stewart Street (no northbound or southbound left-turns from University Avenue)

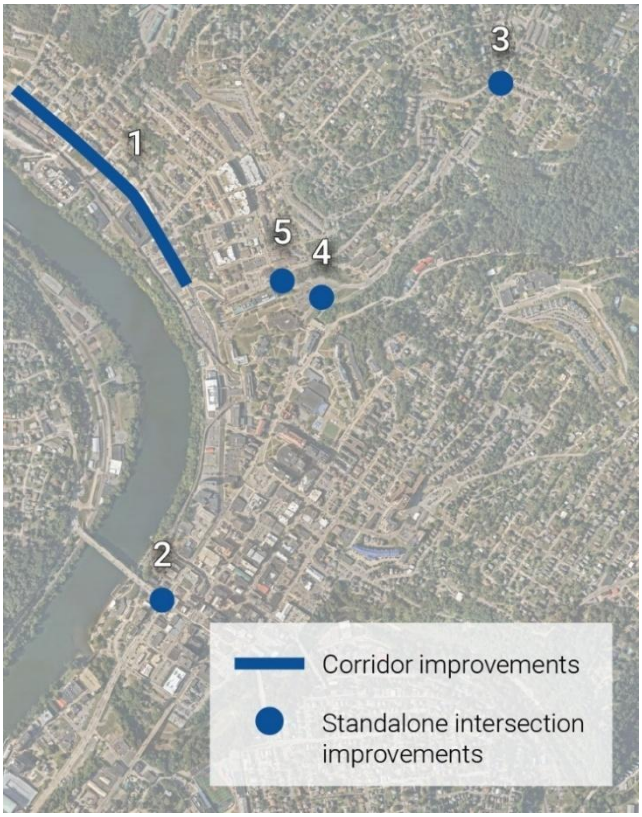


Figure 4-7: Intersection Improvements and Beechurst Corridor Improvements Alternative

4.2.6. Build Alternative 6: Combined Alternatives 2, 3, and 4B

This alternative combines the Grumbein's Island Closure alternative (Alternative 2), One-way to Two-way Street Conversions alternative (Alternative 3), and long-term Improvements at Willey Street and Richwood Avenue alternative (Alternative 4B) into a single comprehensive option to allow for a review of the benefits when combined.

4.2.7. Build Alternative 7: Combined Alternatives 1, 2, 4B, and 5.

This alternative combines multiple proposed alternatives into a single comprehensive solution and was developed based on the results of the analysis for Alternatives 1 through 6. It includes the Signal Timing

and Multimodal Improvements Alternative (Alternative 1), the Grumbein's Island Closure alternative (Alternative 2), the Long-Term Improvements at Willey Street and Richwood Avenue alternative (Alternative 4B), and the Intersection Improvements and Beechurst Corridor Improvements alternative (Alternative 5) except for the conversion of University Avenue & Pleasant Street to a roundabout; instead, signal phasing and timing improvements are included at that location.

Chapter 5 presents the evaluation results for each of the alternatives, both quantitatively and qualitatively. These results were used to assess the alternatives, identify those that offer the greatest benefits if implemented, and determine which options should be ruled out.

5. Alternative Evaluation and Results

Alternatives were evaluated on a three-tier process:

1. Intersection Operation Comparison to 2050 No-Build Conditions – Intersection performance was evaluated based on potential improvement or degradation of intersection operations, as indicated by Levels of Service (LOS). This comparison also highlighted intersections where operations improved from an unacceptable LOS in No-Build to an acceptable LOS in the Build alternative, and vice versa. Full details of the results can be seen in **Appendix D**.
2. Scorecard– Each alternative was evaluated using a structured scoring system, assigning numerical ratings (1–5) based on expected performance across key performance domains including intersection traffic operations, downtown network traffic delay, bike and pedestrian mobility/safety, and vehicular safety. Full score cards can be seen in **Section 5.3** and TransModeler outputs associated with the scorecards can be seen in **Appendix D** and **Appendix E**.
3. Qualitative Considerations – Additional factors were qualitatively considered and assigned a general favorability rating. Factors included anticipated public support, constructability, right-of-way impacts, impact to business and development, and cost-effectiveness.

The sections to follow detail the evaluation process, beginning with the LOS findings for each future year (2050) alternative.

5.1 2050 NO-BUILD ALTERNATIVE RESULTS

In the 2050 No-Build alternative, the same intersections and movements identified under existing conditions are expected to continue performing poorly, operating at LOS E or F during at least one of the analysis peak hours. This is expected to persist despite the committed improvements by others outlined in **Section 2.4**, including the widening of Beechurst Avenue between University Avenue and Campus Drive, as well as enhancements to the Campus Drive intersection.

Moreover, additional intersections—such as the University Avenue/Beechurst Avenue & Fayette Street intersection and the Willey Street & Spruce Street intersection—are anticipated to degrade to unacceptable levels of operation (LOS E or F) during the PM peak hour. These LOS degradations are primarily driven by projected increases in vehicular demand and pedestrian activity, inefficient signal timing, and limited capacity at major intersections. Similar operational challenges are also expected at multiple unsignalized intersection approaches across the study area. **Figure 5-1** presents the simulated LOS results for 2050 No-Build conditions at the study intersections.

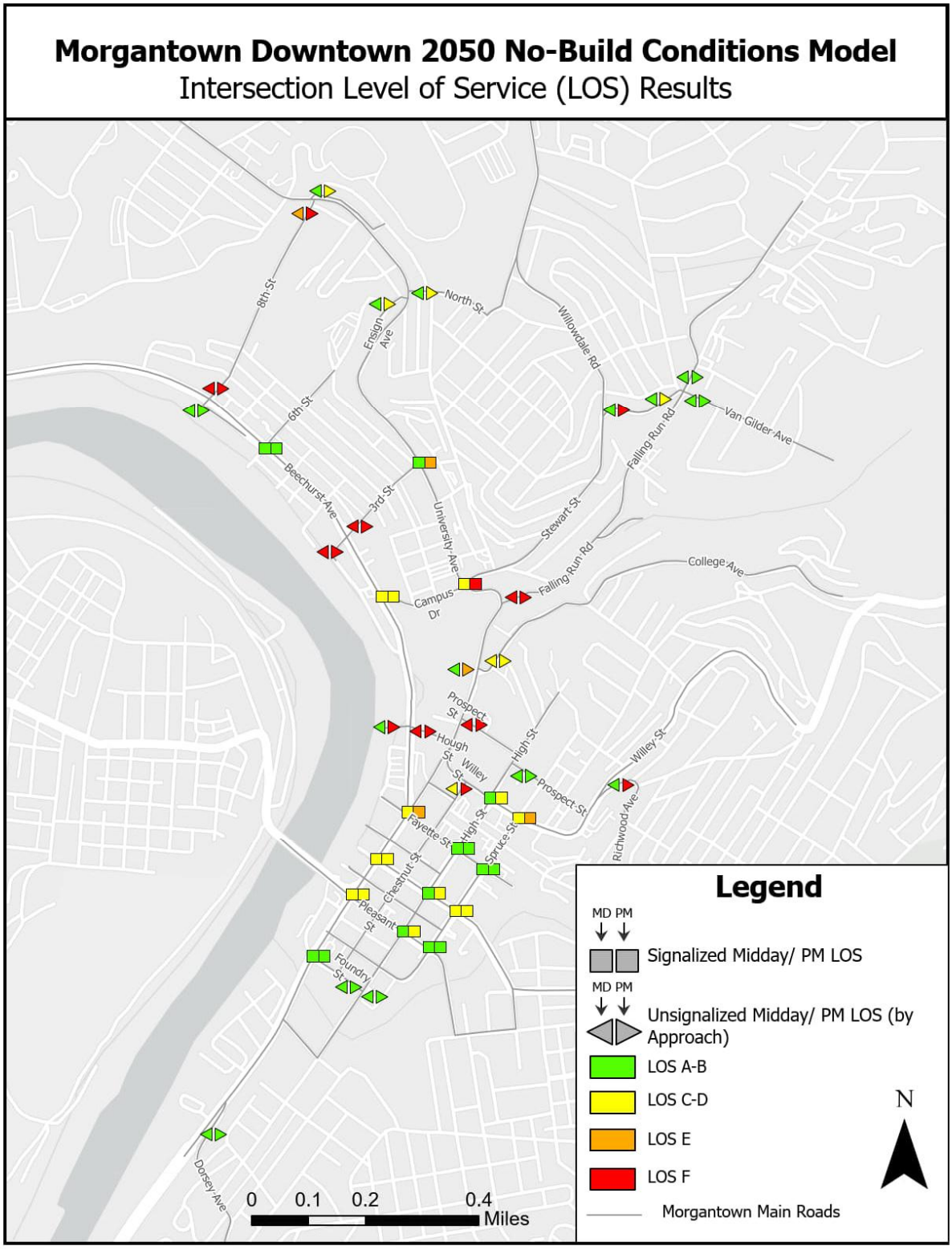


Figure 5-1: Simulated LOS Results for 2050 No-Build Alternative

5.2 BUILD ALTERNATIVES LOS RESULTS DISCUSSION

5.2.1. Build Alternative 1: Signal Timing and Multimodal Improvements

As discussed in **Section 4.2.1**, Build Alternative 1 focuses on targeted signal timing enhancements aimed at improving both vehicular operations and pedestrian safety at key intersections and crossings within the study area, in addition to new pedestrian crosswalks and a road diet. These improvements primarily involve adjustments to signal timing and offsets to optimize traffic flow at both individual intersections and along key corridors. Despite a reduction in effective green time resulting from the introduction of LPIs and restrictions on RTOR movements, the adverse operational impact to vehicles is minimal. Only one signalized intersection, University Avenue & Campus Drive/Stewart Street— is expected to operate at a failing LOS (E or F) during the PM peak hour, while all other signalized intersections are expected to maintain acceptable levels of service during both the PM and MD peak periods. A limited number of unsignalized approaches are expected to operate at LOS E or F, primarily along the Beechurst Avenue and University Avenue corridors. Overall, Build Alternative 1 is expected to achieve meaningful safety improvements for pedestrians, with timing improvements providing additional benefit or modest impact (depending on location) to vehicular operations. **Figure 5-2** presents the LOS results for Build Alternative 1.

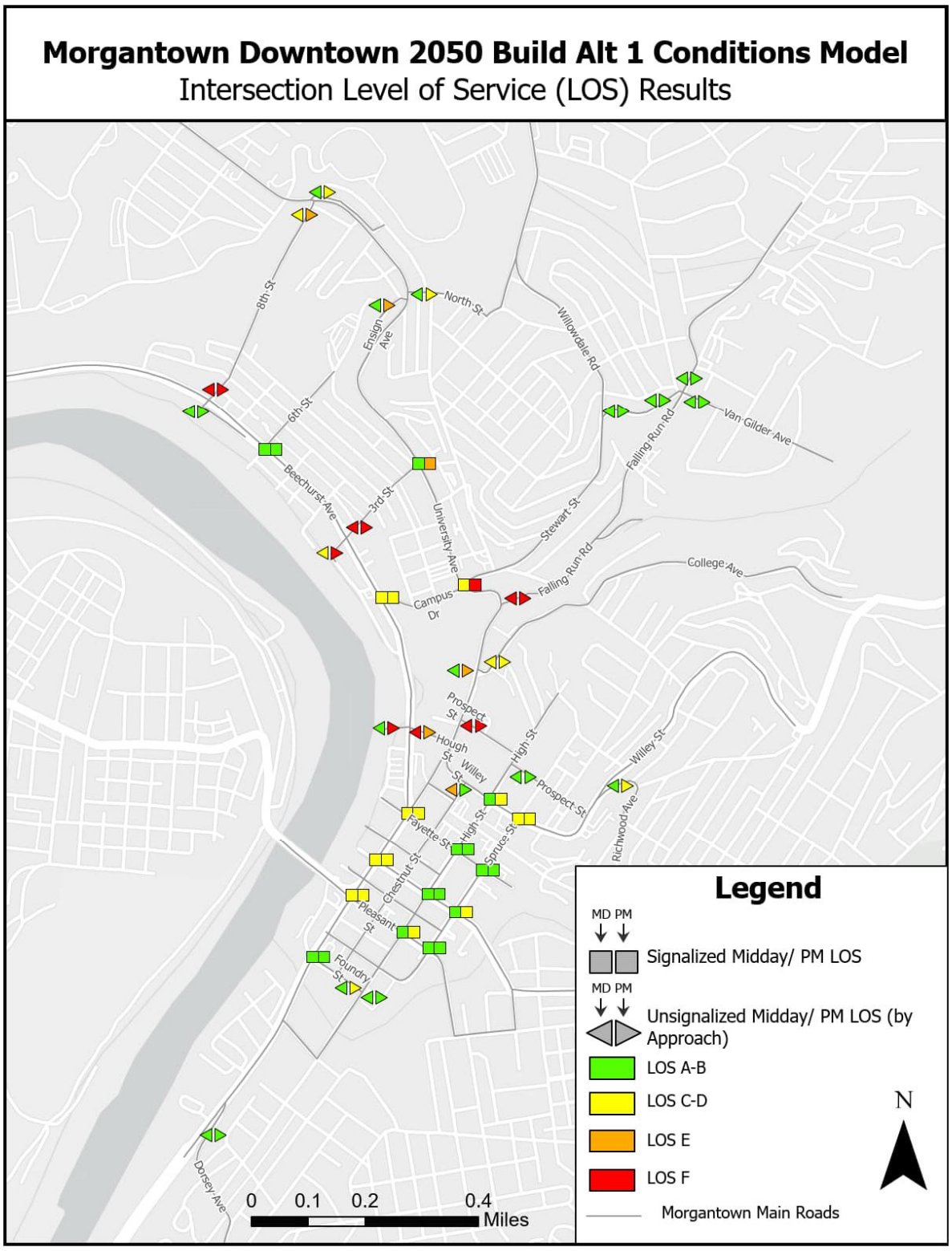


Figure 5-2: Simulated LOS Results for 2050 Build Alternative 1

A comparison between the Build Alternative 1 and 2050 No-Build alternative, as shown in **Figure 5-3**, indicates that overall operations, as measured by Level of Service (LOS), either improve or remain consistent under Build Alternative 1. Notably, two intersections that are projected to operate at unacceptable LOS in the No Build are projected to improve to acceptable levels following the implementation of Build 1 improvements. While a few low volume, unsignalized minor street approaches experience a decline to LOS E or F, these localized impacts are limited when compared to the broader operational and safety benefits introduced through the Build Alternative 1 improvements.

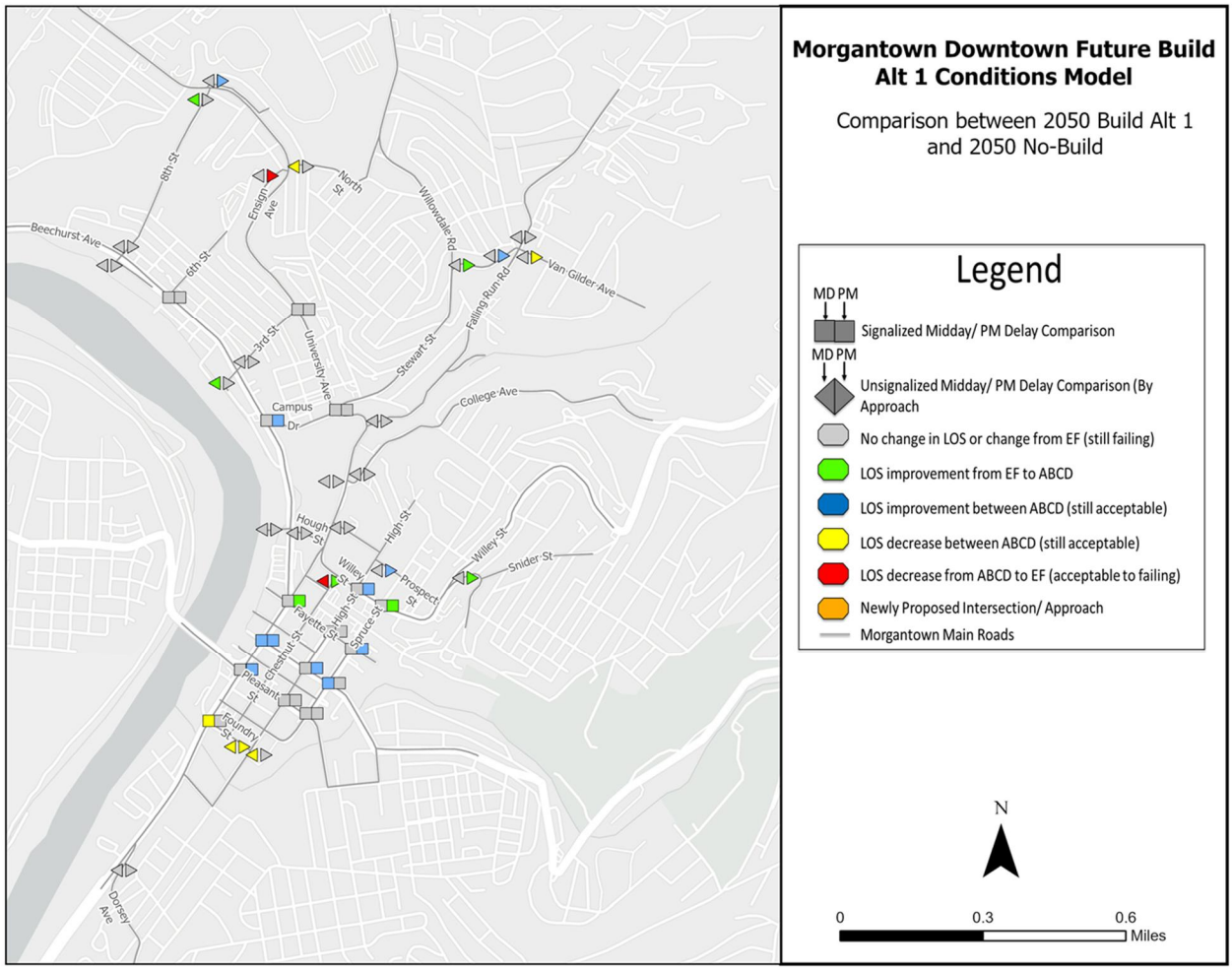


Figure 5-3: Comparison Between 2050 Build Alt 1 and 2050 No-Build Alternative Simulated LOS Results

5.2.2. Build Alternative 2: Grumbein's Island Closure

The Grumbein's Island Closure (Alternative 2) proposes restricting vehicular access on University Avenue between Beechurst Avenue and Falling Run Road, effectively closing Grumbein's Island to vehicles. The results of the travel demand modeling for this alternative indicate that the overall daily volume of traffic within the downtown network would be anticipated to decrease by approximately two percent, as compared to the 2050 No-Build (travel demand modeling diversion results for this alternative can be seen in **Appendix F**). In other words, with this network change, a small number of drivers who currently use the downtown network as a through route, meaning they do not begin or end their trip in downtown, are anticipated to take a different route such as Route 705, or Interstate 79 or 68. In anticipation of changes in traffic volumes on adjacent routes (e.g. on Beechurst Avenue) due to the diversion of vehicles, this

alternative would include signal timing and phasing improvements—particularly in the vicinity of Grumbein's Island. The new intersection at Beechurst Avenue and Willey Street is anticipated to require a large footprint to ensure acceptable traffic operations for both existing and rerouted traffic.

Based on traffic modeling results shown in **Figure 5-4**, this alternative is expected to perform well despite the closure of a key vehicular corridor within the study area. No signalized intersections are projected to operate at a failing level of service during the midday peak hour, and only one intersection (Willey Street and Spruce Street) is expected to operate at LOS E during the PM peak hour, primarily due to increased volumes along Willey Street during that period.

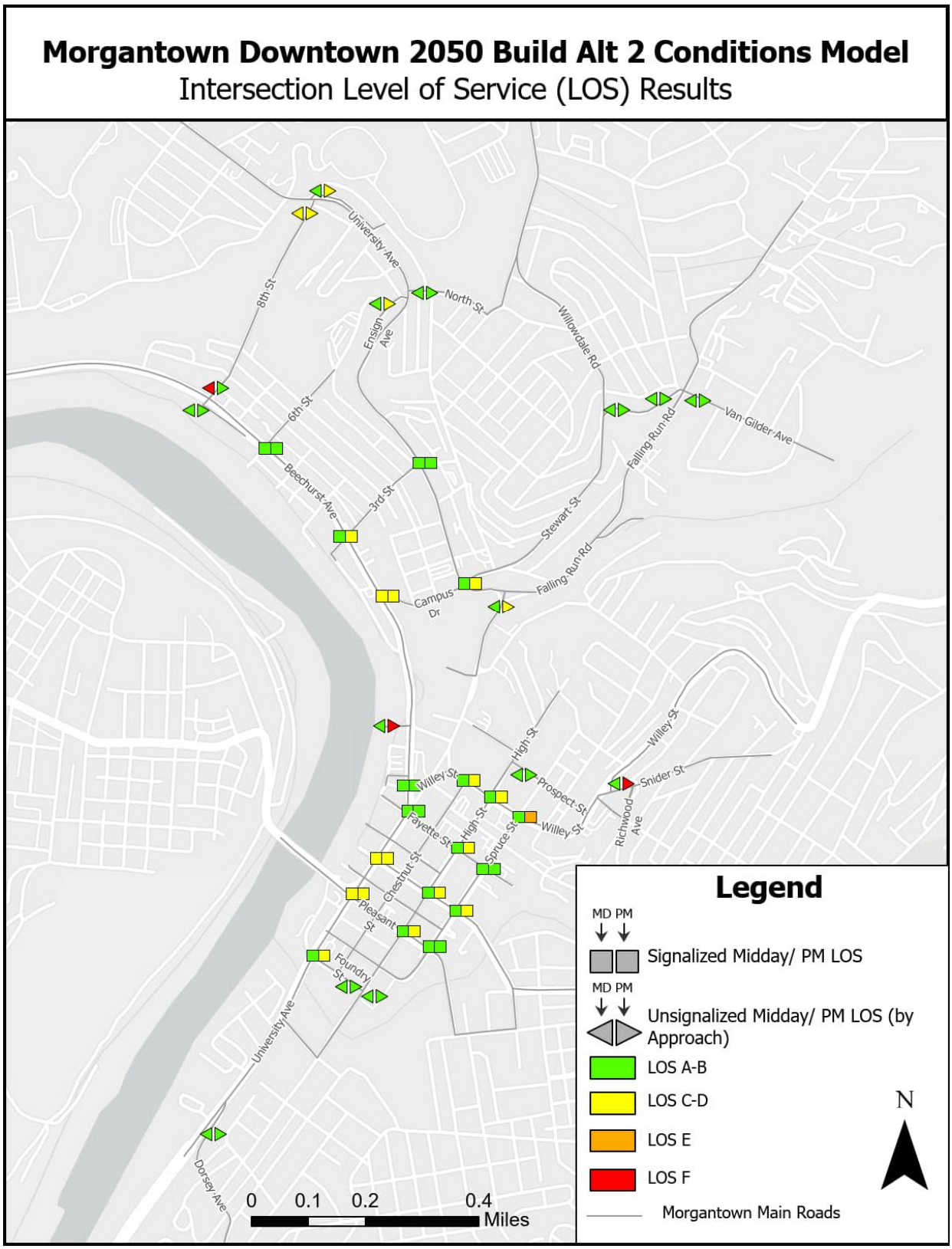


Figure 5-4: Simulated LOS Results for 2050 Build Alternative 2

The comparison between the 2050 Build Alternative 2 and the No-Build alternative, as illustrated in **Figure 5-5** indicates that all study intersections are expected to either improve in terms of level of service or continue operating within acceptable thresholds. This alternative is anticipated to enhance multimodal safety, particularly in areas with high pedestrian activity, while preserving acceptable traffic conditions for vehicular travel. These outcomes are expected to result from a combination of signal timing improvements, added capacity at key locations, and a small reduction in overall network throughput due to the closure of certain access points in the vicinity of Grumbein's Island.

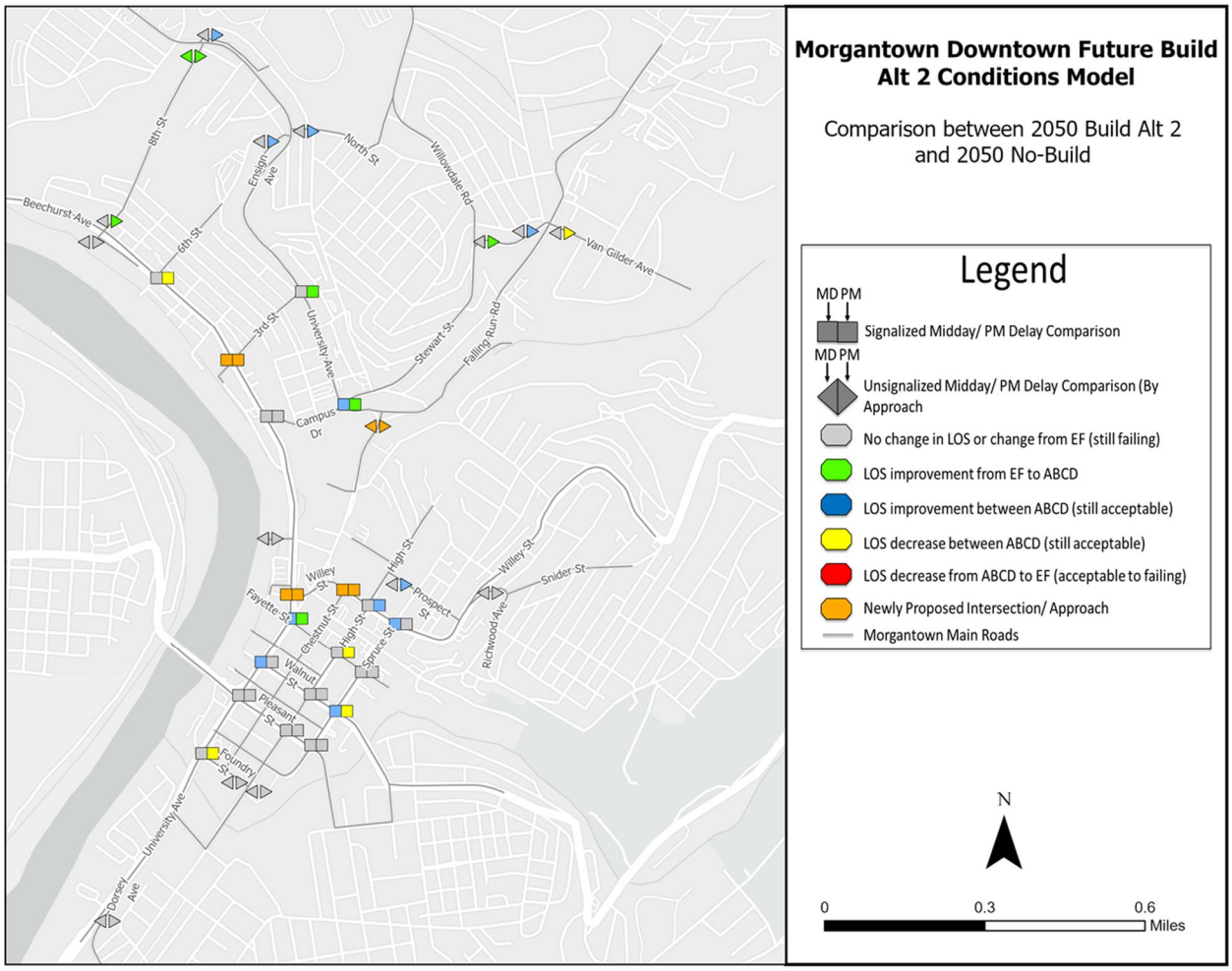


Figure 5-5: Comparison Between 2050 Build Alt 2 and 2050 No-Build Scenarios Simulated LOS Results

5.2.3. Build Alternative 3: Downtown One-way to Two-way Street Conversions

The results of the travel demand modeling for this alternative indicate that some changes in travel patterns within the core downtown area may occur, but the overall volume of traffic throughout the day is not anticipated to notably differ from the No-Build alternative (travel demand modeling diversion results for this alternative can be seen in **Appendix F**). The expected level of service (LOS) results for 2050 Build Alternative 3 are presented in **Figure 5-6**. The results indicate that, despite the conversion to two-way operations, all signalized study intersections within the downtown area are projected to operate at acceptable levels of service. While some signalized intersections and unsignalized movements outside of the downtown area are expected to experience degraded performance, these impacts are not directly attributable to the street conversion elements of this alternative. This alternative also includes updates to

signal timing and phasing throughout the downtown network to accommodate the revised traffic flow patterns resulting from the two-way conversions.

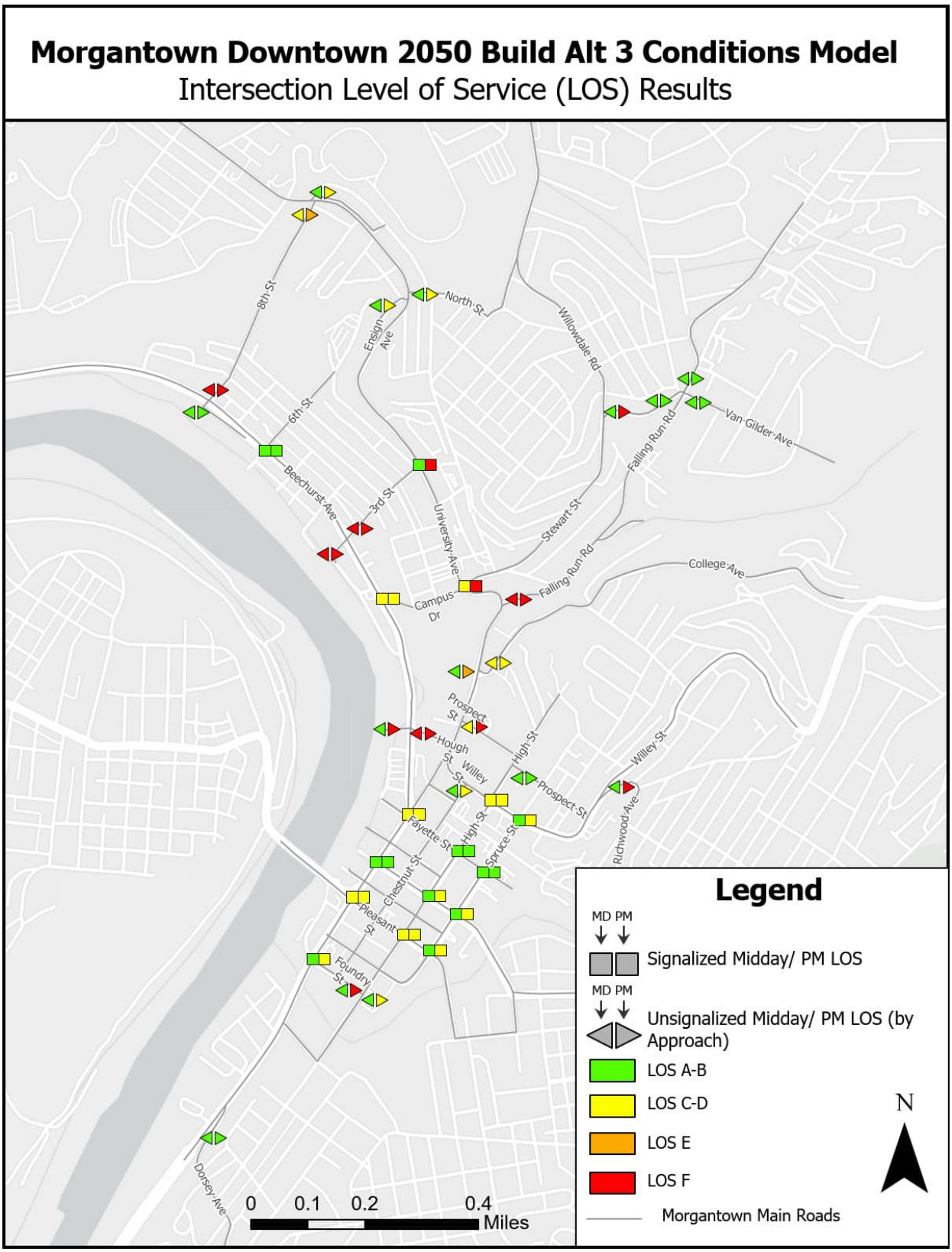


Figure 5-6: Simulated LOS Results for 2050 Build Alternative 3

The comparison between Build Alternative 3 and the No-Build alternative, as shown in **Figure 5-7**, indicates that most intersections are anticipated to improve or remain the same in terms of operational performance. Some decreases in operation were noted but are still within the acceptable range for an LOS except for the intersection of South High Street and Foundry Street in the PM peak hour. Specific signal timing updates at the Willey Street/Spruce Street intersection are expected to further improve traffic operations and reduce delays. These updates include removing certain pedestrian-only phases where appropriate and converting permitted-only left-turn movements to protected/permitted operations. These changes result in improved intersection LOS, particularly along Willey Street.

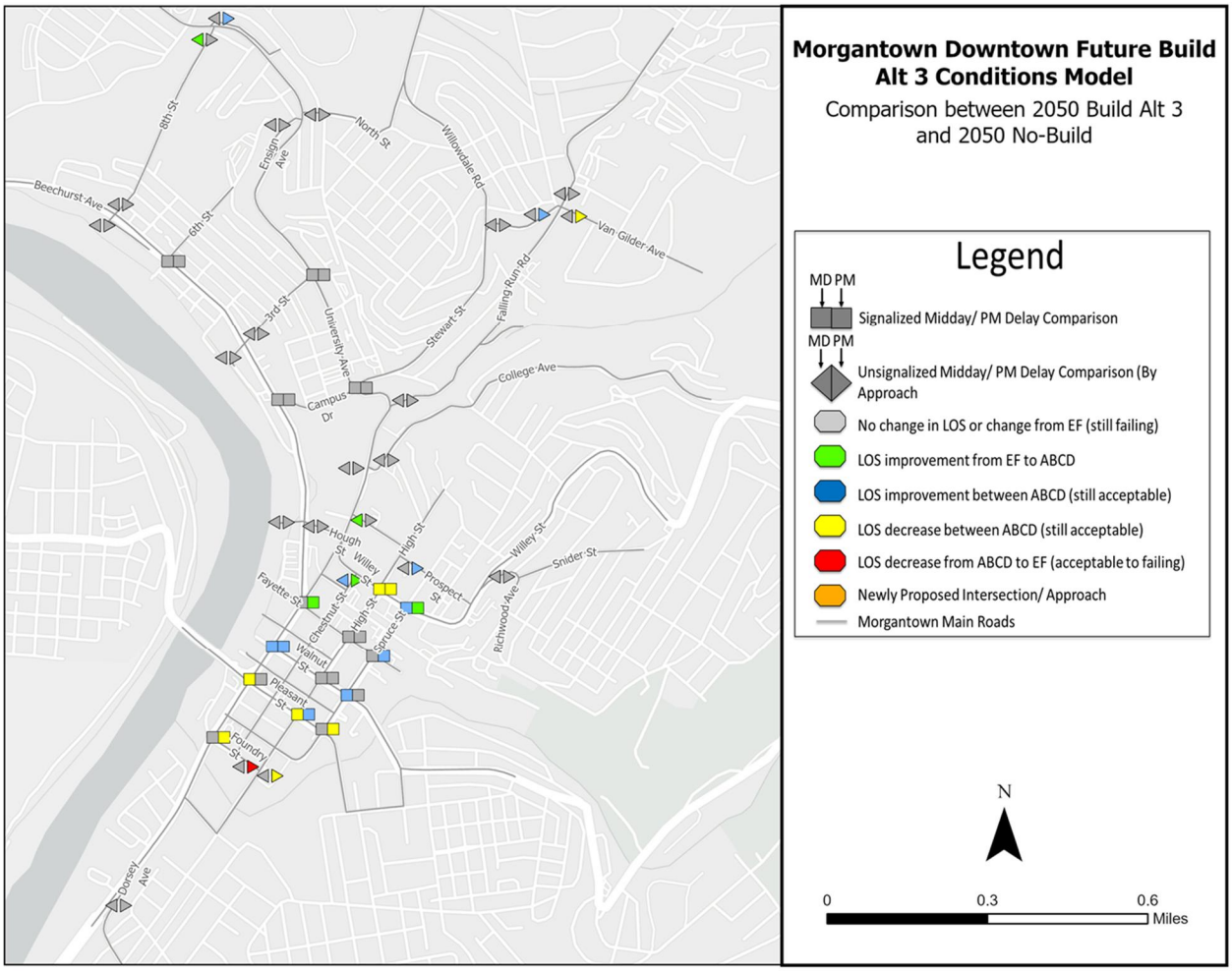


Figure 5-7: Comparison Between 2050 Build Alt 3 and 2050 No-Build Alternative Simulated LOS Results

5.2.4. Build Alternative 4: Willey Street/ Richwood Avenue Improvements

The travel demand modeling for Build Alternative 4 indicates that no notable change in the network-wide volumes within the downtown study area would be anticipated with either Alternative 4A or Alternative 4B.

Build Alternative 4A: Interim Improvement

This alternative is not expected to have a notable impact beyond its immediate area of influence. As shown in **Figure 5-8**, the LOS results indicate that the Richwood Avenue at Willey Street and Snider Street at Richwood Avenue unsignalized approaches are expected to operate at acceptable levels of operation.

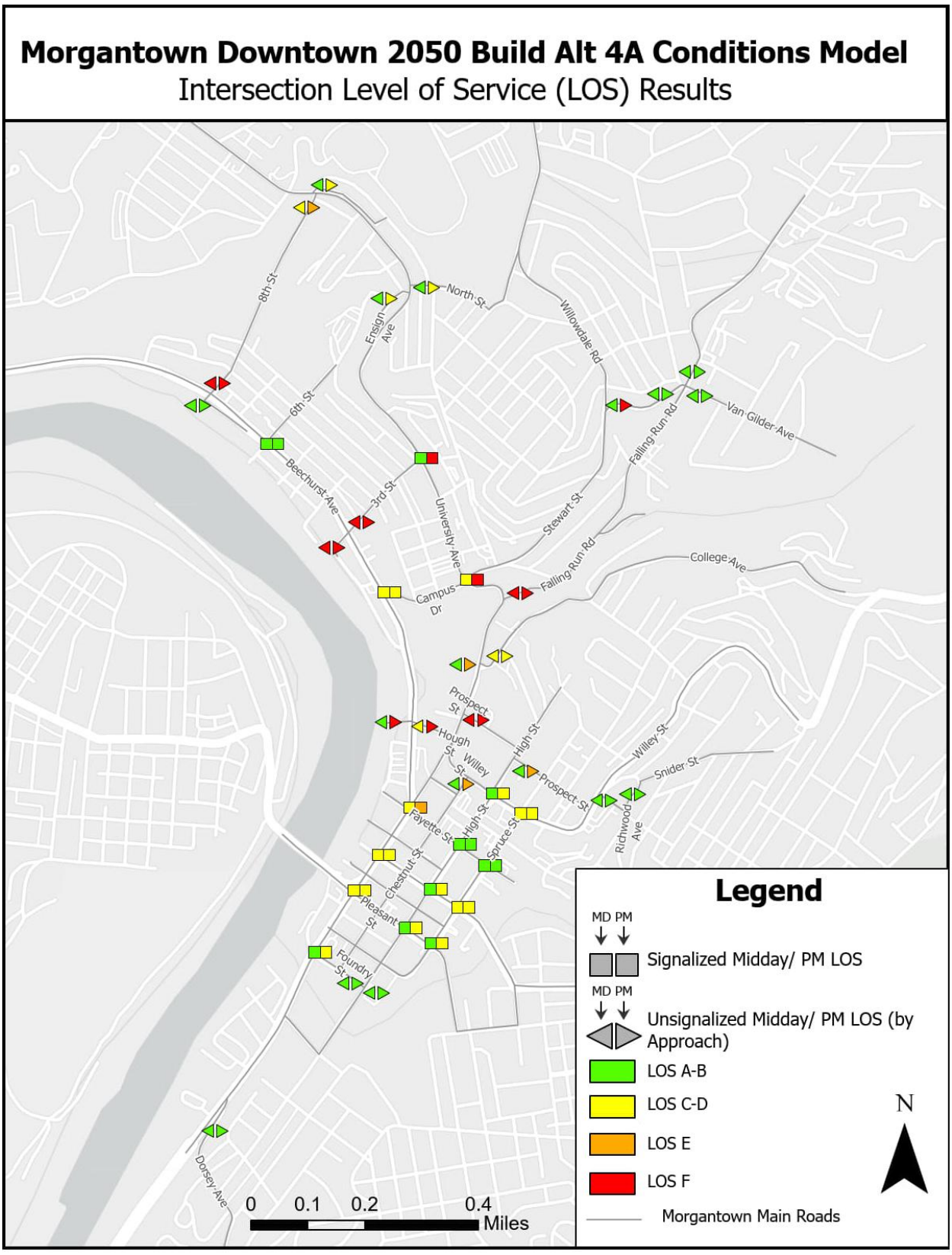


Figure 5-8: Simulated LOS Results for 2050 Build Alternative 4A

Intersections outside the proposed impact area of Alternative 4A are expected to mostly experience levels of service that are no different than 2050 No-Build during the Midday and PM peak hours, as shown in **Figure 5-9**. Some intersections are expected to experience LOS values that are slightly better or slightly worse than those in the 2050 No-Build alternative. These minor variations are likely due to simulation randomness rather than the modifications proposed as part in Alternative 4A.

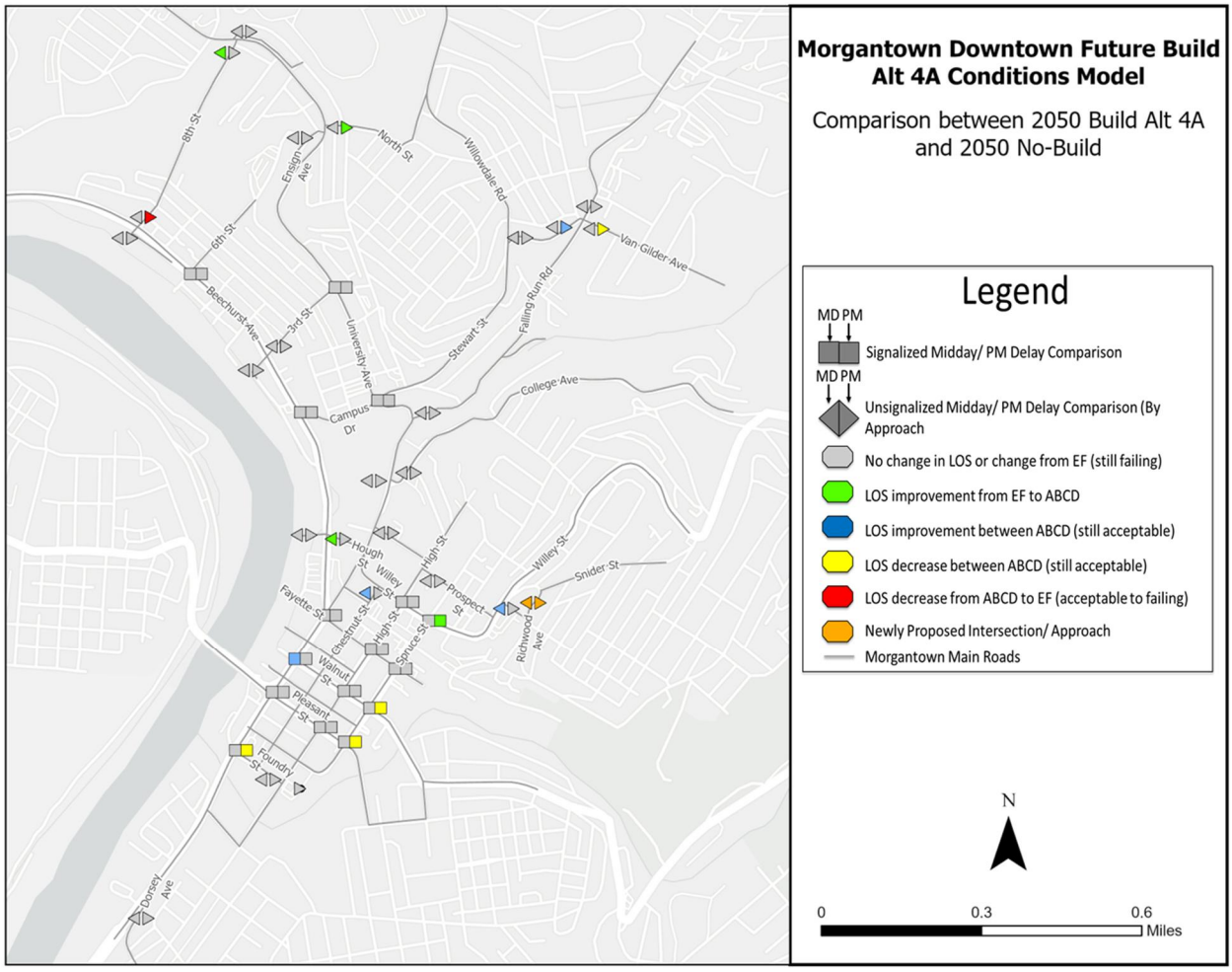


Figure 5-9: Comparison Between 2050 Build Alt 4A and 2050 No-Build Alternative Simulated LOS Results

Build Alternative 4B: Long-Term Improvement

The long-term Willey Street/Richwood Avenue Proposed Improvements Alternative (Alternative 4B) builds upon Alternative 4A by adding the realignment of US 119, making Snider Street the primary thoroughfare and converting Willey Street into a local connection. As shown in **Figure 5-10**, all approaches in the Willey Street/Richwood Avenue/Snider Street area are expected to operate at acceptable levels, except for the stop-controlled approach connecting Richwood Avenue to the new US 119/Snider Street thoroughfare proposed in this study. Outside of the immediate impact area for this alternative where changes are proposed, most intersections and intersection approaches are projected to operate at levels similar to or slightly different from the 2050 No-Build alternative (shown in **Figure 5-11**), as this alternative is not expected to directly affect intersections beyond its primary area of influence. Most of these minor LOS variations at intersections and approaches outside the immediate impact area are likely attributable to simulation randomness.

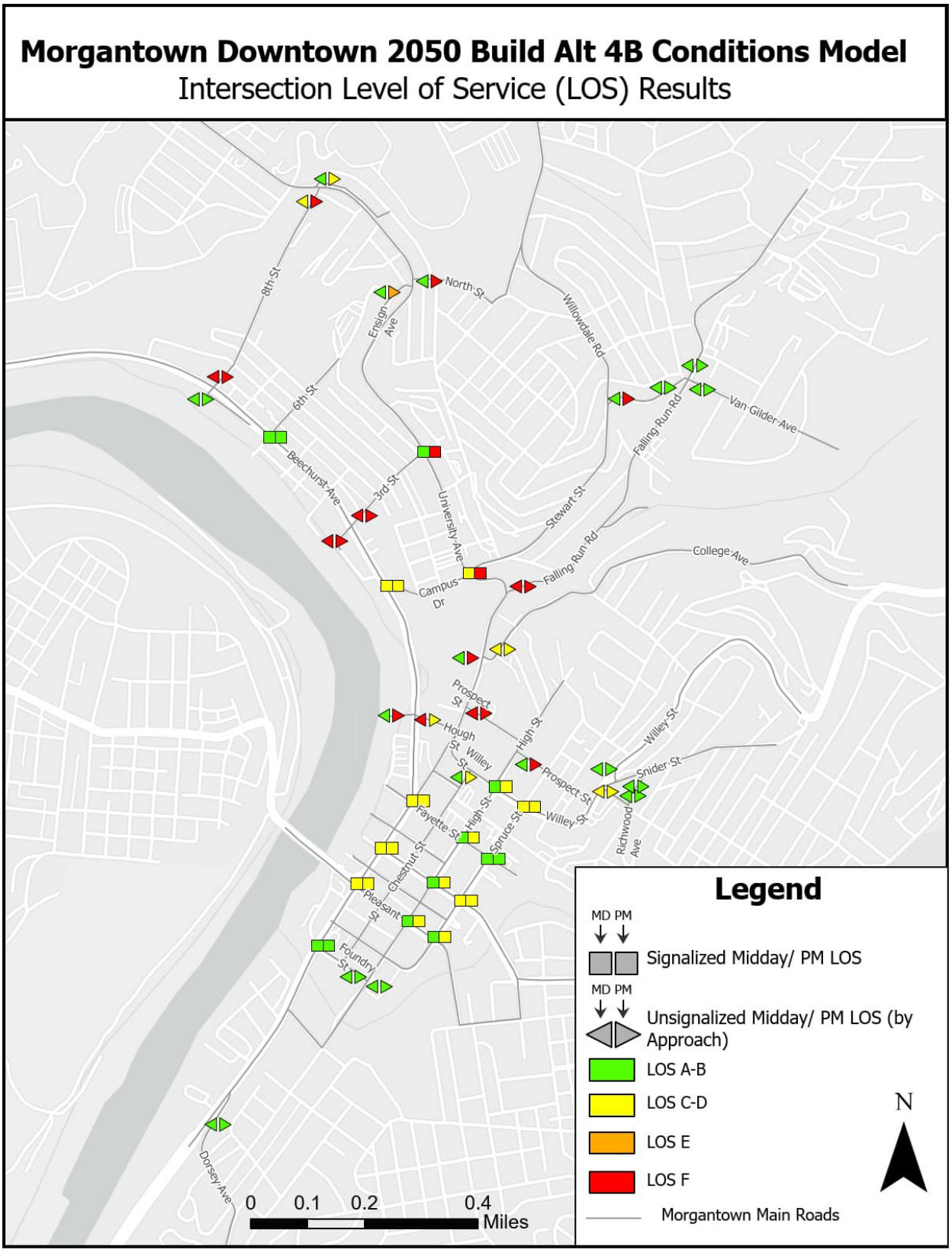


Figure 5-10: Simulated LOS Results for 2050 Build Alternative 4B

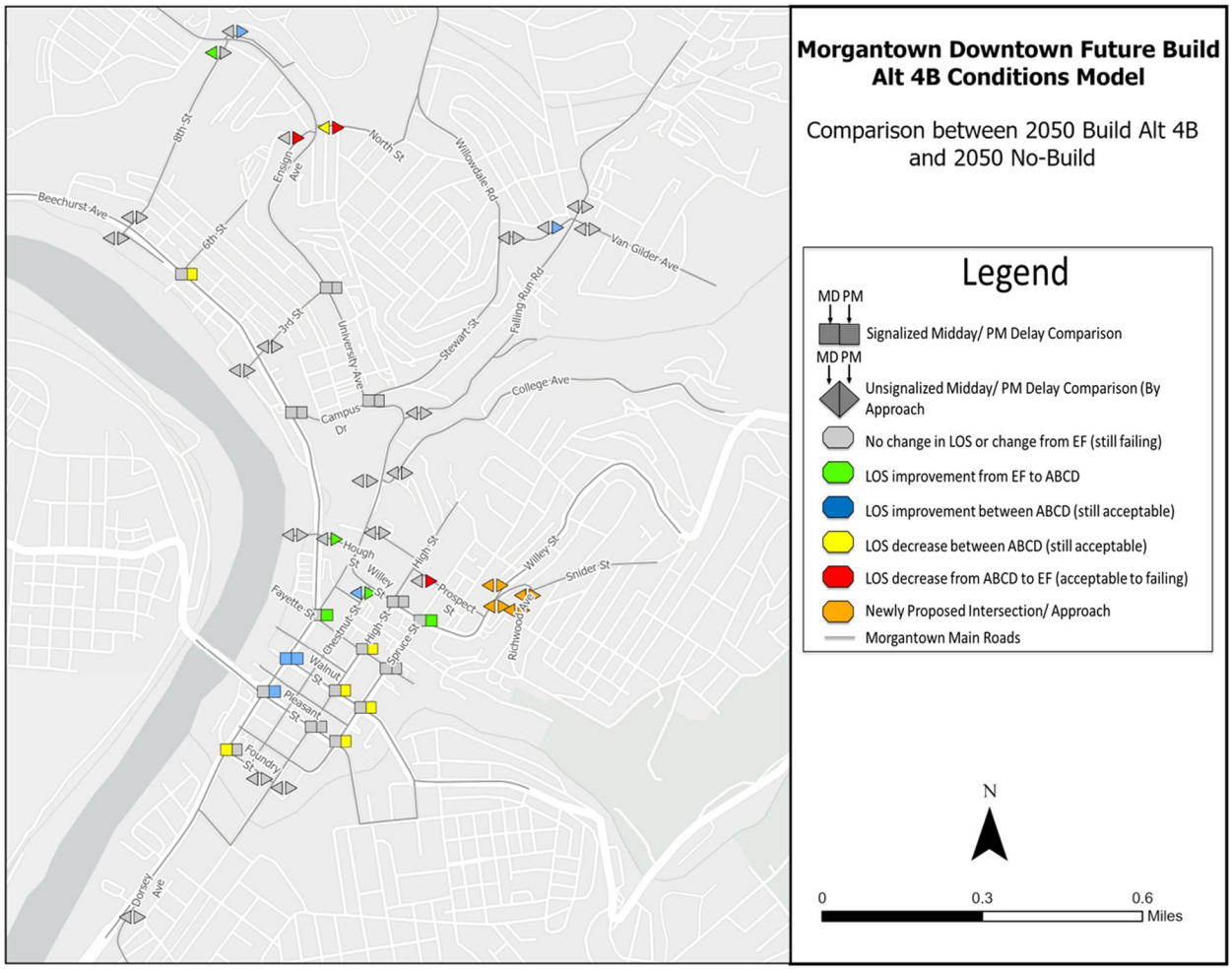


Figure 5-11: Comparison Between 2050 Build Alt 4B and 2050 No-Build Alternative Simulated LOS Results

5.2.5. Build Alternative 5: Intersection Improvements and Beechurst Corridor Improvements from Campus Drive to 8th Street

As highlighted in **Section 4.2.5**, Build Alternative 5 includes intersection configuration and timing improvements, as well as corridor enhancements along Beechurst Avenue from Campus Drive to 8th Street. LOS results shown in **Figure 5-12** indicate that none of the signalized intersections in this alternative are expected to operate at a failing Level of Service (LOS) during either of the analysis peak hours. However, the roundabout approaches—particularly at the proposed University Avenue and Pleasant Street roundabout—are expected to operate with long delays and queues during peak hours due to high traffic demand.

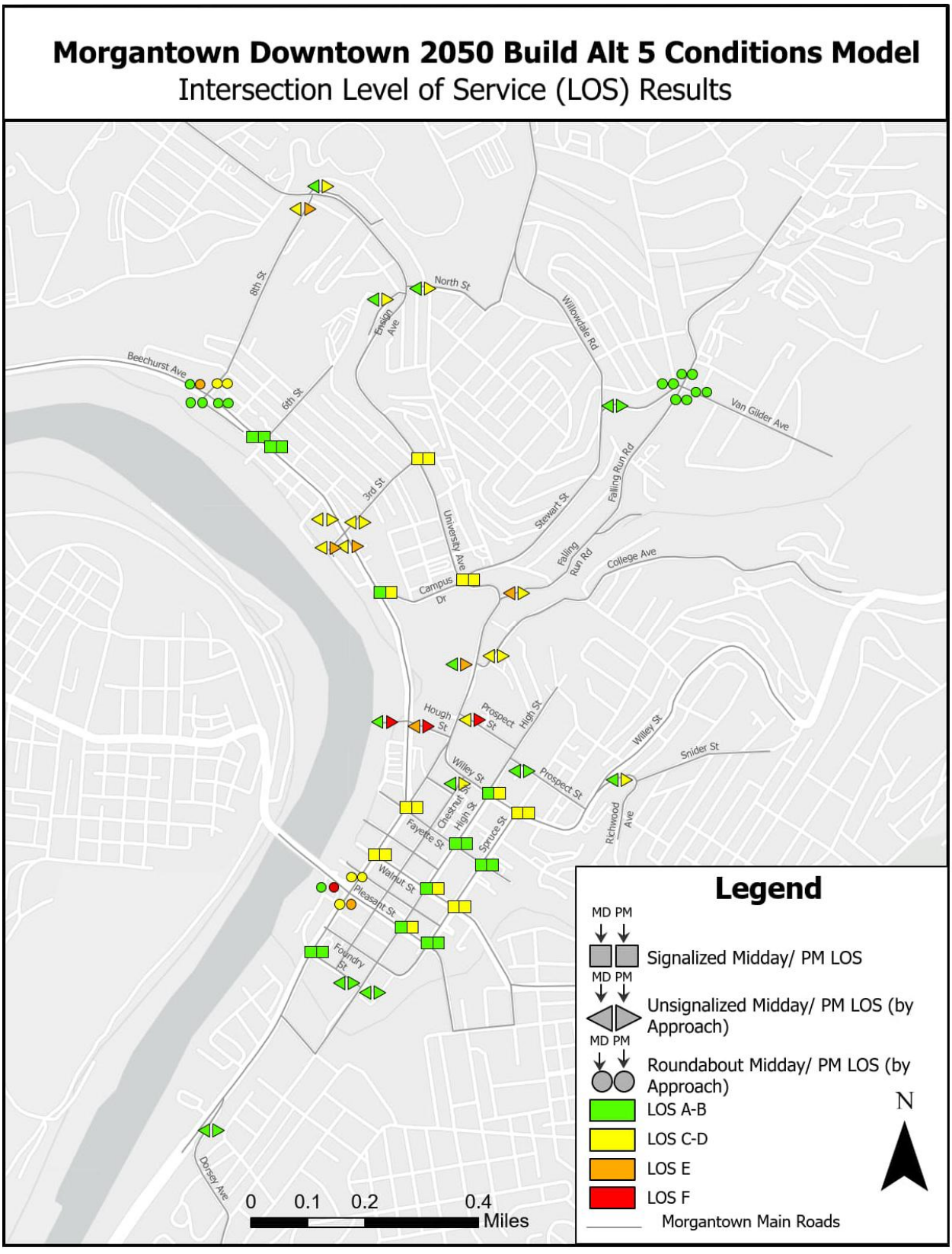


Figure 5-12: Simulated LOS Results for 2050 Build Alternative 5

The LOS comparison of the proposed Build Alternative 5 with the 2050 No-Build alternative (shown in **Figure 5-13**) indicates that the vast majority of signalized and unsignalized intersections and approaches—already anticipated to exist under the 2050 No-Build condition—are expected to experience improved operations under the 2050 Build Alternative 5. In particular, eliminating the northbound left-turn movement at the University Avenue & Campus Drive/Stewart Street intersection is anticipated to shift operations during the PM peak period into the acceptable Level of Service (LOS) category. Additionally, converting the University Avenue & Falling Run Road intersection to a right-out only (from Falling Run Road) configuration is expected to improve operational performance on that approach, bringing it into the acceptable LOS range.

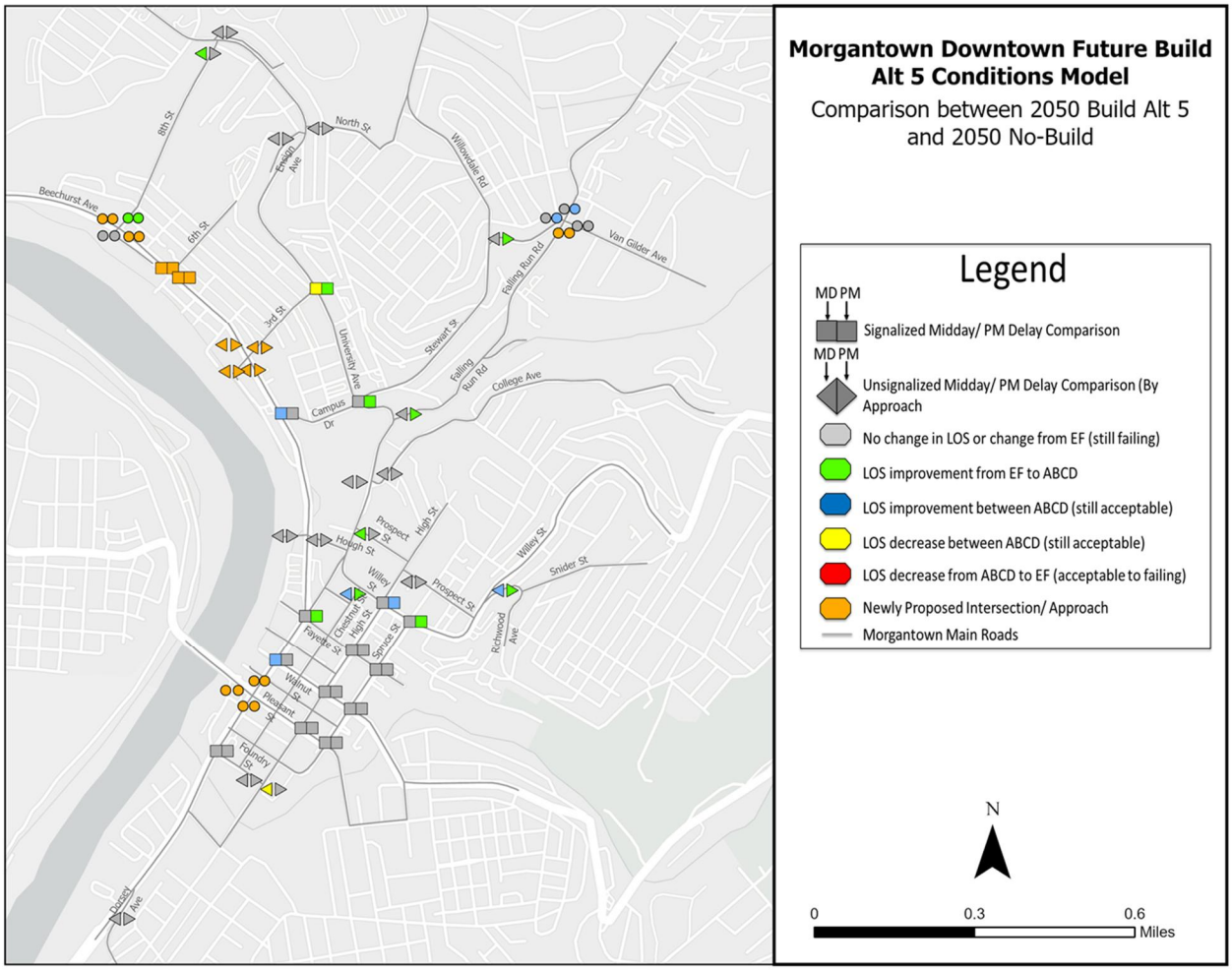


Figure 5-13: Comparison Between 2050 Build Alt 5 and 2050 No-Build Alternative Simulated LOS Results

5.2.6. Build Alternative 6: Combined Alt 2, Alt 3, and Alt 4B

Alternative 6 explores a combined approach by integrating elements from multiple alternatives—specifically the Grumbein's Island closure (Alternative 2), the Willey Street realignment (Alternative 4B), and the downtown one-way to two-way street conversions (Alternative 3). With the inclusion of the Grumbein's island closure, the travel demand modeling results for this alternative are anticipated to result in a decrease in downtown network volumes of approximately 2% over the course of the day as compared to the No-Build alternative (travel demand modeling diversion results for this alternative can be seen in **Appendix F**).

This combination is proposed to leverage the anticipated operational benefits of each individual alternative. However, based on simulation LOS results shown in **Figure 5-14**, the introduction of two-way street conversions in the downtown area, when combined with the rerouted traffic resulting from the Grumbein's Island closure, is expected to lead to failing levels of service at several downtown signalized intersections. As discussed previously, Alternative 4B is not expected to generate significant impacts beyond its immediate area of influence, but it is anticipated to primarily affect and maintain acceptable operations at the Snider Street and Willey Street intersections at and around the proposed Richwood Development area with the realignment of US 119 to Snider Street.

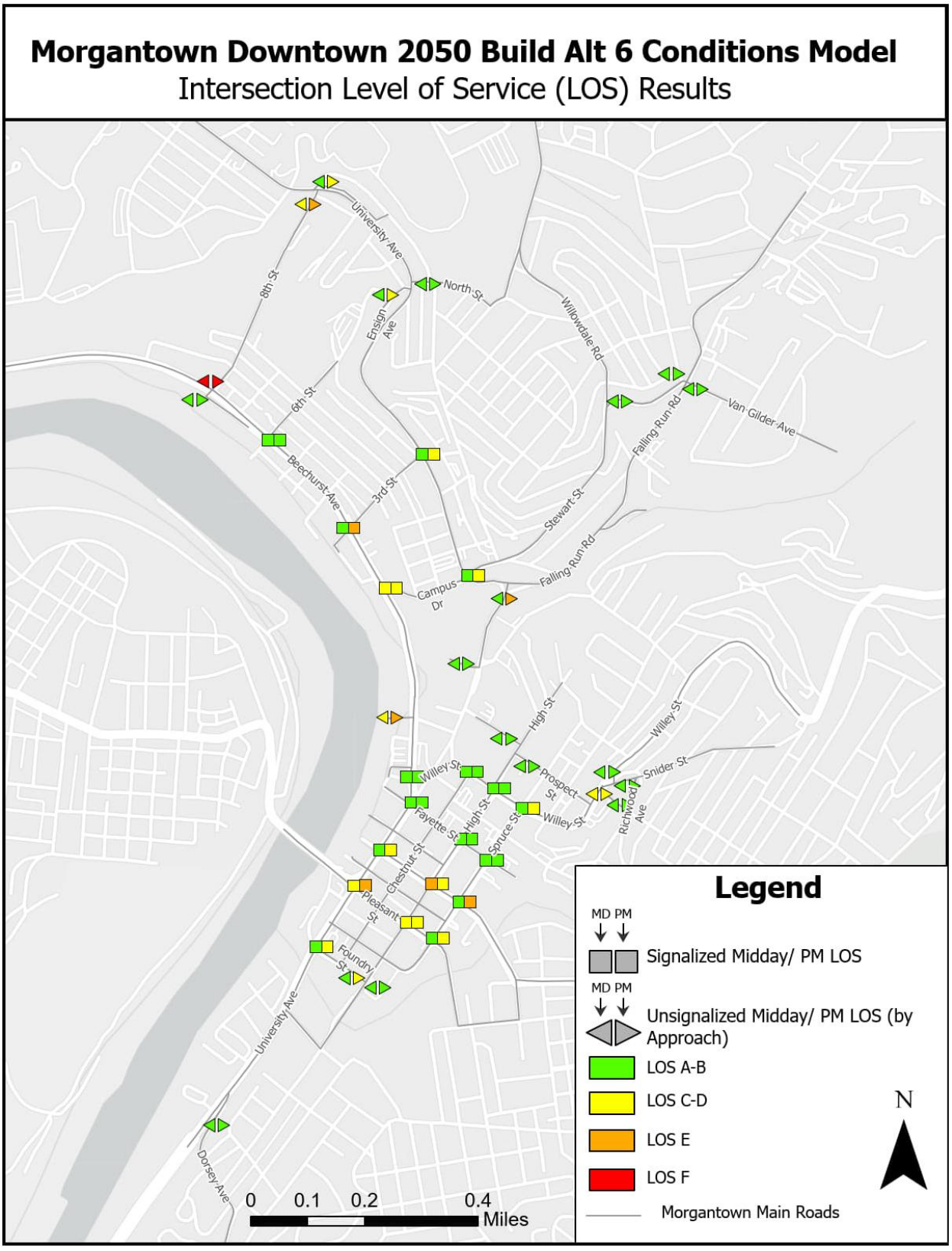


Figure 5-14: Simulated LOS Results for 2050 Build Alternative 6

As shown in **Figure 5-15** below, a comparison between Build Alternative 6 and the 2050 No-Build alternative indicates that operations at several downtown intersections are expected to worsen, primarily as a result of the one-way to two-way street conversions. However, improvements are anticipated at other intersections—particularly at University Avenue and Fayette Street, as well as along the new Willey Street corridor—due to the direct effects of signal phasing and timing enhancements included in Build Alternative 2. Despite these localized benefits, the anticipated degradation in operations at key downtown intersections—most notably at University Avenue and Pleasant Street—suggests that this combined alternative may not be effective in meeting the overall operational objectives of the study.

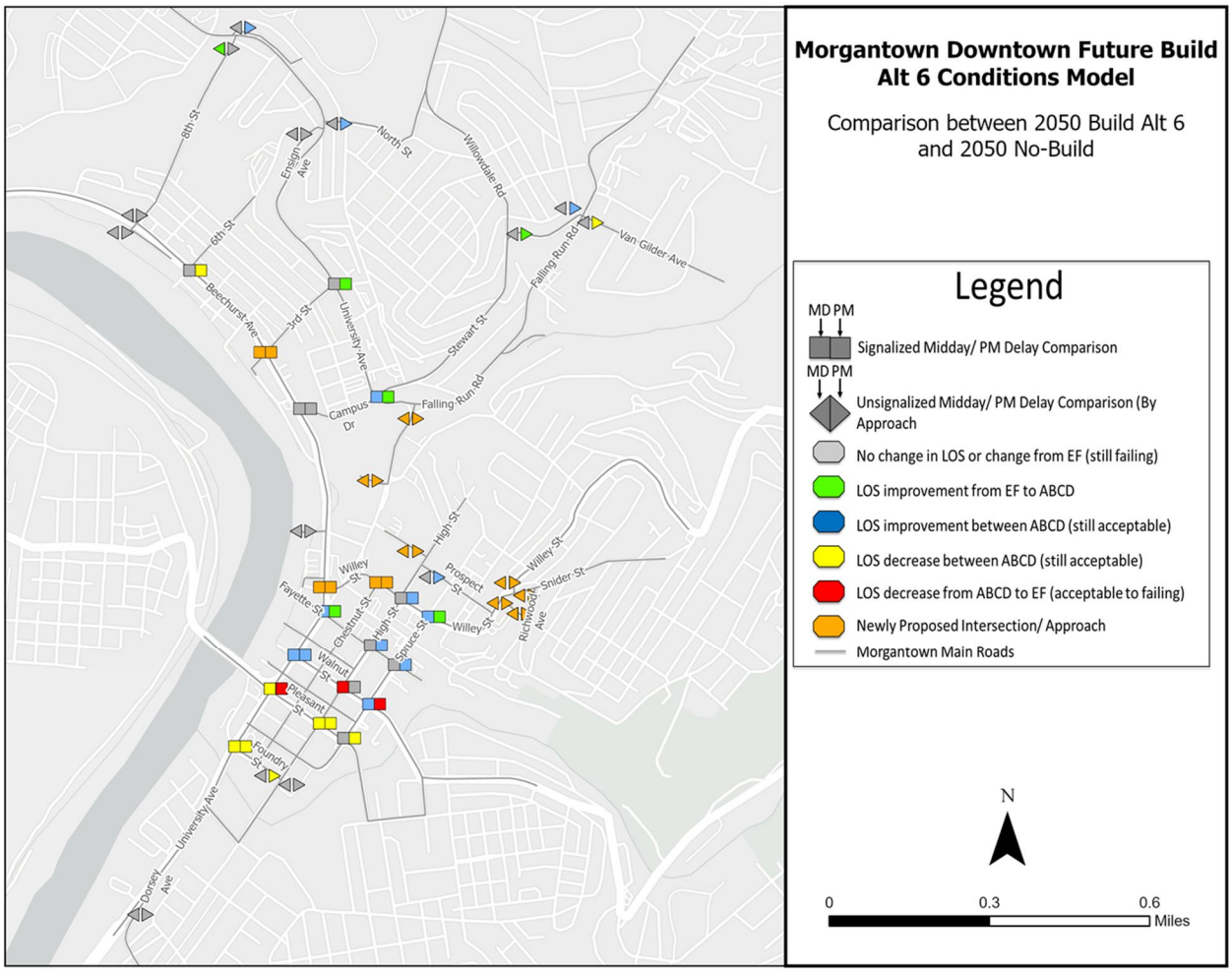


Figure 5-15: Comparison Between 2050 Build Alt6 and 2050 No-Build Alternative Simulated LOS Results

5.2.7. Build Alternative 7: Combined Alternatives 1, 2, 4B and 5

This alternative combines multiple alternatives which the steering committee members favored based on review of the initial results, into a single “ultimate” alternative for long-term horizon planning. With the inclusion of the Grumbein’s island closure, the travel demand modeling results for this alternative are anticipated to result in a decrease in downtown network volumes of approximately 2% over the course of the day as compared to the No-Build alternative (travel demand modeling diversion results for this alternative can be seen in **Appendix F**). Since the closure of Grumbein’s Island is expected to lead to traffic rerouting and increased demand along the Beechurst Avenue corridor, incorporating Alternative 5 is intended to mitigate the anticipated congestion in that area. This combined approach is expected to

provide a more comprehensive solution to the vehicular operational impacts associated with the Grumbein's Island closure. It is important to note that simulation testing of this alternative found that the best configuration at the University Avenue and Pleasant Street intersection is to maintain the signalized intersection with improved timings rather than the roundabout proposed in the original Build Alternative 5. Therefore, a signalized configuration was adopted in Build Alternative 7. If desired by stakeholders, a roundabout could still be pursued at the intersection if operations at LOS F during peak hours are acceptable to the City, MMMPO, and WVDOH.

The 2050 Build Alternative 7 level of service (LOS) results, shown in **Figure 5-16** indicate that none of the signalized intersections within the study area are expected to operate at failing LOS during the midday or PM peak hour analysis period. A small number of side street approaches are projected to operate at failing levels of service, primarily during the PM peak hour. These conditions are expected to result from high traffic volumes on the main corridors, which reduce the availability of sufficient gaps for side street vehicles to complete turning or crossing movements.

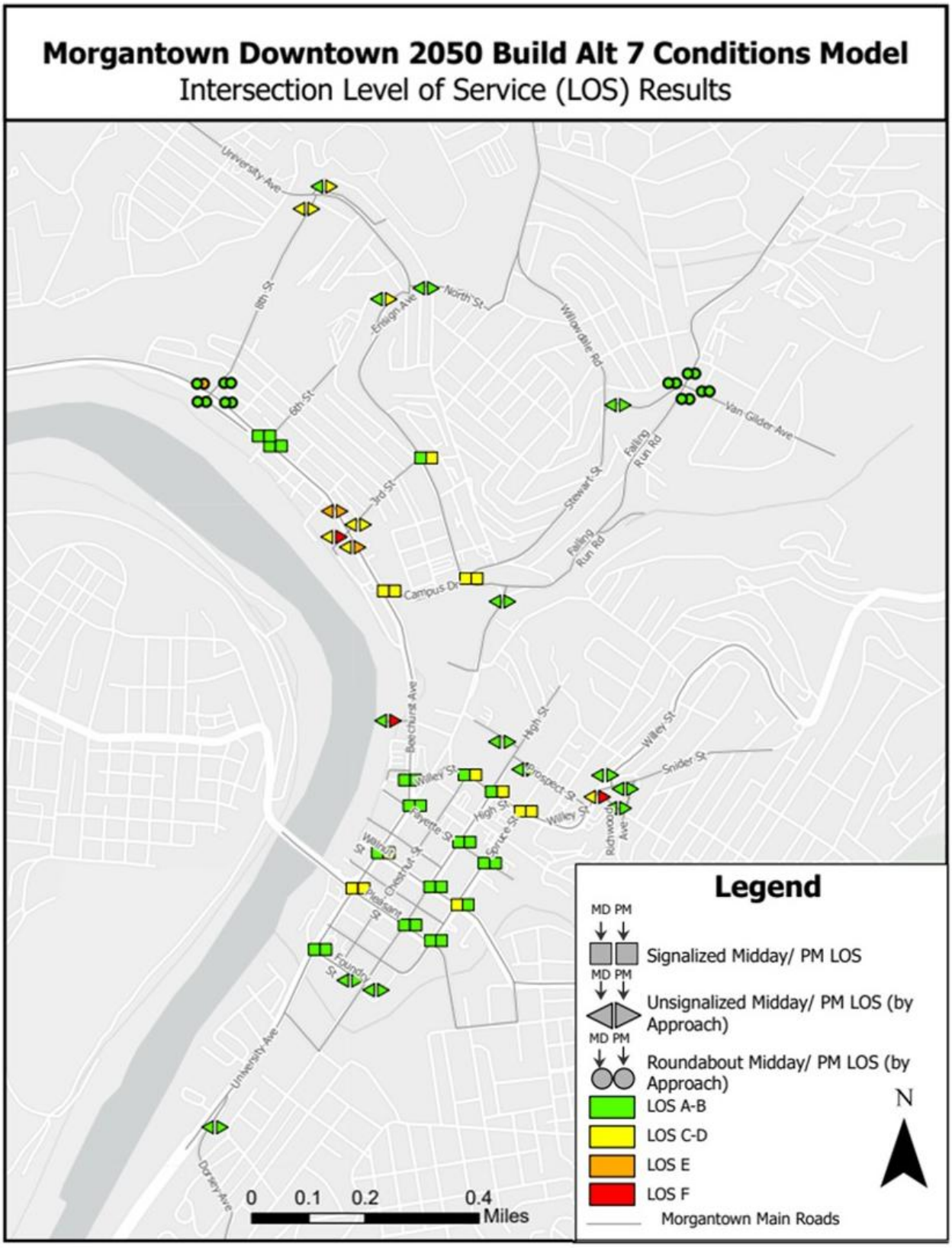


Figure 5-16: Simulated LOS Results for 2050 Build Alternative 7

The LOS comparison between the 2050 Build Alternative 7 and the 2050 No-Build conditions shown in **Figure 5-17** indicates that traffic operations are expected to improve or stay the same at all but one signalized intersection (Foundry Street and University Avenue) and one unsignalized approach (westbound Foundry Street at South High Street) during the midday peak hour. This suggests that the combination of improvements included in Build Alternative 7 is expected to be effective in enhancing the overall operational performance of the roadway network within the study area while also making safety and multimodal improvements.

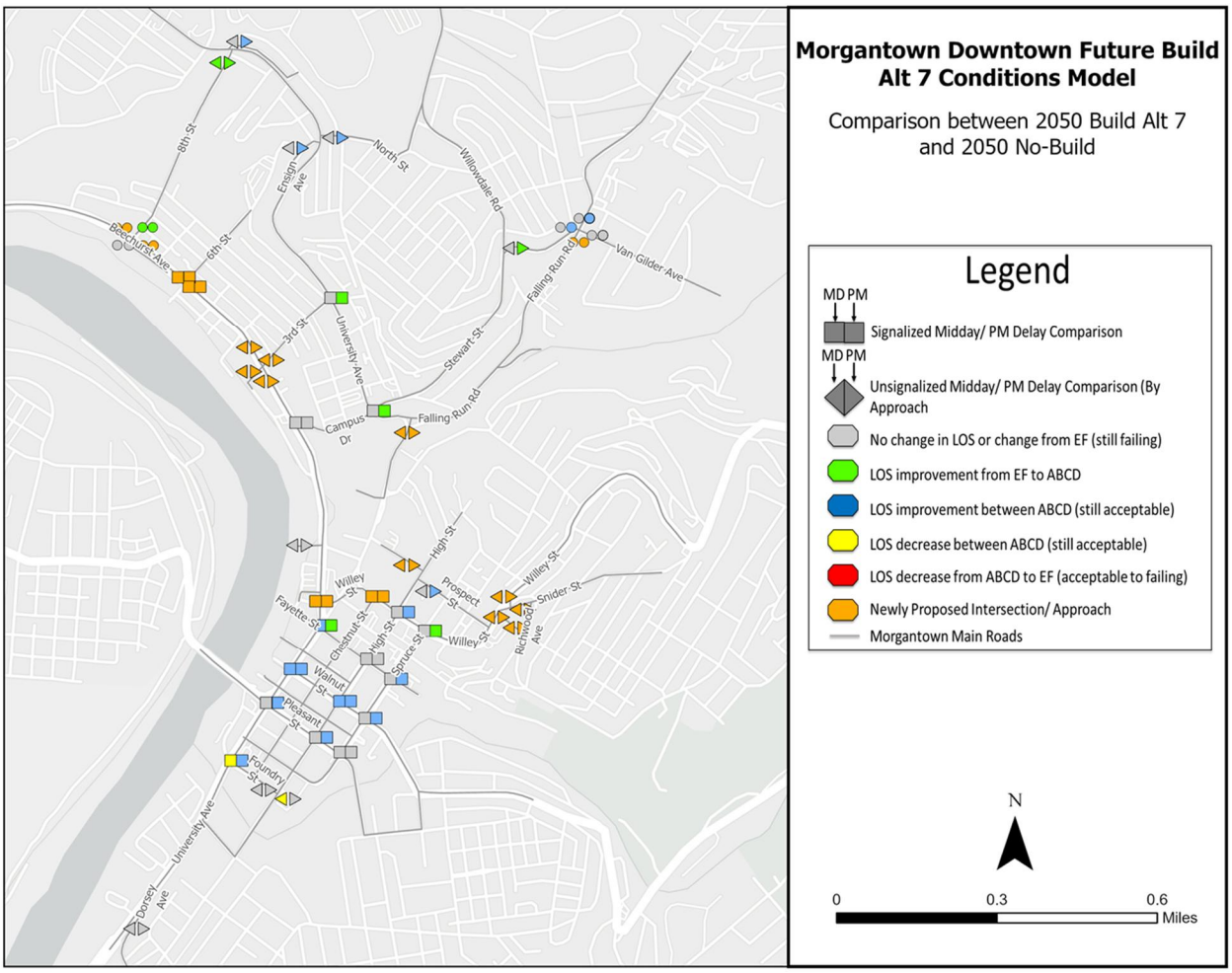


Figure 5-17: Comparison Between 2050 Build Alt7 and 2050 No-Build Alternative Simulated LOS Results

5.3 COMPARATIVE SCORECARDS

To provide an overall comparison for each alternative, scorecards were developed in collaboration with the MMMPO and shared with the Steering Committee to facilitate analysis and discussion. Each scorecard contained multiple evaluation categories, and each was totaled to produce an overall alternative rating.

5.3.1. Evaluation Criteria

Quantitative scores and qualitative considerations were compiled for each alternative. For the quantitative scores, each alternative was assigned a 1-5 score for each of the five categories based on the scoring

rubric developed for the project (**Table 5-1**). Each alternative was also assigned a qualitative measure generally corresponding to positive, neutral, or negative, across five categories described in **Table 5-2**.

Scorecards summarizing the quantitative scores and qualitative considerations for each of the seven Build Alternatives, including a comparison of the scores and considerations across all seven alternatives can be seen after **Tables 5-1 and 5-2**.

Table 5-1: Quantitative Scoring

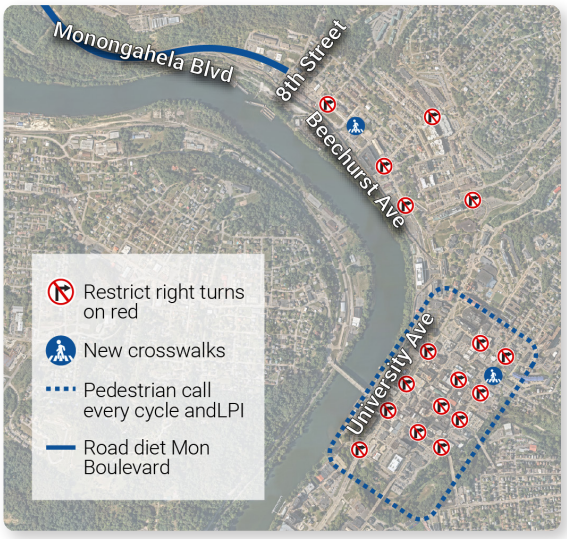
Category	1	2	3	4	5	Notes
Traffic Operations (Individual Intersections)	< -7%	-7% to -1%	-1% to 1%	1% to 7%	> 7%	Compared the number of acceptable LOS (Level of Service D or better) intersection movements to the No-Build alternative.
Traffic Operations (Downtown Network)	> 20% increase	4 to 20% increase	4% to -4% change	4 to 20% decrease	> 20% decrease	Compared total delay per vehicle miles traveled to the No-Build alternative.
Bike & Pedestrian Mobility	Notable decrease in mobility	Some decrease in mobility	No change in mobility	Some increase in mobility	Notable increase in mobility	Assessed how the configuration of each alternative effects mobility for cyclists and pedestrians.
Bike & Pedestrian Safety	Notable decrease in safety	Some decrease in safety	No change in safety	Some increase in safety	Notable increase in safety	Evaluated prioritization of safety for pedestrians and cyclists relative to other alternatives.
Vehicular Safety	Notable decrease in safety	Some decrease in safety	No change in safety	Some increase in safety	Notable increase in safety	Assessed changes in vehicular safety (increase or decrease) compared to other alternatives.

Table 5-2: Qualitative Considerations

Category	Red	Orange	Green
Anticipated Public Support	Negative	Neutral	Positive
Constructability	Complex	Neutral	Straightforward
Right-of-Way Impacts	Low	Medium	High
Impact on Business and Development	Negative	Neutral	Positive
Cost	Low	Medium	High

ALTERNATIVE 1:
Signal timing optimization and corridor coordination; Bicycle and Pedestrian safety and access improvements

This alternative proposes to make modifications and upgrades to the signal system within the City of Morgantown's roadway network. These modifications include the re-timing and coordination of signal phasing along corridors throughout the downtown area to improve the overall efficiency of the system. Within the core downtown area (outlined in the dashed area above) the existing signals are proposed to be modified to replace the current "all pedestrian" crossing phase with a leading pedestrian interval and walk sign every cycle. Pedestrians will begin crossing a few seconds prior to the parallel vehicular traffic receiving the green light. In conjunction with this change, right-turns on red are proposed to be restricted at signals within the network. Multiple new mid-block or unsignalized crosswalks are also proposed. Finally, Monongahela Boulevard between Evansdale Drive and 8th Street is proposed to be converted to a two-lane roadway to accommodate existing paved space for bicycle, pedestrian, and landscaping facilities to improve access, mobility, and safety for multimodal users along this corridor and to reduce speeds of traffic entering downtown.



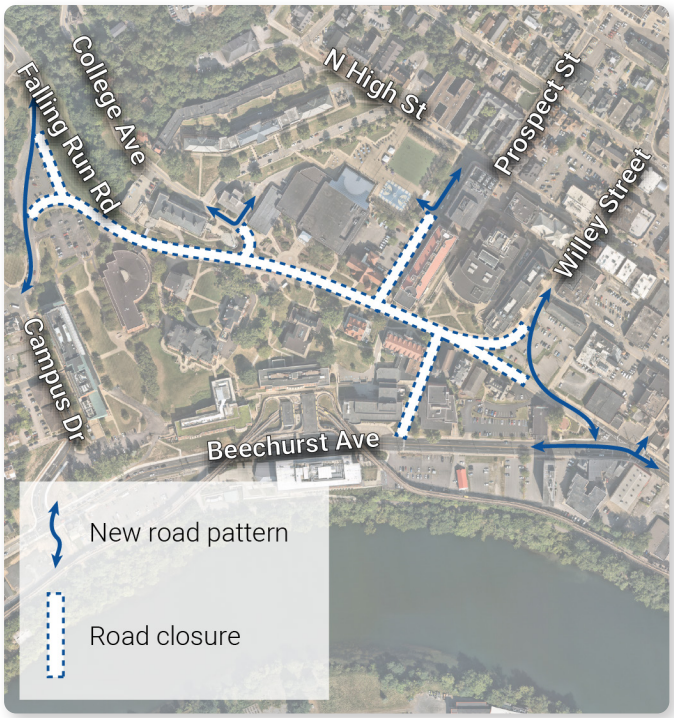
Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●○	The number of intersections with an acceptable level of service is anticipated to moderately increase (3.9%).
Traffic Operations (Downtown Network)	●●●●○	The total delay per vehicle miles traveled is anticipated to moderately decrease (-17.3%).
Bike & Pedestrian Mobility	●●●●○	This alternative would provide new access for pedestrians at crosswalk locations, a new facility connection along Monongahela Boulevard connecting the Downtown and Evansdale areas, and improve the pedestrian experience at signals downtown.
Bike & Pedestrian Safety	●●●●○	Restricting right-turns on red and including a leading pedestrian interval are anticipated to improve safety at the signalized intersections. Adding marked crosswalks and a separated facility would increase safety where there is an existing desire line.
Vehicular Safety	●●●○○	This alternative is not anticipated to notably affect vehicular safety.

Total Score 19/25

Category	Consideration	Notes
Anticipated Public Support	● Positive	Given the limited impacts but wide-ranging benefits of this alternative, it is anticipated that it may receive very favorable support.
Constructability	● Straightforward	This project should be very straightforward to design and construct and is not anticipated to present extraordinary challenges.
ROW Impacts	● Low	No impacts to right-of-way are anticipated with this alternative.
Impact to Business and Development	● Positive	This alternative is anticipated to increase the attractiveness of pedestrian activity in the downtown core, thereby increasing foot traffic in front of local downtown businesses.
Cost	● Low	This alternative is anticipated to be the lowest cost alternative. Relatively little new infrastructure construction would be required to take place to implement the recommendations.

ALTERNATIVE 2:
Grumbein's Island Closure

This alternative proposes to close the area commonly referred to as 'Grumbein's Island', the pedestrian crossing in front of the West Virginia University (WVU) Mountainlair along University Avenue, to vehicular traffic, providing a conflict-free zone for pedestrians. The closure would occur within the hatched area included in the figure, and would require reconfigurations of the existing Prospect Drive, Willey Street, Falling Run Road, College Avenue, and Beechurst Avenue roadways as shown in the arrows. While the closure of Grumbein's Island will redirect traffic to parallel facilities such as Willey Street and Beechurst Avenue/Don Knotts Boulevard, traffic operations are anticipated to improve. This alternative eliminates one of Downtown Morgantown's major choke points, stemming from the highly concentrated pedestrian crossing volumes that occur during the WVU class change periods between downtown campus classes. Gates, or similar traffic control devices, are anticipated to be used to maintain bus and freight service within the pedestrian only zone.



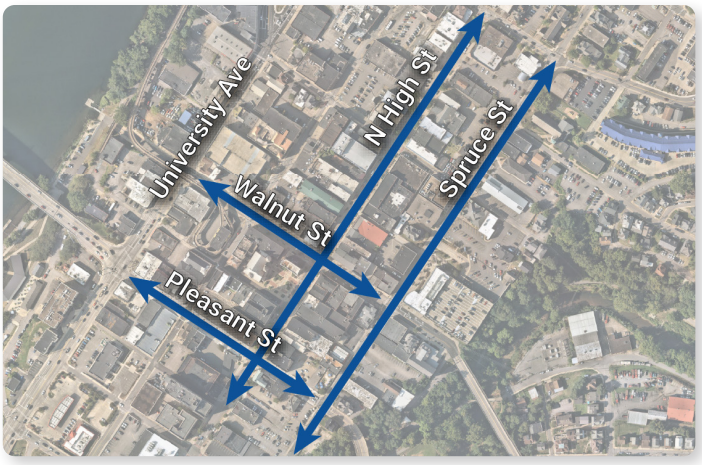
Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●●	The number of intersections with an acceptable level of service is anticipated to greatly increase (7.2%)
Traffic Operations (Downtown Network)	●●●●○	The total delay per vehicle miles traveled is anticipated to moderately decrease (-18.2%)
Bike & Pedestrian Mobility	●●●●●	A dedicated pedestrian zone within the WVU Downtown campus increases mobility and could lead to an increase in pedestrian travel in downtown Morgantown.
Bike & Pedestrian Safety	●●●●●	This alternative would provide a conflict-free zone for pedestrians who cross University Avenue between WVU Classes.
Vehicular Safety	●●●●○	The elimination of the vehicle-pedestrian conflict at Grumbein's Island and the notable decrease in congestion is anticipated to improve safety for drivers.

Total Score 23/25

Category	Consideration	Notes
Anticipated Public Support	● Neutral	Given the significant change from the existing and long-standing configuration, balanced with a significant increase in pedestrian mobility and safety, it is anticipated that there may be both strong support and opposition of this Alternative.
Constructability	● Complex	As compared to other alternatives, this alternative scores relatively low based on the number of intersections that need to be re-aligned.
ROW Impacts	● Medium	Right-of-way impacts are relatively limited as compared to other alternatives, with the only impacts occurring at the new re-alignment at Beechurst Avenue and the new alignment of Falling Run Road and generally limited to WVU owned properties.
Impact to Business and Development	● Medium	It is not anticipated that there will be notable impact to business and development directly related to this alternative.
Cost	● High	The cost of this alternative is anticipated to be relatively high as compared to other alternatives. This is due to the scale of the construction, potential for right-of-way impacts, and re-alignment and re-design of numerous intersections.

ALTERNATIVE 3:
One-way street conversions

This alternative proposes converting the existing one-way street configurations along High Street, Spruce Street, Walnut Street, and Pleasant Street to two-way street configurations. This alternative would require the conversion of all signals at intersections along the four corridors within downtown to control traffic in both directions. Some modifications to curb radii at intersections or infrastructure along the corridor may be required to accommodate the new turning movements.



Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●○○○	The number of intersections with an acceptable level of service is anticipated to moderately decrease (-1.1%)
Traffic Operations (Downtown Network)	●●●○○	The total delay per vehicle miles traveled is anticipated to only slightly decrease (-5.1%)
Bike & Pedestrian Mobility	●●○○○	Converting the one-way streets to two-way may restrict future development/use of the right-of-way for bicycle or pedestrian specific facilities like bike lanes.
Bike & Pedestrian Safety	●●●○○	Conversion to a two-way street is anticipated to have a net neutral change in pedestrian and bicycle safety. For example, pedestrians will now need to be aware of traffic approaching from two directions but may also have increased visibility at mid-block crosswalks.
Vehicular Safety	●●●●○	The two-way street configuration would increase the number of conflict points at intersections but is anticipated to have an overall positive impact to vehicular safety due to the anticipated decrease in vehicular speeds within the urban core.
Total Score		**14/25**

Category	Consideration	Notes
Anticipated Public Support	● Negative	Some opposition to the project is anticipated to be presented from the driving public and business owners downtown.
Constructability	● Complex	The complete replacement of signal control infrastructure and potential intersection modifications could present some challenges during the planning and design process.
ROW Impacts	● Medium	Due to the potential modification of intersections, there is anticipated to be many instances of minor temporary or permanent right-of-way impacts without any relocations.
Impact to Business and Development	● Neutral	There is anticipated to be mixed opinions from business owners on the impacts to business and development. The change in parking access or loading zones is anticipated to balance with the potential neutral change in pedestrian safety.
Cost	● Medium	Relative to other alternatives considered, this project is anticipated to have a moderate cost. No new location roadway facilities would be required but the complete replacement of signal control infrastructure and potential intersection modifications could add sizable costs.

ALTERNATIVE 4A:
Realignment of Richwood Avenue at Willey Street and Upgrades to Willey Street

Narrative: This alternative proposes to widen the lanes along Willey Street and add or improve existing sidewalks to meet current design standards between Richwood Avenue and Snider Street. The intersection of Richwood Avenue and Willey Street is proposed to be realigned to a right-angle following the existing East Prospect Street right-of-way. The existing segment of Richwood Avenue near Willey Street would terminate with a cul-de-sac. The segment of Richwood Avenue between East Prospect Street and Snider Street is proposed to become the through movement to Snider Street. Richwood Avenue's re-alignment includes a proposed one-way stop-controlled intersection with Willey Street and another with Snider Street. In the southbound direction, Richwood Avenue would be stop-controlled at E Prospect Street.

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●○○	The number of intersections with an acceptable level of service is anticipated to narrowly decrease (-0.3%)
Traffic Operations (Downtown Network)	●●●○○	The total delay per vehicle miles traveled is anticipated to narrowly decrease (-3.1%)
Bike & Pedestrian Mobility	●●●○○	Bike and pedestrian mobility does not increase nor decrease with the configuration of this alternative.
Bike & Pedestrian Safety	●●●●○	Bike and pedestrian safety may slightly increase due to the realignment of the existing intersection.
Vehicular Safety	●●●●○	This alternative's configuration proposes the elimination of the existing intersection at Richwood Avenue and Willey Street which had poor sight distance, providing a potential increase in safety.
Total Score		**17/25**

Category	Consideration	Notes
Anticipated Public Support	● Neutral	It is anticipated that there will be balanced support, given the improvements, and opposition, given the potential impacts along Willey Street, for this alternative.
Constructability	● Complex	The constructability of this project may be somewhat challenging due to the conflicts arising from the widening of Willey Street.
ROW Impacts	● High	It is anticipated that the widening of Willey Street will impact several properties and homes, leading to multiple full relocation impacts in this alternative.
Impact to Business and Development	● Positive	This alternative is consistent with development plans for the East End Village and promotes additional connectivity to Downtown Morgantown, which may lead to a positive impact for business owners.
Cost	● High	The cost of this alternative is expected to be relatively expensive compared to other alternatives. Costs stem from the widening of Willey Street as well as the proposed intersection reconfigurations.

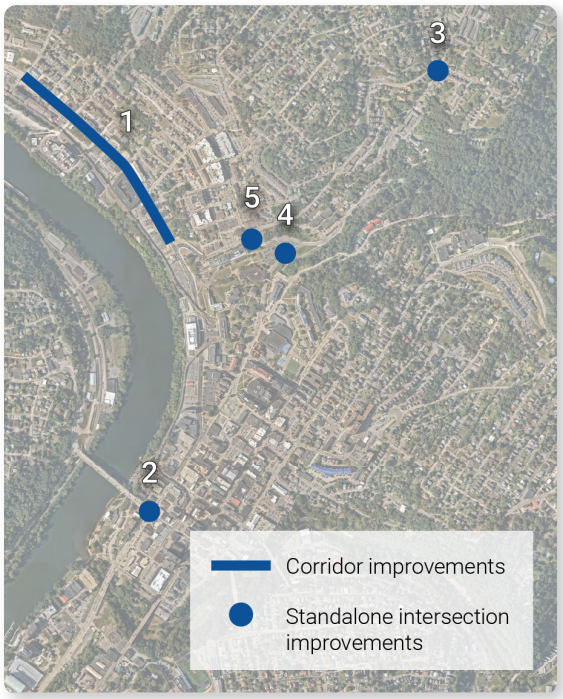
ALTERNATIVE 4B:
Conversion of Snider Street to US 119

This alternative proposes to re-align Willey Street to connect with the existing Snider Street which would be upgraded to become US-119. The new Snider Street would also provide multimodal elements such as bike lanes and sidewalks. As shown in the figure above, the intersection of Willey Street and Snider Street will be converted to a one-way stop-controlled T-intersection. The intersection of Snider Street and Richwood Avenue would operate as a two-way stop-controlled intersection, with stop control along Richwood Avenue. The north end of Richwood Avenue would include a cul-de-sac at Willey Street. The southern end of Richwood Avenue would be realigned to follow the existing East Prospect Street right-of-way and be stop controlled at the intersection with Willey Street. This alternative provides a more direct connection between The Mileground and the core downtown Morgantown area for vehicles and multi-modal users.

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●○○	The number of intersections with an acceptable level of service is not anticipated to noticeably change (-0.1%)
Traffic Operations (Downtown Network)	●●●○○	The total delay per vehicle miles traveled is anticipated to narrowly decrease (-0.9%)
Bike & Pedestrian Mobility	●●●●○	The bicycle and pedestrian facilities implemented along Snider Street may increase connectivity to the downtown Morgantown area from the neighborhoods northeast of downtown.
Bike & Pedestrian Safety	●●●●●	The bicycle and pedestrian facilities along Snider Street and realignment of Willey Street are anticipated to provide a moderate increase in bike and pedestrian safety.
Vehicular Safety	●●●●●	This alternative may significantly improve vehicular safety due to the elimination of the misaligned intersection at Willey Street and Richwood Avenue and the shift of traffic from the windy portion of Willey Street to the relatively straight Snider Street alignment.
Total Score		**20/25**

Category	Consideration	Notes
Anticipated Public Support	● Negative	The acquisition of right-of-way from multiple property owners along Snider Street may present challenges in gaining public support. Travelers using Willey Street today to enter the downtown area from the Mileground are anticipated to support the project.
Constructability	● Complex	The constructability is anticipated to be somewhat difficult, due to the challenges that may be presented along Snider Street when implementing widened lanes and multi-modal facilities.
ROW Impacts	● High	It is anticipated that the upgrade of Snider Street will impact several properties requiring multiple full relocations.
Impact to Business and Development	● Positive	This alternative is consistent with development plans for the East End Village and promotes additional connectivity to Downtown Morgantown, which may lead to positive impact for business owners.
Cost	● High	This alternative is anticipated to be relatively expensive in comparison to other alternatives. The cost largely stems from the re-alignment of Willey Street and the upgrades to Snider Street.

ALTERNATIVE 5:
Intersection and Corridor Improvements



This alternative proposes the following improvements to intersections and corridors within the network:

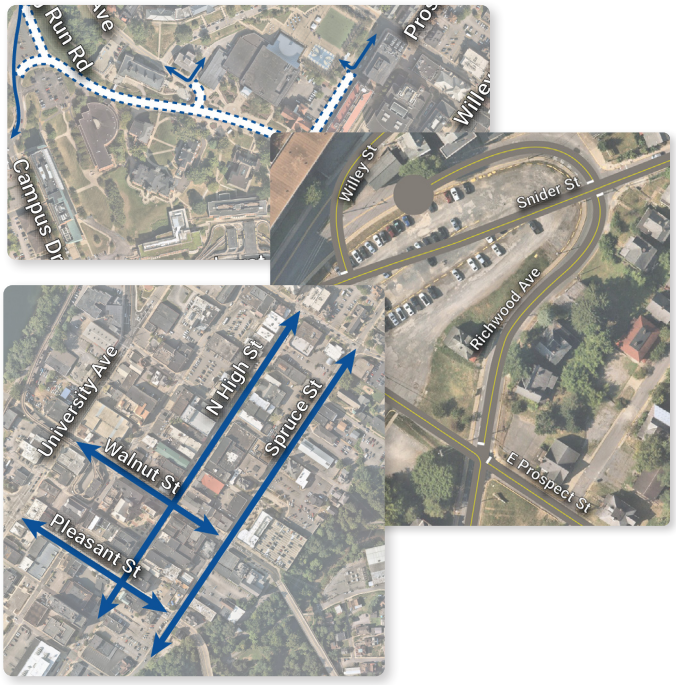
1. Beechurst Avenue Corridor: A reduced conflict u-turn corridor is proposed along Beechurst Avenue between 8th Street and Campus Drive. This configuration would construct a median in the existing two-way left-turn lane and restrict access from the side streets to be rightturn access only. Traffic along Beechurst Avenue would still be able to turn left into the side streets. The left-turn and through movements from the side streets would be redirected to make a U-turn further down the corridor. A single-lane roundabout at 8th Street is also proposed.
2. Pleasant Street and University Avenue: A hybrid roundabout (partially single lane roundabout, partially 2-lane roundabout) is proposed to address the safety need identified in the existing conditions analysis.
3. The multi-leg intersection at the confluence of Protzman Street, VanGilder Avenue, Stewart Street, and Hoffman Avenue is proposed to be converted to a single-lane roundabout.
4. Falling Run Road and University Avenue: Left turns from Falling Run Road to southbound University Avenue are proposed to be restricted
5. University Avenue, Campus Drive, and Stewart Street: Left-turns from northbound and southbound University Avenue are proposed to be restricted. Full movements would be maintained on the Stewart Street and Campus Drive approaches.

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●○	The number of intersections with an acceptable level of service is anticipated to moderately increase (6.3%)
Traffic Operations (Downtown Network)	●●●●●	The total delay per vehicle miles traveled is anticipated to greatly decrease (-22.6%)
Bike & Pedestrian Mobility	●●●●○	In general, the intersection improvements proposed will provide additional access for pedestrians and provide separated facilities.
Bike & Pedestrian Safety	●●●●○	By providing improved separated facilities, reducing conflict points with drivers, and improving crossings, safety for pedestrians and bicyclists is anticipated to improve.
Vehicular Safety	●●●●●	The intersection and corridor improvements proposed will greatly reduce the number of conflict points at intersections, reduce speeds, and improve congestion, all of which are anticipated to significantly increase vehicular safety.
Total Score		**22/25**

Category	Consideration	Notes
Anticipated Public Support	Neutral	There is anticipated to be mixed support for these proposed improvements due to the increase in safety and mobility for multimodal users but also the restrictions in access along Beechurst Avenue and potential for right-of-way impacts.
Constructability	Medium	The proposed improvements follow typical intersection configurations and would present neutral challenges.
ROW Impacts	Medium	Full relocations are anticipated at the two proposed roundabout locations due to the increased size of the intersections.
Impact to Business and Development	Negative	The access restrictions proposed for side street access to Beechurst Avenue may have a possible negative impact to existing businesses, especially freight access.
Cost	Medium	Relative to other alternatives considered, this project is anticipated to have a moderate cost. No new location roadway facilities would be required but the complete reconfiguration of multiple intersections and improvements along Beechurst Avenue is anticipated to present sizable costs.

ALTERNATIVE 6:
Combination A: Grumbein's Island Closure (2), Snider Street Conversion to US 119 (4B), and One-way street conversion (3)

This alternative combines alternative 2 (Grumbein's Island Closure), Alternative 3 (One-way Street Conversion), and Alternative 4B (Snider Street Conversion to US 119). The combination of these alternatives improves downtown Morgantown's multi-modal mobility and safety, with a conflict-free crossing at Grumbein's Island being supplemented by the multimodal and safety improvements proposed along Snider Street. Additionally, the one-way to two-way street conversions is anticipated to lower speeds and increase congestion downtown, which may lead to increased pedestrian safety. While analysis results show a decrease in operations for this alternative, the proposed two-way street configuration allow for more direct access to destinations, including businesses downtown.

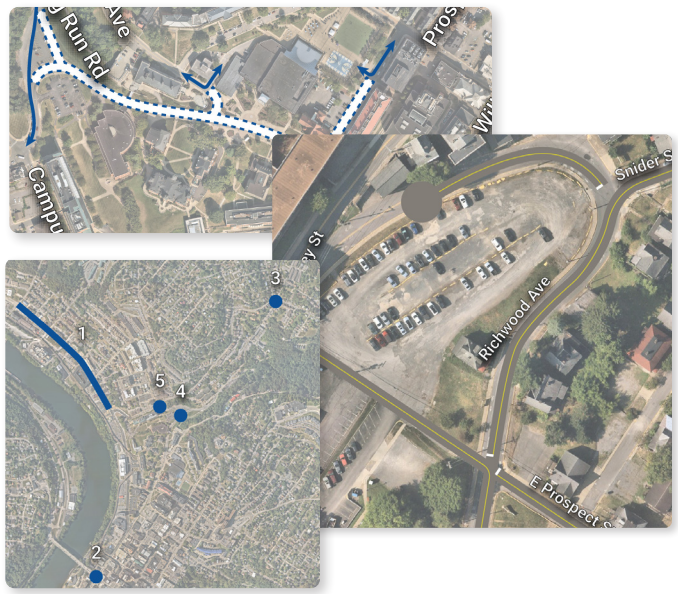


Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●●	The number of intersections with an acceptable level of service is anticipated to greatly increase (8.7%)
Traffic Operations (Downtown Network)	●●●●○	The total delay per vehicle miles traveled is anticipated to moderately decrease (-18.4%)
Bike & Pedestrian Mobility	●●●●●	Due to the combination of bike and pedestrian mobility improvements associated with the closure of Grumbein's Island and the Snider Street conversion, this alternative provides for significant improvements in bike and pedestrian mobility.
Bike & Pedestrian Safety	●●●●●	Due to the combination of bike and pedestrian safety improvements associated with the closure of Grumbein's Island and the Snider Street Conversion, this alternative provides for significant improvement in bike and pedestrian safety.
Vehicular Safety	●●●●○	The elimination of the vehicle-pedestrian conflict at Grumbein's Island combined with the reconfiguration of the misaligned intersection at Willey Street and Richwood Avenue provide for a potential moderate increase in vehicle safety.
Total Score		**23/25**

Category	Consideration	Notes
Anticipated Public Support	● Negative	The acquisition right-of-way from property owners along Snider Street as well as the conversion of one-way street to two-way may present challenges for public support.
Constructability	● Complex	The constructability is anticipated to be somewhat difficult, between the reconfiguration of intersections surrounding Grumbein's Island and the challenges that may be presented along Snider Street when implementing widened lanes and multimodal facilities.
ROW Impacts	● High	It is anticipated that there will be multiple right-of-way impacts, largely stemming from the updated configuration of Snider Street.
Impact to Business and Development	● Positive	This alternative provides improved access to businesses, largely stemming from the Snider Street conversion providing additional connectivity to Downtown Morgantown and its consistency with development plans for the East End Village.
Cost	● High	This alternative is anticipated to be the most expensive due to costs stemming from the closure of Grumbein's Island and the upgrades to Snider Street.

ALTERNATIVE 7:
Combination B: Grumbein's Island Closure (2), Snider Street Conversion to US 119 (4B), and Intersection and Corridor Improvements (5)

This alternative combines Alternative 2 (Grumbein's Island Closure), Alternative 5 (Intersection and Corridor Improvements), and Alternative 4B (Snider Street Conversion to US 119). The combination of these alternatives improves downtown Morgantown's multi-modal mobility and safety, with a conflict-free crossing at Grumbein's Island being supplemented by the multimodal and safety improvements proposed along Snider Street, Beechurst Avenue, and at the specific intersections mentioned.



Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●●	The number of intersections with an acceptable level of service is anticipated to greatly increase (10.2%)
Traffic Operations (Downtown Network)	●●●●●	The total delay per vehicle miles traveled is anticipated to greatly decrease (-23.6%)
Bike & Pedestrian Mobility	●●●●●	Due to the combination of bike and pedestrian mobility improvements associated with the closure of Grumbein's Island, the Snider Street conversion, and intersection improvements, this alternative provides for significant improvements in bike and pedestrian mobility.
Bike & Pedestrian Safety	●●●●●	Due to the combination of bike and pedestrian safety improvements associated with the closure of Grumbein's Island, the Snider Street Conversion, and the intersection improvements, this alternative provides for significant improvement in bike and pedestrian safety.
Vehicular Safety	●●●●●	The reduction of the conflict points and severity of potential crashes with the intersection improvements plus the elimination of the vehicle-pedestrian conflict at Grumbein's Island combined with the reconfiguration of the misaligned intersection at Willey Street and Richwood Avenue provide for a potential notable increase in vehicle safety.
Total Score		**25/25**

Category	Consideration	Notes
Anticipated Public Support	● Negative	The acquisition right-of-way from property owners along Snider Street and at the intersection improvements and the access restrictions along Beechurst may present some public support challenges.
Constructability	● Complex	The constructability is anticipated to be somewhat difficult, between the reconfiguration of intersections surrounding Grumbein's Island and the challenges that may be presented along Snider Street when implementing widened lanes and multimodal facilities.
ROW Impacts	● High	It is anticipated that there will be multiple right-of-way impacts, largely stemming from the updated configuration of Snider Street and the proposed roundabouts at Pleasant Street and Stewart Street intersections.
Impact to Business and Development	● Medium	This alternative provides improved access to businesses, largely stemming from the Snider Street conversion providing additional connectivity to Downtown Morgantown and its consistency with development plans for the East End Village.
Cost	● High	This alternative is anticipated to be the most expensive due to costs stemming from the closure of Grumbein's Island and the upgrades to Snider Street.

Modeling Alternative Score Summary

Categories	Alternative 1	Alternative 2	Alternative 3	Alternative 4A	Alternative 4B	Alternative 5	Alternative 6	Alternative 7
	Scores							
Traffic Operations (Individual Intersections)	4	5	2	3	3	4	5	5
Traffic Operations (Downtown Network)	4	4	3	3	3	5	4	5
Bike & Pedestrian Mobility	4	5	2	3	4	4	5	5
Bike & Pedestrian Safety	4	5	3	4	5	4	5	5
Vehicular Safety	3	4	4	4	5	5	4	5
Total	19	23	14	17	20	22	23	25

	Considerations							
Anticipated Public Support	Positive	Neutral	Negative	Neutral	Negative	Neutral	Negative	Negative
Constructability	Straightforward	Complex	Complex	Complex	Complex	Medium	Complex	Complex
ROW Impacts	Low	Medium	Medium	High	High	Medium	High	High
Impact to Business and Development	Positive	Neutral	Neutral	Positive	Positive	Negative	Positive	Medium
Cost	Low	High	Medium	High	High	Medium	High	High

6. Conclusion and Recommendations

Based on simulation results, stakeholder input, and the results of the evaluation process, the study team and steering committee recommended that Build Alternative 7 be carried forward into the next stages of planning. Alternative 7 combined the most effective elements of individual alternatives into a comprehensive improvement strategy:

- Signal Optimization and Multimodal Improvements (Alternative 1)
- Grumbein's Island closure (Alternative 2)
- Realignment of US 119 to Snider Street (Alternative 4B)
- Intersection and Beechurst Avenue corridor improvements (Alternative 5)

As the projects within Alternative 7 progress into the design process, further design studies will be needed to finalize the specific intersection improvements at Beechurst/8th, Stewart/VanGilder/Protzman and University/Pleasant. Additionally, as the signal upgrades are designed and constructed, the upgrades should incorporate community needs and special events (e.g., sporting events, graduations, move-in periods).

The projects included in Alternative 7 are shown in **Figure 6-1**.

Figure 6-1: Recommended Alternative

The recommended Alternative 7 is designed to improve vehicular traffic flow throughout downtown, enhance safety and accessibility for all users – including pedestrians, bicyclists, and transit riders – and support access to downtown businesses and areas planned for redevelopment. The next steps should include:

- Inclusion of Alternative 7 projects in the MPO's long-range transportation plan
- Coordination with city and state agencies for project development and funding

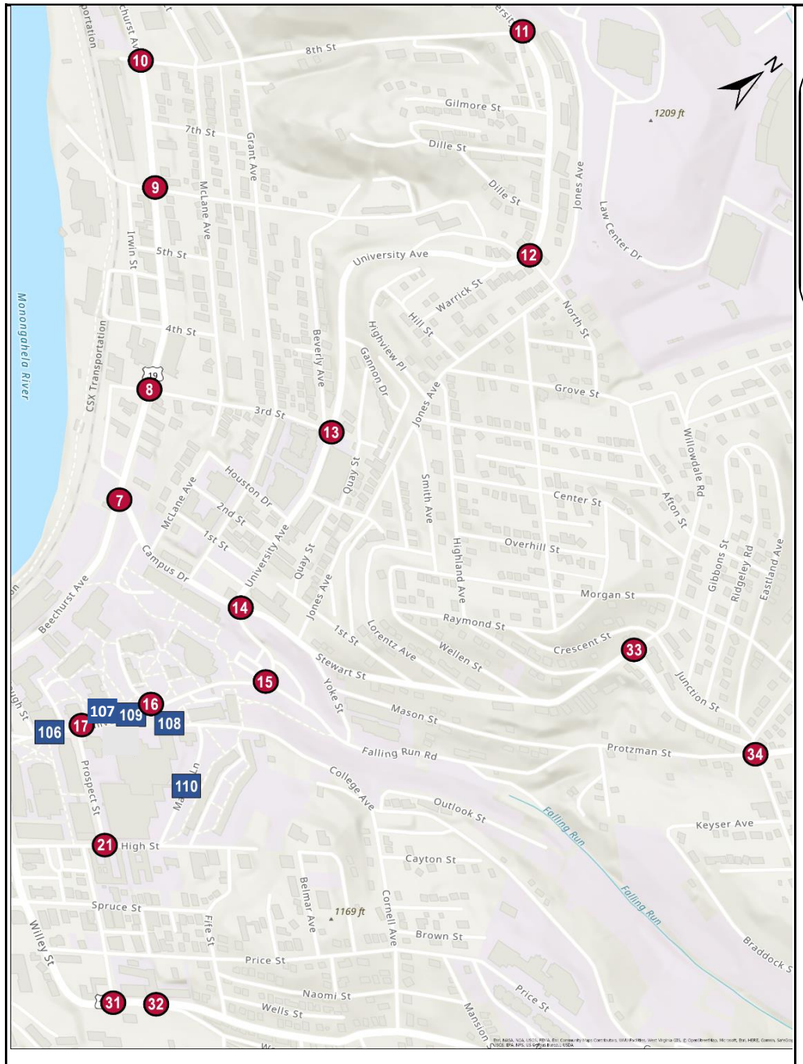
Planning level costs for the individual pieces of Alternative 7 are shown in **Table 6-1**:

Table 6-1: Estimated Planning Level Costs

Recommended Alternative Sub-Component	Planning Level Cost
Alternative 1: Signal Timing and Multimodal Improvements	$1M - $5M
Alternative 2: Grumbein's Island Closure	$6M - $12M
Alternative 4B: Realignment of US 119 to Snider Street	$10M - $20M
Alternative 5: Intersection and Beechurst Corridor Improvements	$12M - $24M

It is envisioned that the 2050 Build Alternative 7 can be phased in, allowing the WVDOH, the City of Morgantown and the MPO to pursue stand-alone projects that build toward the full vision over time. This approach provides flexibility for funding and coordination with other area priorities.

Appendix A – Existing Balanced Counts Figure



LEGEND

#	*Intersection ID*	XX (XX)	Mid-day (PM)
#	*Crosswalk ID*	P/B	Pedestrian/Bicyclist in Crosswalk

7 Beechurst Ave & Campus Dr

	Beechurst Ave	Campus Dr
↰	0 (0)	86 (141)
↑	459 (626)	0 (0)
↱	86 (139)	116 (128)
P/B	0 (0)	3 (0)
	64 (24) P/B	P/B
	Beechurst Ave: P/B 5 (0)	0 (0) 365 (413) 57 (117)

Overall: 1169 (1564)

8 Beechurst Ave & 3rd St

	Beechurst Ave	3rd St
↰	17 (12)	46 (55)
↑	528 (712)	6 (6)
↱	45 (49)	17 (38)
P/B	99 (60)	3 (3)
3rd St	2 (6) P/B	
	12 (16)	
	4 (6)	
	8 (26)	
	Beechurst Ave: P/B 23 (6)	4 (11) 443 (519) 21 (31)

Overall: 1151 (1481)

9 Beechurst Ave & 6th St

	Beechurst Ave	6th St
↰	2 (2)	21 (20)
↑	561 (729)	0 (1)
↱	10 (26)	10 (32)
P/B	0 (0)	0 (0)
6th St	4 (0) P/B	
	16 (20)	
	0 (0)	
	27 (17)	
	Beechurst Ave: P/B 3 (1)	23 (5) 486 (586) 12 (16)

Overall: 1168 (1454)

10 Beechurst Ave & 8th St

	Beechurst Ave	Monongahela Blvd
↰	8 (9)	80 (78)
↑	538 (722)	2 (1)
↱	101 (205)	60 (34)
P/B	0 (1)	0 (0)
8th St	2 (2) P/B	
	2 (1)	
	1 (2)	
	1 (1)	
	Beechurst Ave: P/B 0 (0)	0 (1) 450 (558) 90 (78)

Overall: 1333 (1690)

11 University Ave & 8th St

	University Ave	Driveway
↰	87 (104)	2 (5)
↑	315 (490)	3 (0)
↱	6 (0)	4 (1)
P/B	19 (26)	0 (0)
8th St	1 (0) P/B	
	85 (70)	
	2 (5)	
	98 (157)	
	University Ave: P/B 1 (3)	69 (63) 342 (455) 1 (1)

Overall: 1014 (1351)

12 University Ave & North St

	University Ave	North St
↰	20 (33)	114 (130)
↑	247 (373)	7 (14)
↱	150 (242)	22 (19)
P/B	13 (4)	1 (0)
Ensign Ave	1 (0) P/B	
	2 (0)	
	0 (7)	
	0 (1)	
	University Ave: P/B 1 (0)	6 (10) 297 (389) 19 (32)

Overall: 884 (1250)

13 University Ave & 3rd St Beverly Ave

	Beverly Ave SEB	University Ave	University Driveway
↰	6 (5)	40 (76)	0 (6)
↑	9 (10)	219 (310)	2 (11)
↱	6 (2)	10 (7)	1 (12)
P/B		58 (43)	P/B 33 (31)
3rd St		20 (23) P/B	
		24 (31)	
		3 (5)	
		42 (54)	
		University Ave: P/B 60 (38)	77 (79) 8 (17) 275 (360) 6 (7)

Overall: 657 (888)

14 University Ave & Campus Dr Stewart Street

	University Ave	Stewart St
↰	21 (18)	32 (31)
↑	232 (353)	86 (93)
↱	2 (1)	93 (165)
P/B	307 (165)	P/B 0 (0)
Campus Dr	16 (11) P/B	
	55 (52)	
	86 (133)	
	76 (151)	
	University Ave: P/B 1 (3)	61 (90) 269 (350) 73 (99)

Overall: 1086 (1536)

15 University Ave & Falling Run Rd

	University Ave	Falling Run Rd
↰	0 (0)	20 (14)
↑	343 (605)	0 (0)
↱	58 (64)	101 (106)
P/B	0 (0)	P/B 127 (74)
	0 (0) P/B	
	University Ave: P/B 0 (2)	0 (0) 383 (525) 84 (213)

Overall: 989 (1527)

16 University Ave & College Ave

	University Ave	College Ave
↰	0 (0)	205 (221)
↑	241 (477)	0 (0)
↱	203 (234)	1 (0)
P/B	249 (282)	P/B 0 (0)
Driveway	14 (28) P/B	
	0 (1)	
	0 (0)	
	0 (2)	
	University Ave: P/B 7 (2)	1 (0) 262 (515) 21 (44)

Overall: 934 (1494)

109 Grumbein's Island Crosswalk

	University Ave
	← 848 (291)
737 (389) →	

Overall: 1585 (680)

107 E. Moore Hall to Stewart Hall Crosswalk

University Ave	
	← 164 (59)
147 (73) →	

Overall: 311 (132)

17 University Ave & Prospect St

	University Ave	Prospect St
↰	0 (0)	96 (152)
↑	242 (479)	0 (0)
↱	0 (0)	36 (65)
P/B	0 (0)	P/B 14 (3)
Hunt St	93 (48) P/B	
	University Ave: P/B 413 (161)	0 (0) 188 (407) 0 (0)

Overall: 562 (1103)

106 Colson Hall to Clark Hall Crosswalk

University Ave	
	← 144 (43)
153 (55) →	

Overall: 297 (98)

108 Oglebay Hall to Book Store Crosswalk

College Avenue	
	← 379 (96)
195 (71) →	

Overall: 574 (167)

110 Mountainlair to Stalnaker Hall Crosswalk

Maiden Lane	
	← 36 (23)
33 (39) →	

Overall: 69 (62)

21 N High St & Prospect St

	N High St	Prospect St
↰	0 (0)	100 (103)
↑	76 (97)	0 (0)
↱	1 (0)	36 (42)
P/B	66 (16)	P/B 0 (0)
	94 (41) P/B	P/B
	N High St: P/B 47 (46)	

Overall: 213 (242)

31 Willey St & Prospect St

	Willey St	Prospect St
↰	25 (24)	
↑	196 (306)	
↱	0 (0)	
P/B	0 (5)	P/B 27 (18)
Prospect St	2 (1) P/B	
	Willey St: P/B 0 (0)	14 (7) 341 (493) 0 (0)

Overall: 576 (830)

32 Willey St & Richwood Ave

	Willey St	Richwood Ave
↰	0 (0)	1 (0)
↑	162 (255)	0 (0)
↱	0 (0)	59 (75)
P/B	0 (0)	P/B 1 (3)
	1 (0) P/B	
	Willey St: P/B 9 (8)	0 (0) 226 (299) 116 (193)

Overall: 564 (822)

33 Stewart St & Willowdale Rd

	Willowdale Rd	Stewart St
↰	0 (0)	46 (42)
↑	131 (198)	0 (0)
↱	56 (119)	59 (87)
P/B	0 (0)	P/B 0 (0)
	0 (0) P/B	
	Stewart St: P/B 2 (3)	0 (0) 105 (171) 47 (66)

Overall: 444 (683)

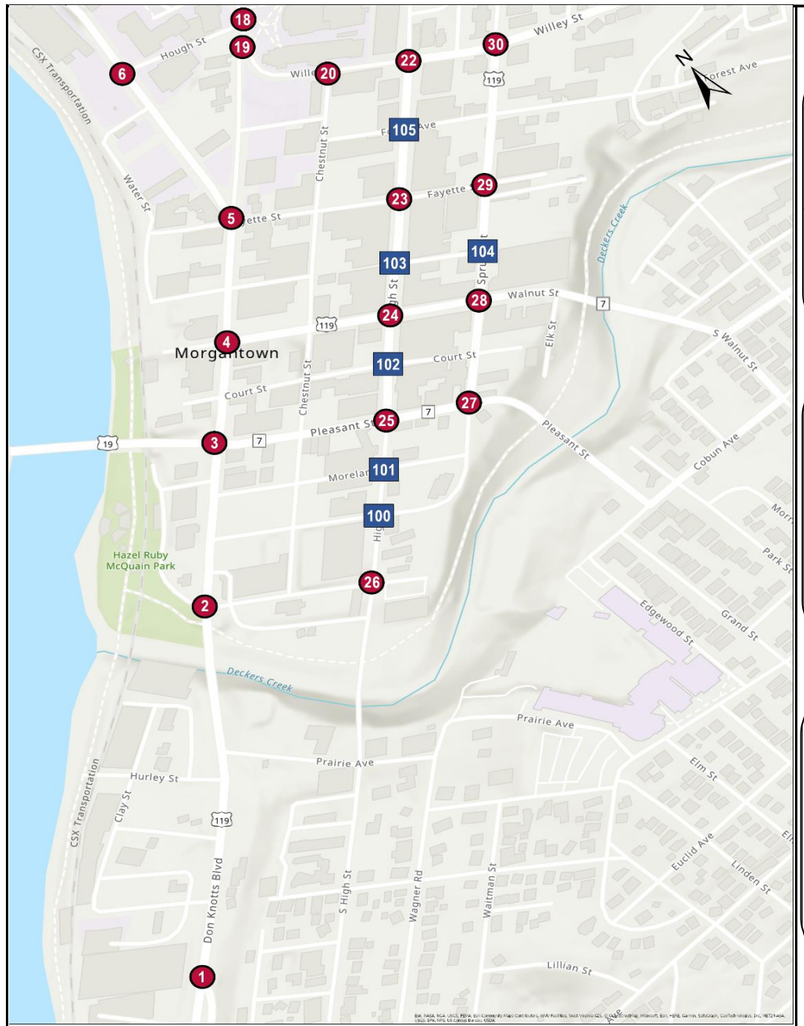
34 Stewart St & Protzman St VanGlider Ave

	Stewart St	VanGlider Ave
↰	81 (113)	6 (4)
↑	127 (123)	6 (10)
↱	6 (9)	8 (5)
P/B	3 (2)	P/B 1 (0)
Stewart St	4 (3) P/B	
	91 (154)	
	7 (14)	
	17 (21)	
	Protzman St: P/B 0 (1)	18 (41) 119 (238) 5 (9)

Overall: 491 (731)

Project Title: Downtown Morgantown Microsimulation (Existing Mid-Day/PM Balanced Volumes)

Kimley»Horn



LEGEND

#	*Intersection ID*	XX (XX)	Mid-day (PM)
#	*Crosswalk ID*	P/B	Pedestrian/Bicyclist in Crosswalk

1 Don Knotts Blvd & Dorsey Ave

	Don Knotts Blvd	Dorsey Ave
	0 (0)	79 (122)
	480 (787)	0 (0)
	100 (226)	2 (0)
	0 (0)	P/B 0 (0)
	P/B	

	Don Knotts Blvd	
	0 (0) P/B	
	P/B	
	0 (0)	431 (617)
	0 (0)	
	0 (1)	

Overall: 1092 (1753)

2 University Ave & Foundry St

	University Ave	Foundry St
	6 (2)	60 (53)
	559 (971)	2 (0)
	46 (51)	96 (197)
	1 (1)	P/B 1 (2)
	P/B	

	Sturgiss St	Don Knotts Blvd
	0 (1) P/B	P/B
	8 (3)	13 (15)
	2 (5)	2 (2)
	5 (4)	453 (635)
		54 (59)

Overall: 1293 (1982)

3 University Ave & Pleasant St

	University Ave	Pleasant St
	346 (506)	
	393 (675)	
	90 (99)	
	0 (0)	P/B 5 (6)
	P/B	

	Westover Bridge	University Ave
	2 (2) P/B	P/B
	112 (154)	13 (6)
	168 (216)	225 (321)
	218 (349)	196 (343)
		90 (106)

Overall: 1838 (2769)

4 University Ave & Walnut St

	University Ave	Walnut St
	2 (2)	102 (80)
	560 (867)	9 (2)
	0 (0)	269 (406)
	10 (4)	P/B 7 (9)
	P/B	

	Walnut St	University Ave
	7 (10) P/B	P/B
	7 (5)	8 (7)
	0 (0)	1 (12)
	0 (7)	307 (485)
		0 (0)

Overall: 1257 (1866)

5 University Ave & Beechurst Ave

	Beechurst Ave	Fayette St
	0 (0)	1 (0)
	461 (624)	101 (245)
	111 (131)	6 (13)
	16 (4)	P/B 39 (4)
	P/B	

	Fayette St	University Ave
	6 (2) P/B	P/B
	0 (0)	25 (23)
	0 (0)	0 (0)
	0 (0)	361 (471)
		78 (123)

Overall: 1119 (1607)

6 Beechurst Ave & Hough St

	Beechurst Ave	Hough St
	18 (11)	70 (75)
	557 (743)	3 (4)
	0 (0)	2 (0)
	48 (19)	P/B 5 (4)
	P/B	

	Parking Driveway	Beechurst Ave
	50 (27) P/B	P/B
	1 (4)	81 (27)
	0 (0)	3 (6)
	3 (6)	354 (465)
		0 (0)

Overall: 1011 (1314)

18 University Ave & Hough St

	University Ave	
	14 (16)	
	264 (528)	
	0 (0)	
	226 (68)	P/B 16 (3)
	P/B	

	Hough St	University Ave
	19 (2) P/B	P/B
		0 (0)
		61 (63)
		188 (407)
		0 (0)

Overall: 527 (1014)

19 University Ave & Willey St

	University Ave	Willey St
	0 (0)	250 (470)
	96 (234)	0 (0)
	169 (294)	2 (3)
	0 (0)	P/B 11 (2)
	P/B	

		University Ave
	223 (134) P/B	P/B
		7 (1)
		0 (0)
		0 (0)
		0 (0)

Overall: 517 (1001)

20 Chestnut St & Willey St

		Willey St
		184 (323)
	5 (1)	0 (0)
	P/B	P/B 0 (0)

	Willey St	Chestnut St
	199 (75) P/B	P/B
	0 (0)	22 (10)
	169 (294)	68 (150)
	0 (0)	0 (0)
		52 (55)

Overall: 473 (822)

22 High St & Willey St

	N High St	Willey St
	17 (13)	0 (0)
	70 (88)	166 (310)
	25 (38)	261 (357)
	85 (81)	P/B 30 (29)
	P/B	

	Willey St	High St
	89 (55) P/B	P/B
	0 (0)	58 (76)
	96 (103)	
	124 (247)	

Overall: 759 (1156)

105 High Street at Forest Avenue Crosswalk

	High Street	
		39 (18)
23 (31)		
	High Street	

Overall: 62 (49)

23 High St & Fayette St

	High St	Fayette St
	0 (0)	
	419 (649)	
	26 (36)	
	97 (74)	P/B 39 (25)
	P/B	

	Fayette St	High St
	21 (9) P/B	P/B
	0 (0)	136 (91)
	96 (157)	0 (0)
	74 (84)	0 (0)
		0 (0)

Overall: 615 (926)

103 High Street at Wall Street Crosswalk

	High Street	
		22 (16)
24 (23)		
	High Street	

Overall: 46 (39)

24 High St & Walnut St

	High St	Walnut St
	208 (246)	0 (0)
	284 (487)	209 (236)
	0 (0)	65 (60)
	75 (45)	P/B 28 (33)
	P/B	

	Walnut St	High St
	40 (27) P/B	P/B
		108 (83)

Overall: 766 (1029)

102 High Street at Chancery Row Crosswalk

	High Street	
		15 (3)
10 (11)		
	High Street	

Overall: 25 (14)

25 High St & Pleasant St

	High St	Pleasant St
	0 (0)	
	195 (345)	
	144 (180)	
	53 (36)	P/B 12 (15)
	P/B	

	Pleasant St	High St
	0 (9) P/B	P/B
	0 (0)	50 (48)
	312 (362)	
	23 (16)	

Overall: 674 (903)

101 High Street at Moreland Street Crosswalk

	High Street	
		8 (11)
3 (14)		
	High Street	

Overall: 11 (25)

100 High Street at Kirk Street Crosswalk

	High Street	
		5 (1)
3 (2)		
	High Street	

Overall: 8 (3)

26 High St & Foundry St

	High St	Foundry St
	52 (130)	27 (47)
	96 (166)	31 (22)
	23 (32)	5 (3)
	11 (11)	P/B 14 (7)
	P/B	

	Foundry St	High St
	6 (2) P/B	P/B
	46 (79)	17 (17)
	24 (11)	67 (64)
	15 (25)	163 (213)
		16 (9)

Overall: 565 (801)

27 Spruce St & Pleasant St

	Spruce St	Pleasant St
		83 (68)
	2 (7)	0 (0)
		0 (0)
		P/B 9 (23)
	P/B	

	Pleasant St	Spruce St
	15 (13) P/B	P/B
	359 (381)	4 (8)
	97 (161)	0 (0)
	0 (0)	239 (307)
		17 (72)

Overall: 795 (989)

28 Spruce St & Walnut St

	Spruce St	Walnut St
		93 (91)
	34 (27)	183 (197)
		0 (0)
		P/B 54 (60)
	P/B	

	Walnut St	Spruce St
	24 (16) P/B	P/B
		24 (15)
		91 (99)
		401 (428)
		163 (247)

Overall: 931 (1062)

104 Spruce St at Wall Street crosswalk

	Spruce St	
		8 (2)
9 (4)		
	Spruce St	

Overall: 17 (6)

29 Spruce St & Fayette St

	Spruce St	Fayette St
	33 (37)	0 (0)
		0 (0)
		0 (0)
	P/B	P/B 2 (4)

	Fayette St	Spruce St
	40 (9) P/B	P/B
	115 (183)	40 (29)
	7 (10)	0 (0)
	0 (0)	505 (581)
		7 (0)

Overall: 634 (774)

30 Spruce St & Willey St

	Spruce St	Willey St
	0 (0)	0 (2)
	0 (0)	207 (342)
	0 (0)	0 (0)
	11 (17)	P/B 15 (13)
	P/B	

	Willey St	Spruce St
	45 (25) P/B	P/B
	16 (11)	20 (0)
	105 (129)	221 (325)
	0 (0)	69 (85)
		285 (370)

Overall: 903 (1264)

Project Title: Downtown Morgantown Microsimulation (Existing Mid-Day/PM Balanced Volumes)

Kimley»Horn

Appendix B – Beechurst Traffic Analysis Report

Beechurst Traffic Analysis

8th Street to Westover Bridge
Preliminary Investigation & Engineering Study

May 17, 2019

Prepared for:

Prepared by:

Stantec Consulting Services Inc.

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Prepared by _____
(signature)

Reviewed by _____
(signature)

Approved by _____
(signature)

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1910 image of Beechurst Avenue and University Avenue (formerly known as Front Street) facing north superimposed over 2018 image of same location from Google Maps.

1.0 INTRODUCTION

Stantec conducted the Beechurst Avenue (US19): 8th Street to Westover Bridge Preliminary Investigation & Engineering (PIE) Study as requested by the West Virginia Department of Transportation, Division of Highways (WVDOH) and the Morgantown Monongalia Metropolitan Planning Organization (MMMPO). The study examined the need and various lane configurations for widening Beechurst Avenue from a three-lane segment to a four-lane segment between the intersections of 8th Street and University Avenue. It also examines the impacts of these scenarios on University Avenue between Beechurst Avenue and the Westover Bridge / Pleasant Street intersection. **Figure 1** below provides an overview of the study area. Through a collaborative effort with the public, local government agencies, and West Virginia University, this study evaluated various four-lane configurations aimed at improving safety and mobility for all modes in an environmentally responsible manner.

BEECHURST TRAFFIC ANALYSIS

INTRODUCTION
May 23, 2019

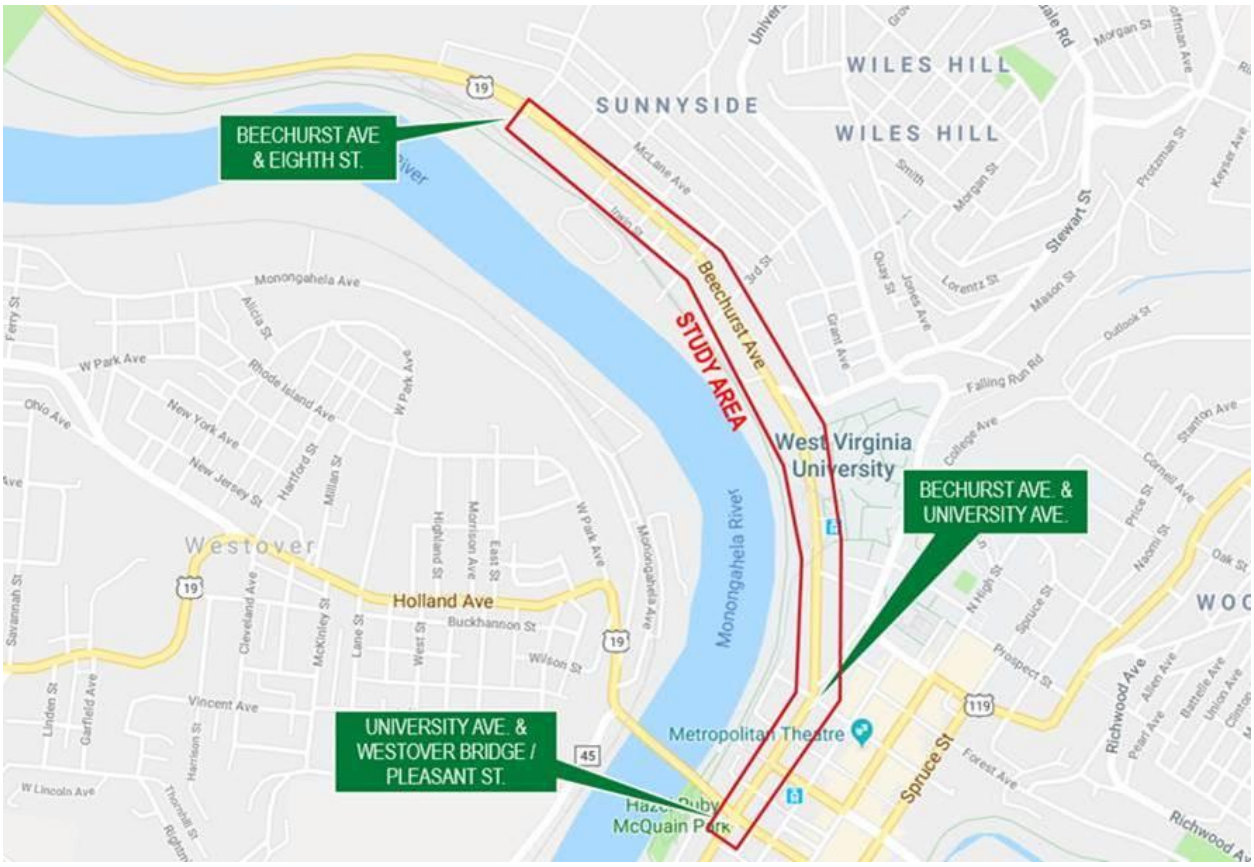


Figure 1 – Study Area

The study area carries a mix of local and some regional traffic. Beechurst Avenue and University Avenue are federally classified as Principle Arterials and state classified as Feeders. It serves as a primary connector between West Virginia University (WVU) Evansdale Campus and the WVU Downtown Campus / downtown Morgantown. It also provides access to numerous businesses, industries, governmental organizations, and homes in the Sunnyside Neighborhood.

The activities performed in study include:

Collection of traffic data
Compiling an inventory of existing conditions
Traffic simulation modeling
Evaluating alternatives
Producing a compilation of the results

As part of the PIE Study, Stantec performed a traffic analysis consisting of the traffic simulation model of existing baseline conditions as well as the evaluation of alternatives. This included an inventory of existing conditions, traffic counts, analysis of crash records, and application of growth rates to determine future volumes. The existing conditions analysis was modeled using traffic simulation (using Synchro® 10 simulation software) to provide system-wide performance measures. These performance measures were used to evaluate and compare existing and future traffic conditions for alternatives.

2.0 DATA COLLECTION

Data necessary to support the different elements of the study was collected. Traffic counts were collected on Tuesday October 9, 2018 at 11 intersections on the corridor. The data was collected at each intersection simultaneously using Miovision cameras which recorded video between the hours from 7:00 a.m. to 9:00 a.m. and from 2:00 p.m. to 6:00 p.m.

The intersections where traffic data collection occurred are as follows:

- Beechurst Avenue and Evansdale Drive
- Beechurst Avenue and Eighth Street
- Beechurst Avenue and Seventh Street
- Beechurst Avenue and Sixth Street
- Beechurst Avenue and Fourth Street
- Beechurst Avenue and Third Street
- Beechurst Avenue and Campus Avenue
- Beechurst Avenue and Hough Street
- Beechurst Avenue and University Avenue
- University Avenue and Walnut Street
- University Avenue and Westover Bridge

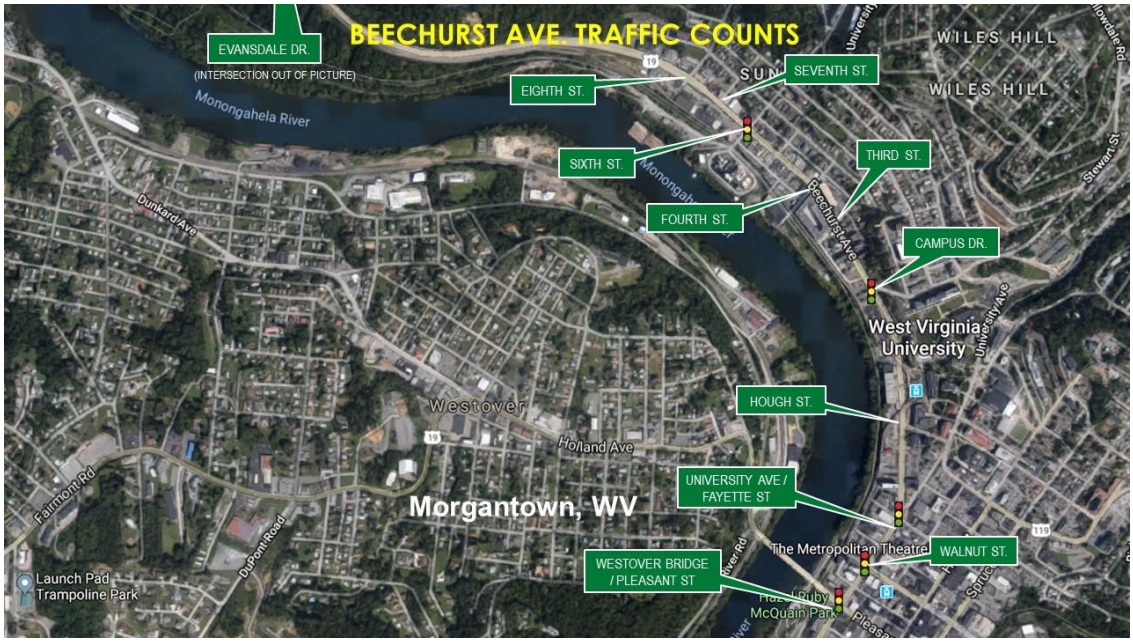


Figure 2 – Traffic Count Map

The videos were post-processed to extrapolate valuable data for each intersection including intersection turning movement counts, hourly directional volumes, vehicle classification counts, pedestrian counts,

and bicycle counts. Roadway geometric data was collected from field visits and available aerial satellite imagery. Traffic signal timing and phasing was collected from a stopwatch while observing video recordings during applicable peak hours.

Video and traffic data reports collected for each intersection in this study are available on the Miovision website and the following link:
https://datalink.miovision.com/projects/FMGsC9EMFaj8SC4gV3Jk86Xs##studies

3.0 ESTABLISH BASELINE CONDITIONS

Stantec performed a series of analyses to provide a "snapshot" of existing conditions. This was used to provide a basis for comparison with the proposed scenarios.

An analysis of crash data to identify high crash locations within the study area was conducted. Crash records were used to identify potential causative factors and candidate solutions for locations with higher than average crash rates.

3.1 ROADWAY CONFIGURATION

The study limits include a 0.8-mile section of Beechurst Avenue and a 0.2-mile section of University Avenue for a total of one mile.

Beechurst Avenue from 8th Street to University Avenue is a 0.80-mile arterial section with commercial development, university buildings, and residence halls. It has a federal functional classification of Principal Arterial and a state functional classification of Feeder. Based on publicly-available data from the WVDOH, the traffic volume varies between 20,000 and 23,000 vehicles per day. There is a single 10-foot driving lane in each direction with a 10-foot two-way left-turn lane in the center. The section widens to approximately 42 feet for the block between Hough Street and University Avenue which is approximately 715 feet, and an additional southbound lane without gutters is added for the approach to University Avenue. There are curbs on both sides. Sidewalks of varying widths between six feet to over ten feet are present on both sides of the road for most of the Beechurst Avenue corridor with the following exception. The southeast side of the two blocks between 8th Street and 6th Street in front of the Seneca Center (shopping center) do not have sidewalks. The posted speed limit is 25 miles per hour. There are ten intersections with public streets between and including 8th Street and University Avenue. Three of the ten intersections are signalized – 6th Street, Campus Street, and University Avenue. All other intersections with streets have a required stop for only the side-street approaches. There are approximately 33 other access points for driveways or parking areas. On-street parking is not permitted on Beechurst Avenue.

Figure 3 – Beechurst Avenue (WV-19)

University Avenue from Beechurst Avenue to the Westover Bridge / Pleasant Street is a 0.20-mile arterial section with commercial development. It has a federal functional classification of Principal Arterial, a state functional classification of Feeder between Beechurst Avenue and Walnut Street, and a state functional classification of Trunkline between Walnut Street and Westover Bridge / Pleasant Street. The traffic volume varies between 23,000 and 29,000 vehicles per day. The section is approximately 50 feet wide with curbs on both sides without gutters. There are five 10-foot wide lanes. The block of University Avenue between Beechurst Avenue and Walnut Street has three southbound lanes and two northbound lanes. The block of University Avenue between Walnut Street and Westover Bridge / Pleasant Street has four southbound lanes and one northbound lane. The single northbound lane tapers into two lanes at the point 150 feet north of the intersection of University Avenue and Westover Bridge / Pleasant Street where the taper ends for the origin of the northbound left-turn only lane. Sidewalks of varying widths from five feet to eight feet are present on both sides of the road for the University Avenue corridor within the study limits. The posted speed limit is 25 miles per hour. There are four intersections with public streets between Beechurst Avenue (not included) and Westover Bridge / Pleasant Street. Two of the four intersections on University Avenue are signalized – Walnut Street and Westover Bridge / Pleasant Street.

All other intersections with streets have a required stop for only the side-street approach. There are approximately 14 other access points for driveways or parking areas. On-street parking is not permitted on University Avenue.

Figure 4 – University Avenue (WV-19)

The A.M. and P.M. peak hours were determined to occur from 7:30 am to 8:30 am and from 4:30 pm to 5:30 pm. Review of peak hour traffic volumes revealed that the directional imbalance was 57% northbound to 43% southbound for the A.M. peak hour and was 57% southbound to 43% northbound for the P.M. peak hour. The through movement was the predominant movement at each intersection on Beechurst Avenue and on University Avenue.

3.2 CRASH ANALYSIS

Traffic crash data was provided by the Traffic Engineering Division of the WVDOH for the time period between January 1, 2015 to December 31, 2017. The summary indicates that 191 automobile crashes including those involving pedestrians occurred over the three-year period examined. During this time, 40% of the all incidents occurred at three separate intersections. With 28 reported incidents, the

intersection of University with Pleasant Street / Westover Bridge was the highest. The intersection of Beechurst Avenue with University Avenue / Pleasant Street was the second highest with 27 reported crashes. Beechurst Avenue and 8th Street was third with 24. The next highest intersections for crashes were 3rd Street (19), Hough Street (18), Walnut Street (18), Campus Drive (17), and 6th Street (15). Of the six intersections with the highest number of reported crashes, only Beechurst Avenue at 8th Street is not signalized.

There were six accidents involving pedestrians – two at University Avenue and Wall Street, two at University and Walnut Street, and one at Beechurst Avenue and 8th Street. Another pedestrian accident was identified on US-119 with the location of "University Avenue and College Avenue" at the same milepoint as Beechurst Avenue and Campus Drive. There were no crashes involving bicycles identified.

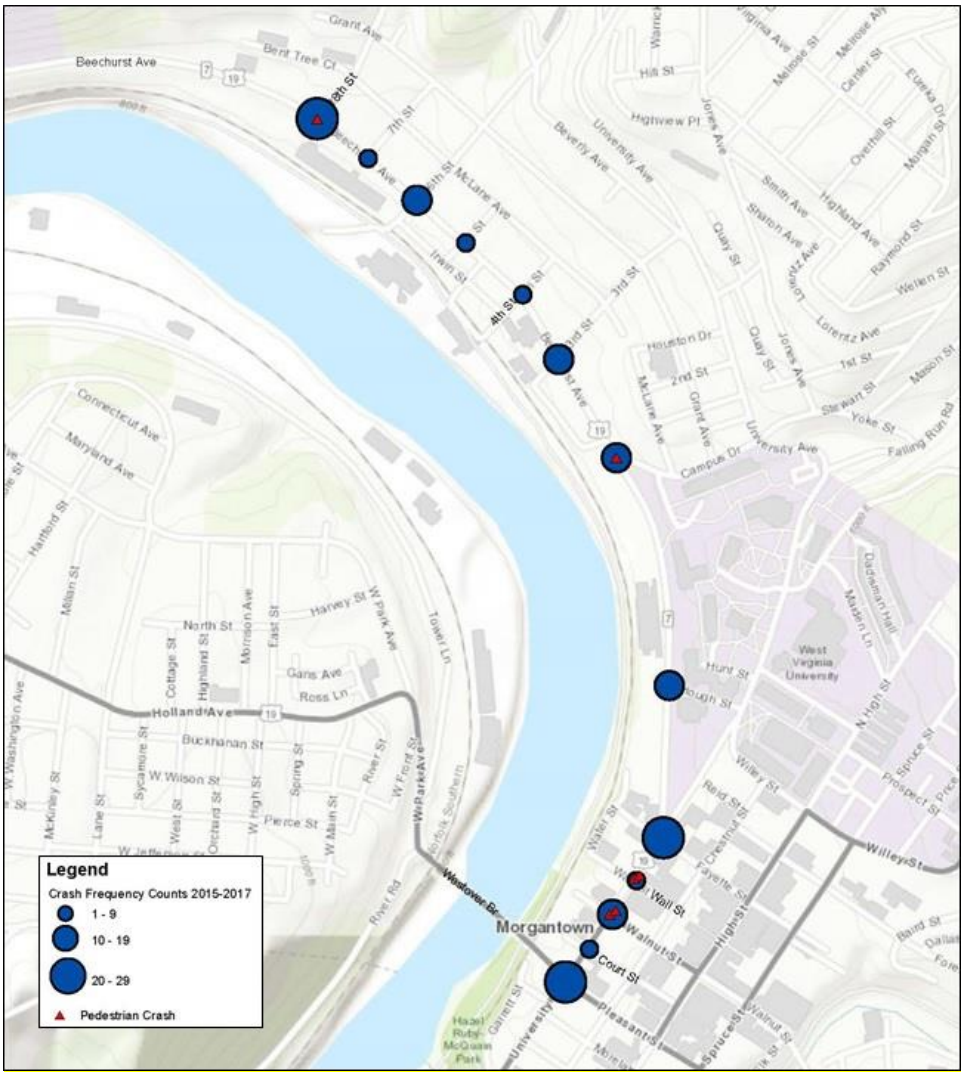


Figure 5 – Beechurst Avenue Crash Map

3.3 LEVEL OF SERVICE

Level of service (LOS) is a qualitative measure describing operational conditions within a traffic stream, based on service measures such as speed and travel time, freedom to maneuver, traffic interruptions, comfort, and convenience. Specifically, LOS for signalized intersections is defined in terms of a weighted average control delay for the entire intersection. Control delay quantifies the increase in travel time that a vehicle experiences due to the traffic signal control as well as provides a surrogate measure for driver discomfort and fuel consumption. Signalized intersection LOS is stated in terms of average control delay per vehicle (in seconds) during a specified time period (e.g., weekday PM peak hour). Control delay is a complex measure based on many variables, including signal phasing and coordination (i.e., progression of movements through the intersection and along the corridor), signal cycle length, and traffic volumes with respect to intersection capacity and resulting queues. **Table 1** summarizes the LOS criteria for signalized intersections, as described in the Highway Capacity Manual 6th Edition (Transportation Research Board, 2016). There are six levels of service, having letter grades A through F. LOS A is associated with free-flow conditions, high freedom to maneuver, and little or no delay. Conditions at or near capacity typically are associated with LOS E. At LOS F, traffic conditions are oversaturated and exceed capacity, with low travel speeds, little or no freedom to maneuver, and high delays. In urban areas, LOS D or better is desirable.

Table 1 - Level of Service for Signalized Intersections

Table 1. Level of Service Criteria for Signalized Intersections

Level of Service	Average Control Delay (seconds/vehicle)	General Description
A	≤10	Free Flow
B	>10 – 20	Stable Flow (slight delays)
C	>20 – 35	Stable flow (acceptable delays)
D	>35 – 55	Approaching unstable flow (tolerable delay, occasionally wait through more than one signal cycle before proceeding)
E	>55 – 80	Unstable flow (intolerable delay)
F[1]	>80	Forced flow (congested and queues fail to clear)

Source: *Highway Capacity Manual 2010*, Transportation Research Board, 2010.
1. If the volume-to-capacity (v/c) ratio for a lane group exceeds 1.0 LOS F is assigned to the individual lane group. LOS for overall approach or intersection is determined solely by the control delay.

4.0 SIMULATION MODEL

Within the project study area Stantec developed a traffic simulation model for existing traffic to reflect the existing A.M. and P.M. peak hour traffic conditions within professionally accepted limits. This effort included the most recent traffic volumes along with turning movement counts and pedestrian counts collected specifically for the study. MMMPO provided Stantec with their existing traffic simulation model created in Synchro® software. The Synchro® 10 software is a traffic simulation which was used to analyze peak period traffic conditions for the current conditions.

Stantec updated this model with the most recent traffic counts, augmented the model to include the intersection of Beechurst Avenue and Evansdale Drive, and updated the traffic signal timing and phasing to match the timing and phasing currently in operation. All five traffic signals on Beechurst Avenue and University Avenue within the study area operate within the realm of a coordinated signal system and the common cycle length is 115 seconds. Intersection geometry and traffic control in the study area were also verified. The model was calibrated and run with multiple iterations to achieve the outputs. The Beechurst traffic simulation model accurately reflects the existing A.M. and P.M. peak hour traffic conditions.

The A.M. peak hour model verifies field observations showing that queues develop for the northbound approach for Beechurst Avenue at the signalized intersection with Campus Drive. Over time the northbound queue propagates back a distance of 900 feet from the intersection. Delays increase when the available green interval for the northbound Beechurst Avenue approach is reduced by the increase in vehicular traffic on both the eastbound Campus Drive approach and the southbound left-turn approach as well as frequent pedestrian actuations. The pedestrian indications at the Campus Drive intersection are exclusive which means that all vehicular movements are prohibited during the pedestrian walk time and clearance time. Exclusive pedestrian indications provide a higher level of safety for crossing a signalized intersection than when the pedestrian indications operate concurrently with a parallel vehicular phase, but the operation of the signal may be less efficient for vehicles. Compliance by pedestrians to push the pedestrian button and wait for the walk interval rather than crossing without the aid of the pedestrian indication was observed to be very high. The pedestrian indications at Beechurst Avenue and Campus Drive are actuated frequently during the A.M. peak hour particularly after 8:00 a.m. and nearly every cycle during the P.M. peak hour. In the simulation model, the exclusive pedestrian phase was modeled to be actuated every cycle of the signal. The LOS for northbound Beechurst Avenue at Campus Drive is an F. In urban areas, LOS D or better is desirable per the Highway Capacity Manual. The southbound direction of Beechurst Avenue does not experience the same level of delay as the northbound direction for the A.M. peak period.

Table 2– Existing AM Peak LOS

2018 Existing AM Peak										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	18.5	B	11.8	B	8.1	A	37.7	D		
Walnut St	19.2	B	4.9	A	6.8	A	53.5	D	64.5	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	43.8	D	47.1	D	21.7	C	40.0	D	82.3	F
Campus Dr	95.9	F	156.5	F	24.9	C			56.8	E
6th St	6.0	A	3.8	A	3.1	A	56.6	E	33.2	C

As observed, the P.M. peak hour model also verifies that queues develop for the northbound approach for Beechurst Avenue at the signalized intersection with Campus Drive. Similar to the A.M. results, the northbound queue propagates back to Hough Street which is 1200 feet from the intersection. Delays increase when the available green interval for the northbound Beechurst Avenue approach is reduced by the increase in vehicular traffic on both the eastbound Campus Drive approach and the southbound left-turn approach as well as frequent pedestrian actuations. The LOS for northbound Beechurst Avenue at Campus Drive is an E. In urban areas, LOS D or better is desirable. The southbound direction of

Beechurst Avenue does not experience the same level of delay as the northbound direction for the P.M. peak period.

Table 3 – Existing PM Peak LOS

2018 Existing PM Peak										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	16.4	B	13.2	B	5.8	A	41.4	D		
Walnut St	21.1	C	7.5	A	6.0	A	36.9	D	59.6	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	44.6	D	24.0	C	55.0	D	40.4	D	53.1	D
Campus Dr	68.6	E	80.7	F	56.1	E			77.7	E
6th St	12.2	B	3.2	A	8.0	A	34.7	C	78.8	E

Signalized intersections in close proximity are typically coordinated with the goal of providing smooth traffic flow in order to reduce travel times, stops, and delay. All five traffic signals on both Beechurst Avenue and University Avenue within the study area operate within the realm of a coordinated signal system and the common cycle length is 115 seconds. Because the traffic signals on mainline University Avenue / Beechurst Avenue are coordinated, longer delays for side-street approaches are expected. A LOS E or F for a side-street approach may be acceptable provided that motorists do not have to wait through multiple cycles of a signal to proceed from the side-street.

4.1 FUTURE NO BUILD MODEL

Future years A.M. and P.M. peaks were also modeled with no change to the street system based on annual growth rates provided by the MMMPO. Three different annual growth rates were provided for three segments within the study area. The segments and growth rates are summarized in **Table 4** with annual growth factors and 20-year growth factors.

Table 4 – Growth Rates

Segment Limits	Growth Rate per Year	Annual Growth Factor	20-year Growth Factor
8th - Campus	0.0044	1.0044	1.0918
Campus - University / Fayette	0.0071	1.0071	1.1520
University / Fayette - Westover Bridge / Pleasant	0.0023	1.0023	1.0470

The annual growth rates were converted to a 20-year growth factor and multiplied to each approach volume in the existing A.M. and P.M. peak models. The new volumes were applied to the models for AM and PM peak with no change to the street system.

The delays and associated LOS for the A.M. and P.M. peak degrade for both northbound and southbound Beechurst Avenue particularly at the intersections of Campus Drive and University Ave / Fayette Street intersections. The delays and associated LOS for the A.M. and P.M. peak hours for both northbound and

southbound Beechurst Avenue remain relatively unchanged for other intersections on the corridor. Side street delays also increase for all approaches particularly for westbound University Avenue during the A.M. peak hour and Campus Drive and 6th Street during the P.M. peak hour.

Table 5 – Future AM Peak LOS

2038 AM Peak - No Build										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	19.6	B	12.3	B	8.3	A	40.3	D		
Walnut St	19.0	B	5.0	A	6.9	A	53.5	D	63.2	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	67.8	E	86.0	F	24.3	C	40.0	D	109.8	F
Campus Dr	121.6	F	203.6	F	29.2	C			58.7	E
6th St	6.8	A	4.8	A	3.4	A	60.1	E	33.7	C

Table 6 – Future PM Peak LOS

2038 PM Peak - No Build										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	18.5	B	14.9	B	7.3	A	44.9	D		
Walnut St	20.7	C	8.1	A	6.1	A	36.6	D	57.4	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	60.7	E	31.1	C	81.1	F	40.5	D	57.5	E
Campus Dr	95.8	F	114.9	F	80.3	E			97.9	F
6th St	14.0	B	3.9	A	9.8	A	36.1	D	86.9	F

5.0 REVIEW AND EVALUATE ALTERNATIVES

The study examines the need for and types of configurations for a four-lane segment scenario using reversible lanes on Beechurst Avenue between the intersections of 8th Street and University Avenue. It also examines the impacts of these scenarios on University Avenue between Beechurst Avenue and the Westover Bridge / Pleasant Street intersection. Reversible lanes add peak-direction capacity to a two-way road and decrease congestion by borrowing available lane capacity from the other (off-peak) direction. The directional adjustments are indicated by changeable lane assignment signs and/or arrows which indicate the appropriate usage for each lane. The change in lane usage occurs at specific times of the day. The decision to consider reversible lanes is usually based on the need to mitigate recurrent congestions. Based on the American Association of State Highway and Transportation Officials (AASHTO), *A policy on Geometric Design of Highway and Streets*, the use of reversible lanes is most applicable on multilane roadways with a directional imbalance in excess of 65/35 percent with a predominance of through traffic and predictable congestion patterns. As indicated previously, the directional imbalance was 57% northbound to 43% southbound for the A.M. peak hour and was 57% southbound to 43% northbound for the P.M. peak hour. Although the through movement was the predominant movement at each intersection on Beechurst Avenue, the directional imbalance for both peak hours did not exceed the 65/35 percent AASHTO recommendation for reversible lanes.

Using the Beechurst Avenue Traffic Simulation Model, Stantec developed multiple four-lane scenarios in the model. A scenario was developed for widening only the segment of Beechurst between 6th Street and 8th Street. A scenario was developed for the segment on Beechurst Avenue between 8th Street and Hough Street using two lanes in the peak direction, a center two-way left turn lane, and a single lane in the non-peak direction. The transitions and effects on University Avenue between Beechurst Avenue and the Westover Bridge / Pleasant Avenue intersections were also simulated and analyzed. An alternative was developed for a four-lane segment on Beechurst Avenue between Campus Avenue and Hough Avenue. This alternative includes a change in lane configurations on University Avenue between Beechurst Avenue and Westover Bridge / Pleasant Avenue, intersection improvements to Beechurst Avenue and Campus Avenue, and an additional northbound approach Lane at Beechurst Avenue and University Avenue. Finally, an additional alternative was developed for only the intersection improvements to Beechurst Avenue and Campus Avenue, and an additional northbound approach Lane at Beechurst Avenue and University Avenue. This last alternative does not include widening but does include restriping the three-lane segment on Beechurst Avenue between Campus Avenue and Hough Avenue.

5.1 ALTERNATIVE 1 – WIDEN TO 4 LANES BETWEEN 6TH ST AND 8TH ST

Using the Beechurst Avenue Traffic Simulation Model, a four-lane widening scenario only between 6th Street and 8th Street was developed as shown in **Figure 5**. This alternative includes a change in lane configurations for the approach north of 8th Street where the leftmost northbound through lane was converted to a southbound left-turn lane in this segment. Two southbound through lanes continue to 6th Street where the rightmost through lane becomes a right-turn only lane. The existing three-lane segment on Beechurst Avenue would remain unchanged south of 6th Street.

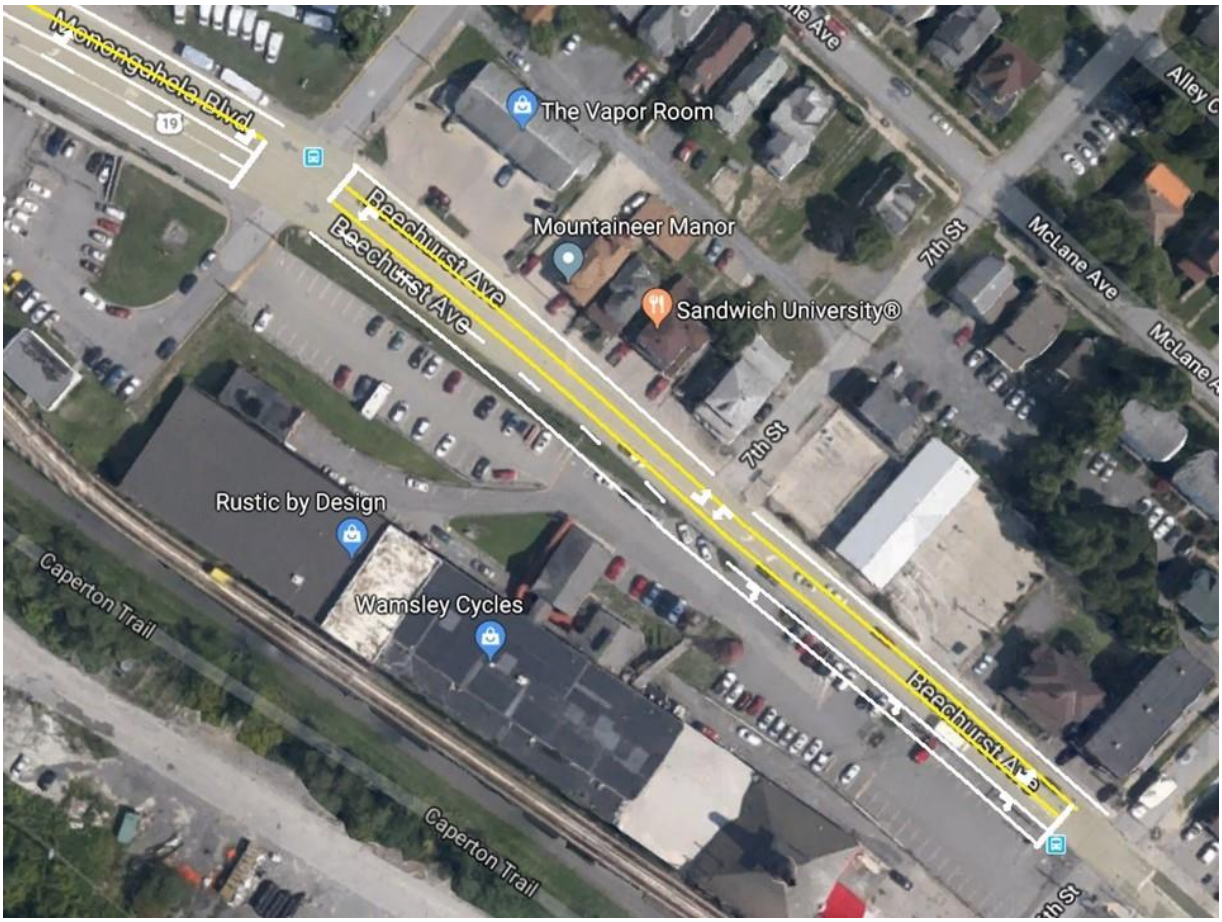


Figure 5 – Widen to 4 Lanes Between 6th Street and 8th Street

The results indicate no improvement to the level of service for either the northbound or southbound Beechurst directions for both A.M. and P.M. peak hours. The intersection of 6th Street was operating at LOS A before widening and would continue to operate at a LOS A after widening. No improvements are realized at any other Beechurst intersection including at Campus Drive and University Avenue / Fayette Drive where the most significant delays occur as indicated below on the Tables for existing and future traffic volumes.

Table 7 – Widen between 6th Street and 8th Street AM Peak

2018 Existing AM Peak - Widen Beechurst between 6th St & 8th St (Alternative 1)

Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	18.6	B	11.8	B	8.1	A	37.7	D		
Walnut St	19.2	B	4.9	A	6.7	A	53.5	D	64.5	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	43.8	D	47.1	D	21.7	C	40.0	D	82.3	F
Campus Dr	95.9	F	156.5	F	24.9	C			56.8	E
6th St	5.9	A	3.8	A	2.9	A	56.6	E	33.2	C

Table 8 – Widen between 6th Street and 8th Street PM Peak

2018 Existing PM Peak - Widen Beechurst between 6th St & 8th St (Alternative 1)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	16.4	B	13.2	B	5.8	A	41.4	D		
Walnut St	21.1	C	7.5	A	6.0	A	36.9	D	59.6	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	44.6	D	24.0	C	55.0	D	40.4	D	53.1	D
Campus Dr	68.7	E	80.7	F	56.3	E			77.7	E
6th St	12.0	B	3.2	A	7.7	A	34.7	C	78.8	E

Table 9 – Future Widen between 6th Street and 8th Street AM Peak

2038 AM Peak - Widen Beechurst between 6th St & 8th St (Alternative 1)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	19.6	B	12.3	B	8.4	A	40.3	D		
Walnut St	19.0	B	5.0	A	6.9	A	53.5	D	63.2	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	67.9	E	86.0	F	24.3	C	40.0	D	109.8	F
Campus Dr	121.6	F	203.6	F	29.1	C			58.7	E
6th St	6.7	A	4.8	A	3.2	A	60.1	E	33.7	C

Table 10 – Future Widen between 6th Street and 8th Street PM Peak

2038 PM Peak - Widen Beechurst between 6th St & 8th St (Alternative 1)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	18.5	B	14.9	B	7.3	A	44.9	D		
Walnut St	20.7	C	8.1	A	6.1	A	36.6	D	57.4	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	60.8	E	31.1	C	81.1	F	40.5	D	57.5	E
Campus Dr	95.9	F	114.9	F	80.5	E			97.9	F
6th St	13.8	B	3.9	A	9.4	A	36.1	D	86.9	F

5.2 ALTERNATIVE 2 – 2 LANES NORTHBOUND FOR A.M. PEAK HOUR

Using the Beechurst Avenue Traffic Simulation Model, a four-lane scenario for the A.M. peak hour with two lanes northbound, a center two-way left turn lane, and a single lane southbound was developed as shown in **Figure 6**. This alternative also includes a change in lane configurations on University Avenue between Beechurst Avenue and Westover Bridge / Pleasant Avenue. The leftmost southbound through lane was converted to a northbound through lane in this segment.

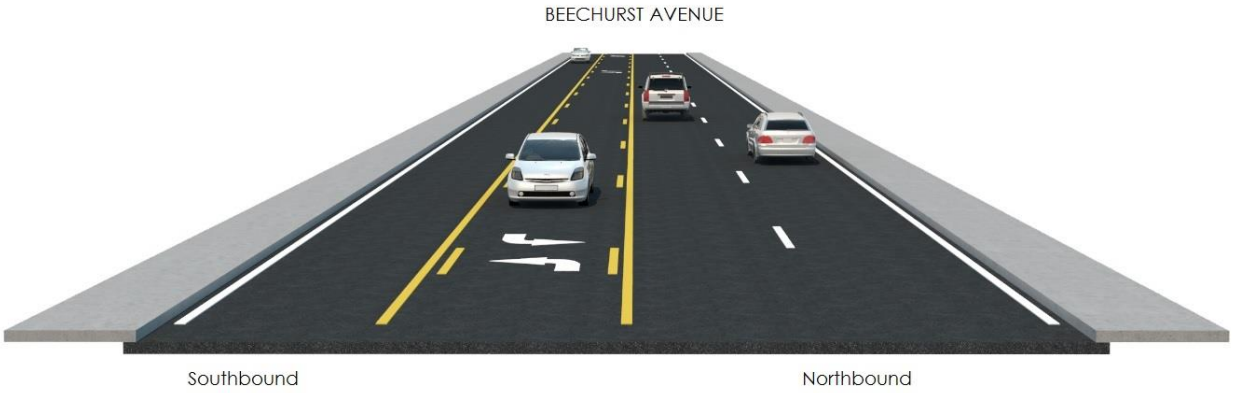


Figure 6 – Typical Section (1 Lane SB, 1 Center 2-Way Left Turn Lane, 2 Lanes NB)

The results indicate a substantial improvement to the level of service for the northbound Beechurst Avenue at the Campus Drive and University Avenue / Fayette Drive intersections as indicated on **Table 11**. The southbound direction of Beechurst Avenue was unchanged. A LOS C or better was achieved for all mainline approaches on Beechurst Avenue and University Avenue.

Table 11 – 2 Northbound Lanes AM Peak LOS

2018 Existing AM Peak - 2 NB Lanes (Alternative 2)

Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	21.0	C	11.8	B	15.1	B	37.7	D		
Walnut St	19.6	B	4.9	A	7.8	A	53.5	D	64.5	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	29.0	C	19.3	B	19.4	B	40.0	D	77.8	E
Campus Dr	28.7	C	25.3	C	22.8	C			58.6	E
6th St	4.3	A	0.8	A	3.1	A	56.6	E	33.2	C

Table 12 – Future 2 Northbound Lanes AM Peak LOS

2038 AM Peak - 2 NB Lanes (Alternative 2)

Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	22.0	C	12.3	B	15.3	B	40.3	D		
Walnut St	19.6	B	5.0	A	8.4	A	53.5	D	63.2	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	36.0	D	20.8	C	22.4	C	40.0	D	109.8	F
Campus Dr	31.6	C	27.6	C	27.1	C			59.9	E
6th St	4.6	A	0.9	A	3.4	A	60.1	E	33.7	C

5.3 ALTERNATIVE 3 – 2 LANES SOUTHBOUND FOR P.M. PEAK HOUR

Using the Beechurst Avenue Traffic Simulation Model, a four-lane scenario for the P.M. peak hour with two lanes southbound, a center two-way left turn lane, and a single lane northbound was developed as shown in **Figure 7**.

Figure 7 – Typical Section (2 Lanes SB, 1 Center 2-Way Left Turn Lane, 1 Lane NB)

The results indicate a modest improvement to the LOS for the southbound Beechurst Avenue at Campus Drive (from E to C) and a slightly worse LOS for southbound Beechurst Avenue at University Avenue (from D to E) as indicated on **Table 13**. Northbound Beechurst Avenue remained unchanged including a LOS F for northbound Beechurst Avenue at Campus Drive.

Table 13 – 2 Southbound Lanes PM Peak LOS

2018 Existing PM Peak - 2 SB Lanes (Alternative 3)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	16.4	B	13.2	B	5.8	A	41.4	D		
Walnut St	21.1	C	7.5	A	6.0	A	36.9	D	59.6	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	49.2	D	24.0	C	64.0	E	40.4	D	53.1	D
Campus Dr	56.2	E	80.7	F	30.0	C			77.7	E
6th St	10.1	B	3.2	A	3.7	A	34.7	C	78.8	E

Table 14 – Future 2 Southbound Lanes PM Peak LOS

2038 PM Peak - 2 SB Lanes (Alternative 3)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	18.5	B	14.9	B	7.3	A	44.9	D		
Walnut St	20.7	C	8.1	A	6.1	A	36.6	D	57.4	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	65.7	E	31.1	C	90.9	F	40.5	D	57.5	D
Campus Dr	74.0	E	114.9	F	34.1	C			97.9	F
6th St	11.1	B	3.9	A	4.0	A	36.1	C	86.9	F

(Note: The Beechurst Avenue Traffic Simulation Model was also used to develop a scenario for the AM peak hour using two southbound lanes. Results indicated no improvement to the LOS for northbound Beechurst Avenue approach and only a modest improvement to the LOS for southbound Beechurst Avenue. Further consideration of this scenario for the A.M. peak hour was not pursued.)

5.4 ALTERNATIVE 4 - 2 LANES NORTHBOUND FOR P.M. PEAK HOUR

Although southbound Beechurst Avenue carries a higher volume of traffic than the northbound direction during the P.M. peak, the LOS E for northbound Beechurst Avenue at Campus Drive was worse than the LOS D for southbound Beechurst Avenue at Campus Drive during the P.M. peak hour for the existing model. Therefore, a four-lane scenario was developed for the P.M. peak hour with two lanes northbound, a center two-way left turn lane, and a single lane southbound. This is the same configuration as Alternative 1 shown in **Figure 6** but using P.M. peak traffic.This alternative includes the change in lane configurations on University Avenue between Beechurst Avenue and Westover Bridge / Pleasant Avenue.

The results indicate an improvement to the LOS for northbound Beechurst Avenue at Campus Drive (from F to C) and northbound Beechurst Avenue at University Avenue / Fayette Drive (from C to B) as indicated on **Table 15**. A LOS C or better was achieved for all northbound approaches on Beechurst Avenue and University Avenue. There is a modest degradation to southbound Beechurst Avenue at the intersection of University Avenue as the LOS drops from a D to an E. There is also a slight improvement for southbound Beechurst Avenue at Campus Drive (from E to D).

Table 15 – 2 Northbound Lanes PM Peak LOS

2018 Existing PM Peak - 2 NB Lanes (Alternative 4)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	18.3	B	13.2	B	9.6	A	41.4	D		
Walnut St	21.6	C	7.5	A	7.1	A	36.9	D	59.6	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	51.2	D	14.7	B	74.0	E	40.4	D	53.1	D
Campus Dr	42.8	D	23.9	C	45.4	D			77.7	E
6th St	11.7	B	1.9	A	8.0	A	34.7	C	78.8	E

Table 16 – Future 2 Northbound Lanes PM Peak LOS

2038 PM Peak - 2 NB Lanes (Alternative 4)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	20.2	C	14.9	B	10.8	B	44.9	D		
Walnut St	21.5	C	8.1	A	7.6	A	36.6	D	57.4	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	85.0	F	15.8	B	138.9	F	40.5	D	57.5	E
Campus Dr	56.7	E	25.3	C	66.8	E			97.9	F
6th St	13.3	B	2.1	A	9.8	A	36.1	D	86.9	F

During the PM peak hour, the scenario described in Alternatives 2 and 4 (two northbound lanes, one center two-way left turn lane, and one southbound lane) results in more operational improvements to the corridor than the scenario described in Alternative 3 (two southbound lanes, one center two-way left turn lane, and one northbound lane).

5.5 ALTERNATIVE 5 – HYBRID WITH INTERSECTION IMPROVEMENTS

Using the Beechurst Avenue Traffic Simulation Model, a scenario was developed with a four-lane segment only between Campus Avenue and Hough Avenue - two northbound lanes and two southbound lanes (see **Figure 9**). This alternative includes intersection improvements at Beechurst Avenue and Campus Drive which add a new right-turn lane from westbound Campus Drive and a right-turn lane from northbound Beechurst Avenue (see **Figure 8**). This alternative also includes an additional northbound receiving lane on Beechurst Avenue at University Avenue as well as a change in lane configurations on University Avenue between Beechurst Avenue and Westover Bridge / Pleasant Avenue (see **Figure 10**). The existing three-lane segment on Beechurst Avenue would remain unchanged north of Campus Drive.

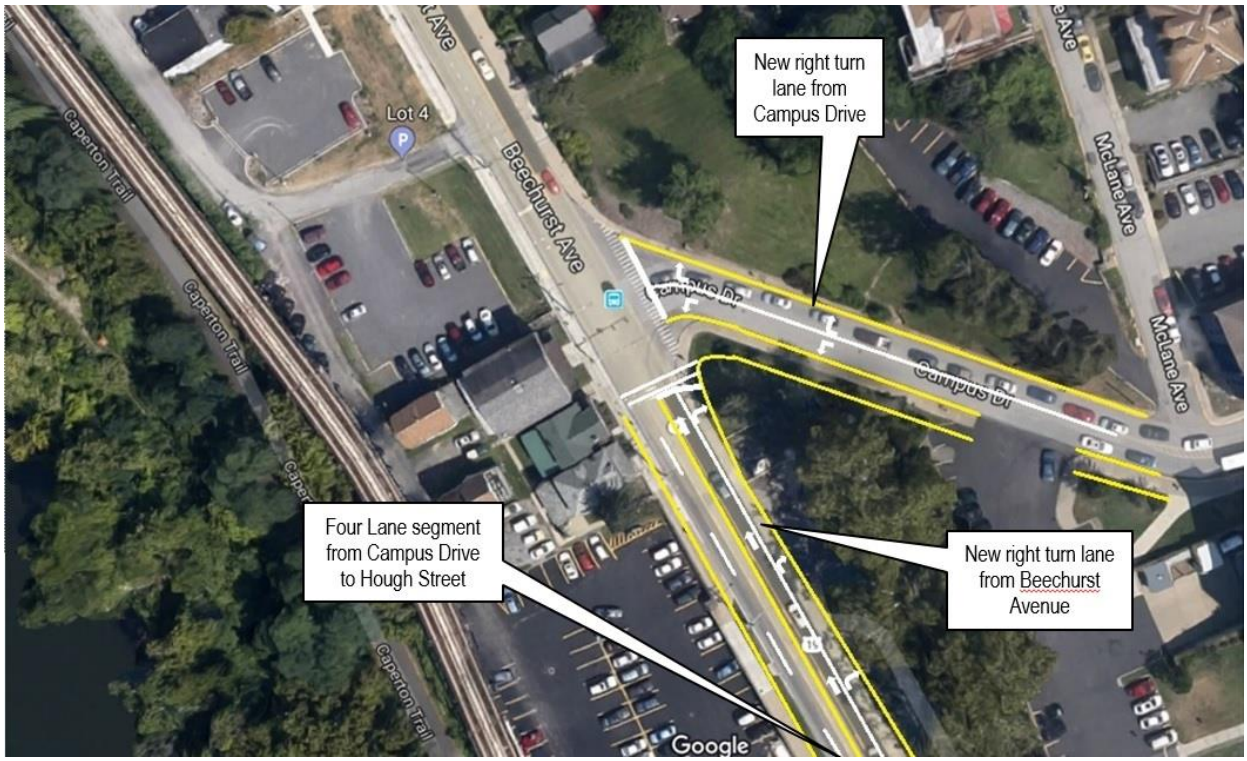


Figure 8 – Hybrid Alternative – Improvements to Campus Drive and 4 Lanes on Beechurst between Campus Drive and Hough Street

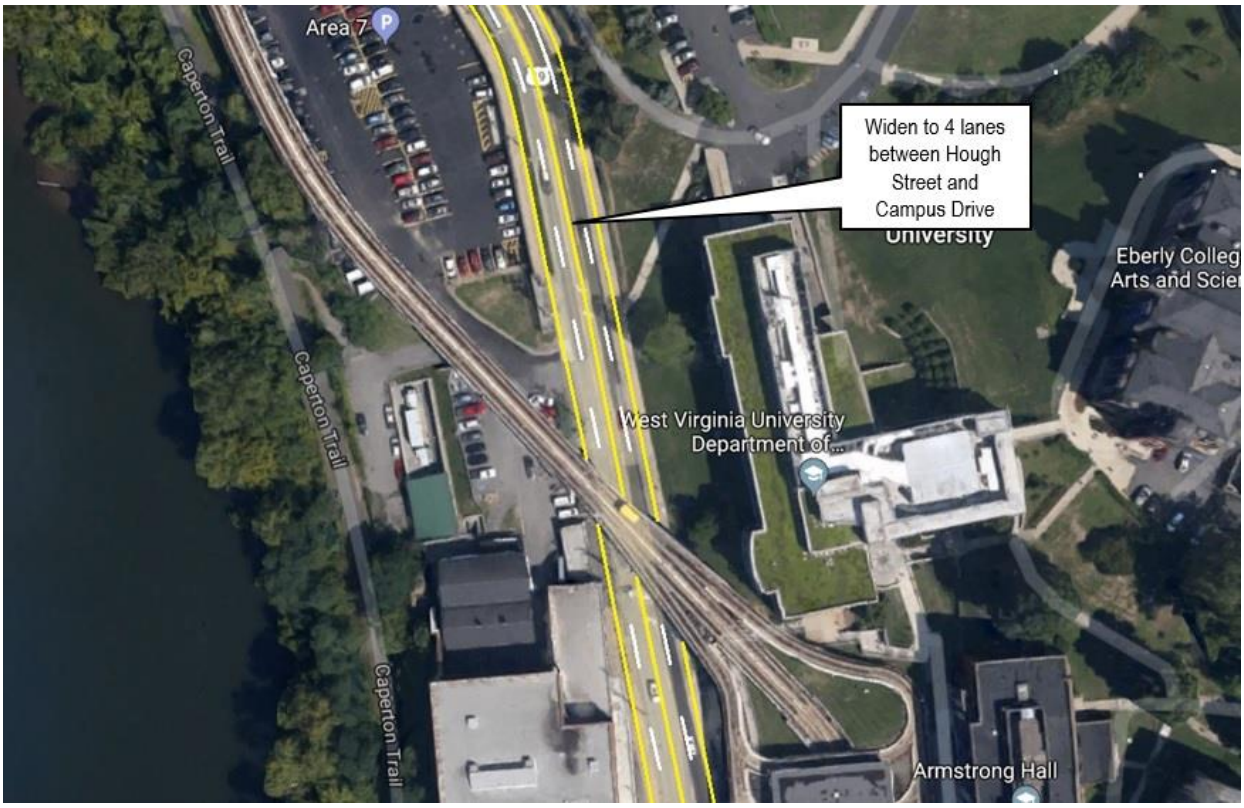


Figure 8 - Hybrid Alternative – Improvements to Campus Drive and 4 Lanes on Beechurst between Campus Drive and Hough Street

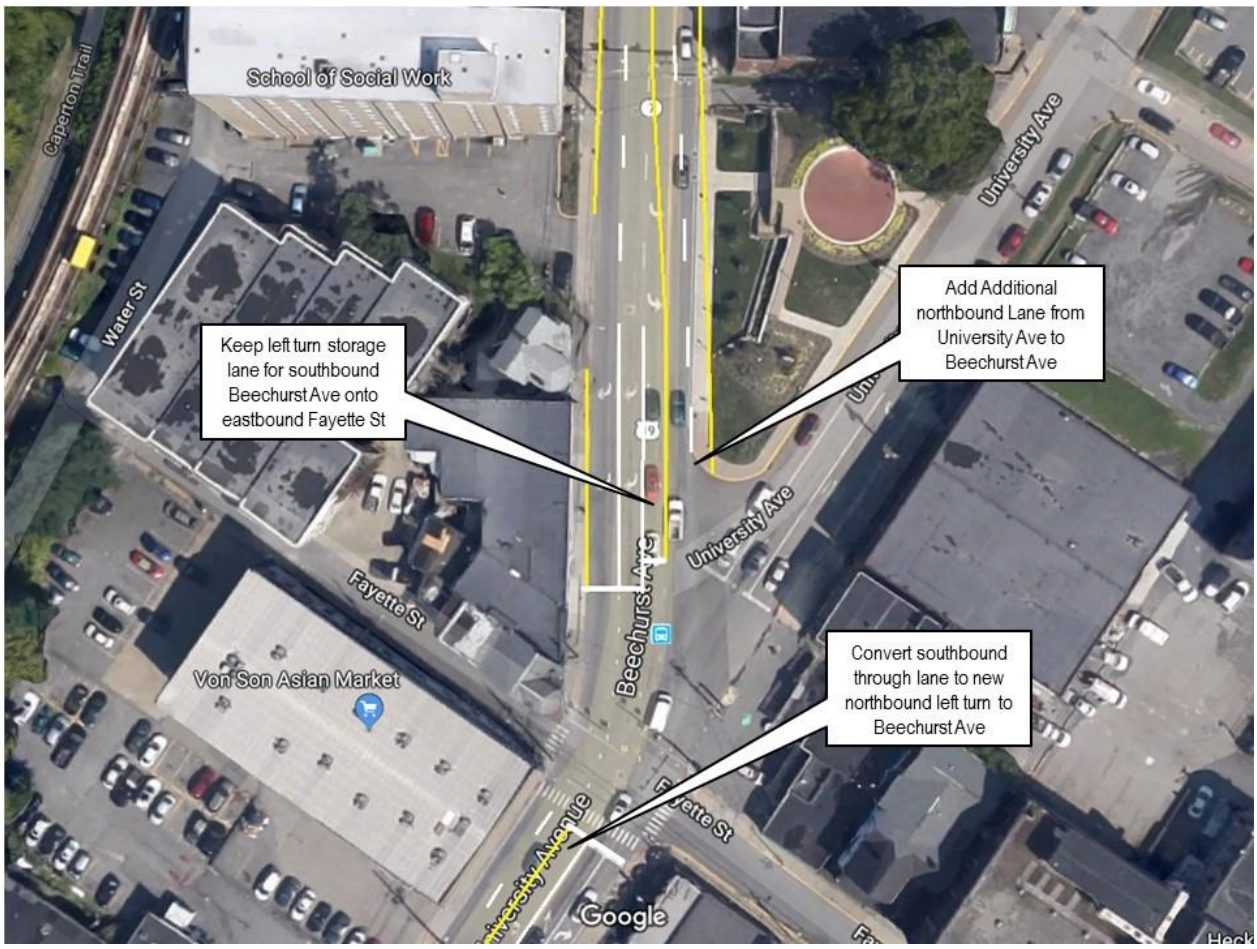


Figure 9 – Hybrid Alternative – Improvements to Beechurst Avenue and University Avenue to accommodate new northbound lane

The results indicate nearly the same improvements to the LOS for the northbound and southbound Beechurst Avenue / University Avenue during the A.M. peak hour as Alternative 2 as shown on **Table 17** and durng the P.M. peak hour as Alternative 4 as shown on **Table 18**. A LOS C or better was achieved for all southbound approaches on Beechurst Avenue and University Avenue for the A.M. peak. A LOS D occurs northbound at Campus Drive during the A.M. peak hour. A LOS E occurs southbound on Beechurst Avenue at University Avenue / Fayette Street during the P.M. peak hour, but it is expected that the traffic signal would be able to clear all waiting vehicles each cycle. A LOS C or better was achieved for all northbound approaches on Beechurst Avenue and University Avenue for the P.M. peak hour.

Table 17 – Hybrid AM Peak LOS

2018 Existing AM Peak - Hybrid (Alternative 5)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	18.9	B	11.8	B	9.2	A	37.7	D		
Walnut St	18.9	B	4.9	A	5.9	A	53.5	D	64.5	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	30.3	C	19.1	B	21.1	C	40.0	D	82.3	F
Campus Dr	38.9	D	52.9	D	18.9	B			40.0	D
6th St	6.5	A	4.7	A	3.1	A	56.6	E	33.2	C

Table 18 – Hybrid PM Peak LOS

2018 Existing PM Peak - Hybrid (Alternative 5)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	17.6	B	13.2	B	8.1	A	41.4	D		
Walnut St	23.1	C	7.5	A	9.9	A	36.9	D	60.0	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	42.8	D	14.6	B	57.3	E	40.4	D	53.1	D
Campus Dr	31.1	C	27.3	C	30.7	C			40.6	D
6th St	12.0	B	2.8	A	8.0	A	34.7	C	78.8	E

Table 19 – Future Hybrid AM Peak LOS

2038 AM Peak - Hybrid (Alternative 5)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	20.0	C	12.3	B	9.5	A	40.3	D		
Walnut St	18.9	B	5.0	A	6.6	A	53.5	D	63.2	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	36.4	D	20.8	C	23.5	C	40.0	D	109.8	F
Campus Dr	48.9	D	71.1	E	21.1	C			39.8	D
6th St	7.8	A	6.7	A	3.4	A	59.8	E	33.7	C

Table 20 – Future Hybrid PM Peak LOS

2038 PM Peak - Hybrid (Alternative 5)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	19.5	B	14.9	B	9.3	A	44.9	D		
Walnut St	22.7	C	8.1	A	9.9	A	36.6	D	57.8	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	57.0	E	15.3	B	83.6	F	40.5	D	57.5	E
Campus Dr	40.1	D	33.2	C	45.1	D			41.2	D
6th St	13.8	B	3.4	A	9.8	A	36.1	D	86.9	F

5.6 ALTERNATIVE 6 – INTERSECTION IMPROVEMENTS ONLY

Using the Beechurst Avenue Traffic Simulation Model, a scenario was developed with all of the intersection improvements described in Alternative 5, but with a three-lane segment on Beechurst Avenue between Campus Drive and Hough Avenue instead of widening to four lanes as shown in **Figure 11**. This alternative also includes restriping the segment on Beechurst Avenue between Campus Drive and Hough Avenue to two lanes northbound and one lane southbound as shown in **Figure 12**. The existing striping on Beechurst Avenue is two lanes southbound and one lane northbound. The existing three-lane segment on Beechurst Avenue would remain unchanged north of Campus Drive. This alternative also includes the intersection improvements at Beechurst Avenue and University Avenue as described in Alternative 5 and shown previously in **Figure 10**.

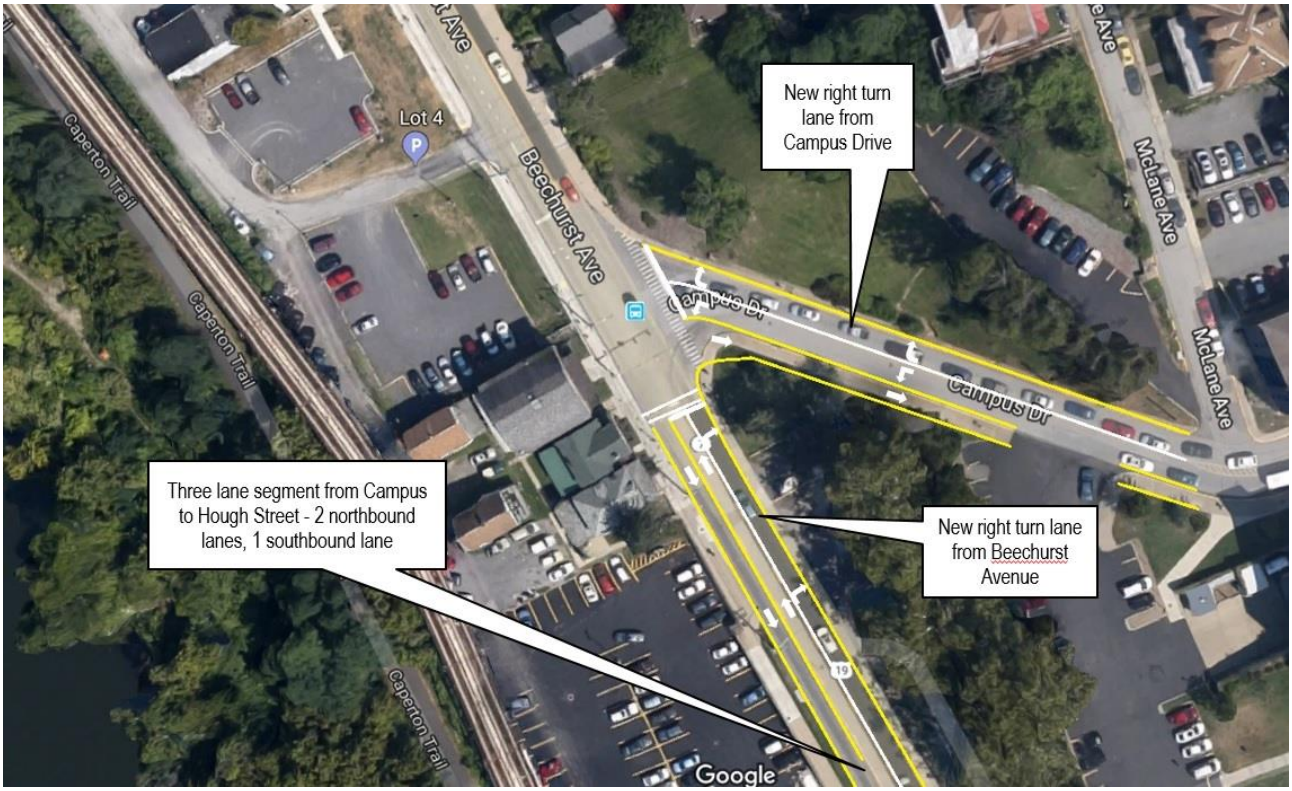


Figure 10 – Intersection Improvements Only - 3 Lanes on Beechurst between Campus Drive and Hough Street

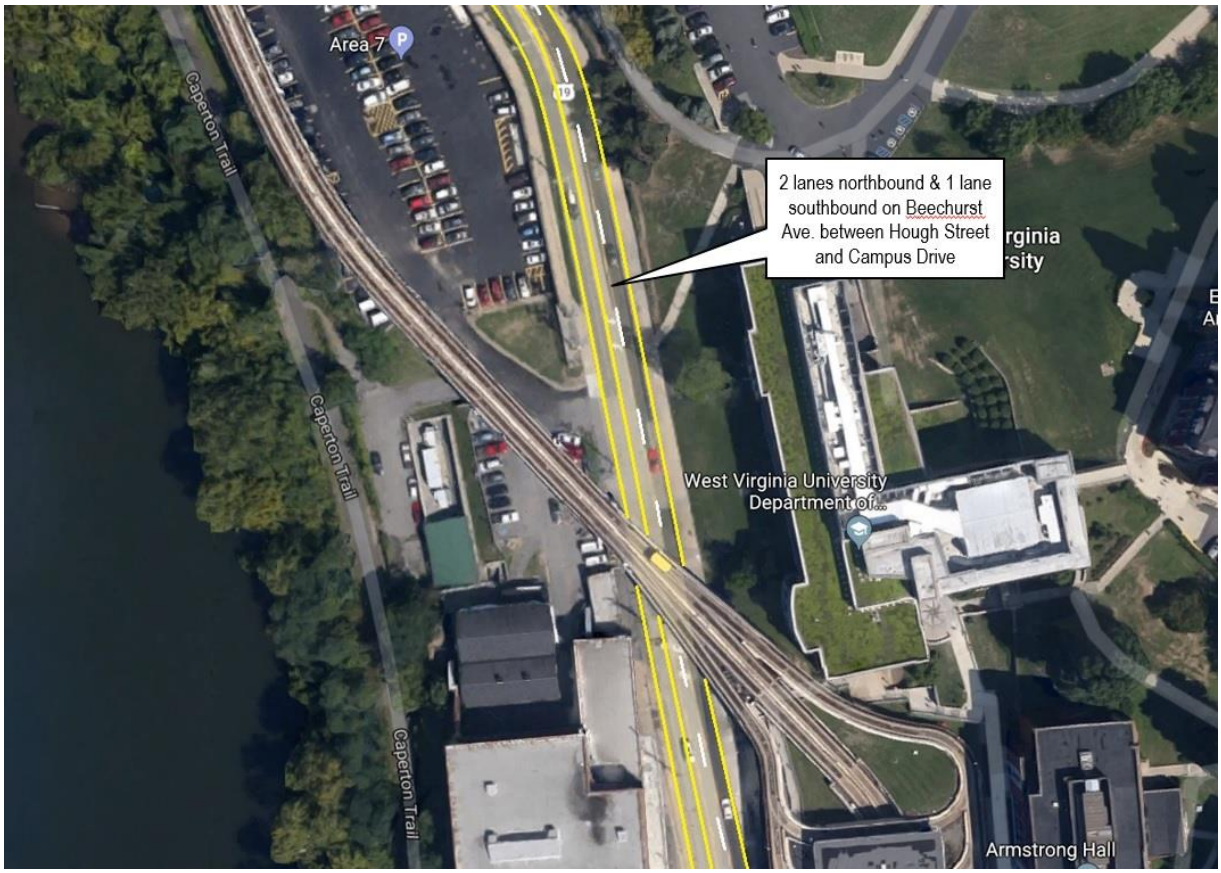


Figure 11 – Intersection Improvements Only - 3 Lanes on Beechurst between Campus Drive and Hough Street

The results indicate nearly the same improvements to the LOS for the northbound and southbound Beechurst Avenue / University Avenue during the A.M. peak hour as Alternative 2 as indicated on **Table 21** and during the P.M. peak hour as Alternative 4 as shown in **Table 22**. A LOS C or better was achieved for all southbound approaches on Beechurst Avenue and University Avenue for the A.M. peak hour. A LOS D occurs northbound at Campus Drive during the A.M. peak hour and southbound on Beechurst Avenue at University Avenue / Fayette Street during the P.M. peak hour, but it is expected that the traffic signal would be able to clear all waiting vehicles each cycle. A LOS C or better was achieved for all northbound approaches on Beechurst Avenue and University Avenue for the P.M. peak hour. Restriping the segment of Beechurst Avenue between Campus Drive and Hough Avenue to two lanes northbound and one lane southbound would have the same effect to the LOS as the construction of a fourth lane through the segment. It should be noted that providing a left-turn lane to allow a left-turning movement to occur outside of an adjacent through lane is generally preferred, particularly for a single through lane. A motorist turning left from a single through lane will block all other through traffic in the same direction until the movement is completed. If there is more than one lane in a direction, through motorists can still proceed as only the leftmost through lane is blocked by a left-turning vehicle. Therefore, widening of the

segment of Beechurst Avenue between Campus Drive and Hough Avenue to four lanes (two lanes northbound and two lanes southbound) provides this benefit.

Table 21 – Intersection Improvements AM LOS

2018 Existing AM Peak - Intersection Improvements Only (Alternative 6)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	18.9	B	11.8	B	9.2	A	37.7	D		
Walnut St	18.9	B	4.9	A	5.9	A	53.5	D	64.5	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	30.3	C	19.1	B	21.1	C	40.0	D	82.3	F
Campus Dr	38.9	D	52.9	D	18.9	B			40.0	D
6th St	6.5	A	4.7	A	3.1	A	56.6	E	33.2	C

Table 22 – Intersection Improvements PM LOS

2018 Existing PM Peak - Intersection Improvements Only (Alternative 6)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	17.6	B	13.2	B	8.1	A	41.4	D		
Walnut St	23.1	C	7.5	A	9.9	A	36.9	D	60.0	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	42.8	D	14.6	B	57.3	E	40.4	D	53.1	D
Campus Dr	31.1	C	27.3	C	30.7	C			40.6	D
6th St	12.0	B	2.8	A	8.0	A	34.7	C	78.8	E

Table 23 – Future Intersection Improvements AM LOS

2038 AM Peak - Intersection Improvements Only (Alternative 6)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	20.0	C	12.3	B	9.5	A	40.3	D		
Walnut St	18.9	B	5.0	A	6.6	A	53.5	D	63.2	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	36.4	D	20.8	C	23.5	C	40.0	D	109.8	F
Campus Dr	48.9	D	71.1	E	21.1	C			39.8	D
6th St	7.8	A	6.7	A	3.4	A	60.1	E	33.7	C

Table 24 – Future Intersection Improvements PM LOS

2038 PM Peak - Interseection Improvements Only (Alternative 6)										
Intersection	Total Intersection		Northbound		Southbound		Eastbound		Westbound	
	Delay (s)	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS	App. Delay	LOS
University Ave at:										
Westover Bridge/Pleasant St	19.5	B	14.9	B	9.3	A	44.9	D		
Walnut St	22.7	C	8.1	A	9.9	A	36.6	D	57.8	E
Beechurst Ave at:										
Fayette St (EB) / University Ave (WB)	57.0	E	15.3	B	83.6	F	40.5	D	57.5	E
Campus Dr	40.1	D	33.2	C	45.1	D			41.2	D
6th St	13.8	B	3.4	A	9.8	A	36.1	D	86.9	F

5.7 MULTIMODAL ANALYSIS

The Highway Capacity Manual Urban Streets Method that was developed through the National Highway Research Program (NCHRP) Project 3-70, Multimodal Level of Service Analysis for Urban Streets was employed. The method assesses how well an urban street serves the needs of pedestrians, bicyclists, and transit users. Multi-Modal Level-of-Service indicators are rating systems used to evaluate various transportation modes and impacts. Level of Service (also called Quality of Service or Service Quality) refers to the speed, convenience, comfort and security of transportation facilities and services as experienced by users. Level-Of-Service ratings from A (best) to F (worst) are a qualitative measure of satisfaction of the quality of service used to evaluate problems and potential solutions.

Table 25 – Multimodel Level of Service

LOS Model Outputs	LOS Letter Grade
Model <=2.00	A
2.00 < Model <= 2.75	B
2.75 < Model <= 3.50	C
3.50 < Model <= 4.25	D
4.25 < Model <= 5.00	E
Model > 5.00	F

Pedestrian Level of Service is defined in terms of the pedestrian's perception of comfort and safety relative to automotive traffic in the roadway corridor.

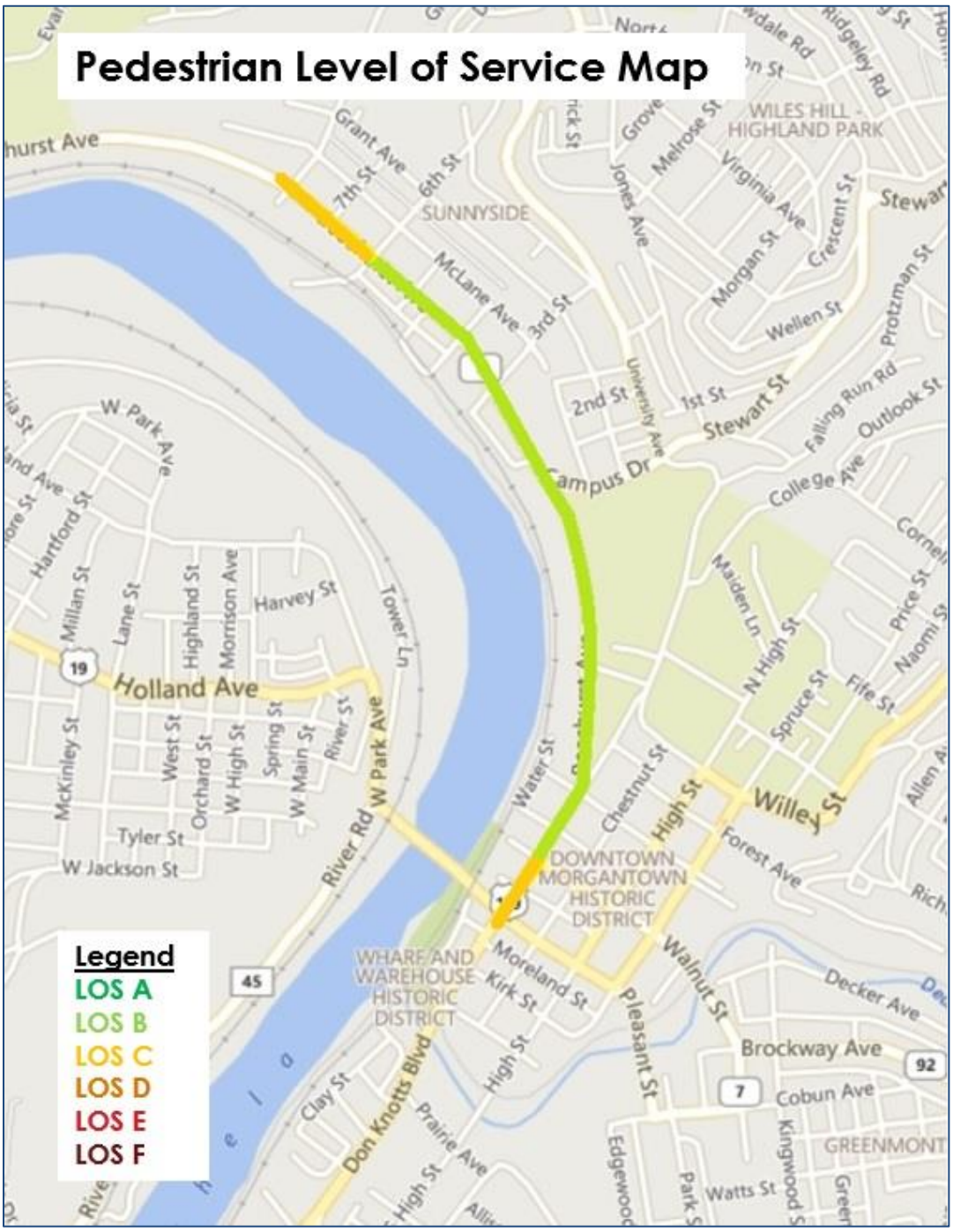


Figure 12 Pedestrian Level of Service Map

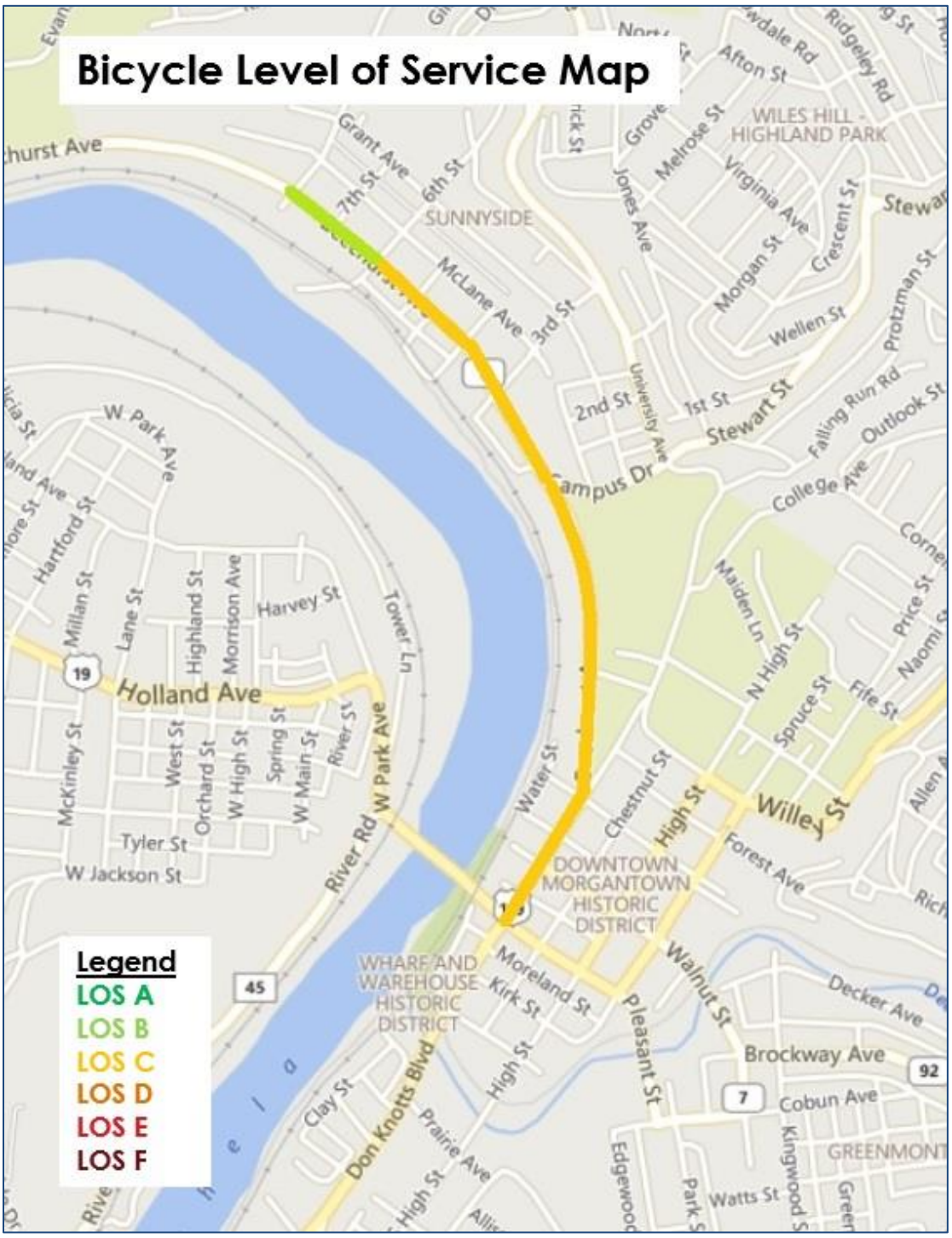


Figure 13 – Pedestrian LOS Map and Bicycle LOS Map

6.0 CONCLUSIONS

The American Association of State Highway and Transportation Officials (AASHTO), *A policy on Geometric Design of Highway and Streets*, states that the use of reversible lanes is most applicable on multilane roadways with a directional imbalance in excess of 65/35 percent with a predominance of through traffic and predictable congestion patterns. Review of peak hour traffic volumes revealed that the directional imbalance was 57% northbound to 43% southbound for the A.M. peak hour and was 57% southbound to 43% northbound for the P.M. peak hour. Although the through movement was the predominant movement at each intersection on Beechurst Avenue, the directional imbalance for both peak hours did not exceed the AASHTO's 65/35 split recommendation for reversible lanes.

Results of the analysis using the Beechurst Avenue Traffic Simulation Model for the widening of Beechurst Avenue only between 6th Street and 8th Street to four lanes (Alternative 1) while the rest of corridor remained unchanged indicated no improvements are expected on Beechurst in either direction for either the A.M. or P.M. peak periods. A LOS of A was already being achieved for both directions of Beechurst Avenue at the intersection of 6th Street in the existing conditions model. No improvements are expected at any other Beechurst intersection including at Campus Drive and University Avenue / Fayette Drive where the most significant delays occur. Based on the results of the analysis, widening on Beechurst Avenue between 6th Street and 8th Street is not recommended.

Results of the analysis using the Beechurst Avenue Traffic Simulation Model for the A.M. peak period indicated that a four-lane scenario with two northbound lanes, one center two-way left-turn lane, and one southbound lane (Alternative 2) made substantial improvements to the northbound Beechurst Avenue direction at both Campus Drive and University Avenue / Fayette Drive intersections. In Alternative 2, a LOS C or better was achieved for both directions for all mainline approaches on Beechurst Avenue and University Avenue during the A.M. Peak hour. However, results of the analysis using in the Beechurst Avenue Traffic Simulation Model for the P.M. peak period indicated that a four-lane scenario with two southbound lanes, one center two-way left-turn lane, and one northbound lane (Alternative 3) did not appreciably improve the LOS to southbound Beechurst Avenue during the P.M. peak hour. Northbound Beechurst Avenue was unchanged in Alternative 3. Northbound Beechurst had longer delays and worse LOS at Campus Drive than southbound Beechurst Avenue during the existing P.M. peak hour despite being the lower volume direction. Based on the AASHTO's 65/35 split recommendation and the results of Alternative 3, reversible lanes are not recommended.

Because northbound Beechurst Avenue had longer delays and worse LOS at Campus Drive than southbound Beechurst Avenue during the existing P.M. peak hour despite being the lower volume direction, a four-lane scenario with two northbound lanes, one center two-way left-turn lane, and one southbound lane was developed for the P.M. peak hour (Alternative 4). A LOS C or better was achieved for all northbound approaches on Beechurst Avenue and University Avenue. The typical section of lane two northbound lanes, one center two-way left-turn lane, and one southbound lane provides overall better LOS for both directions particularly at Campus Drive for both the A.M. and P.M. peak hours. If widening of Beechurst Avenue between 8th Street and University Avenue to four lanes is pursued, this typical section is the long-term recommendation.

Alternatives 5 and 6 were evaluated as possible alternatives to widening of the entire corridor. Alternative 5 was developed which analyzed the impacts of improvements to the intersections of Beechurst Avenue and Campus Drive as well as Beechurst Avenue and University Avenue / Fayette Street. The alternative also included a four-lane segment between Hough Street and Campus Drive - two northbound lanes and two southbound lanes. Results indicated the same improvements to northbound Beechurst Avenue during A.M. peak hour as Alternative 2 and nearly the same improvements to southbound Beechurst Avenue during P.M. peak hour as Alternative 4.

Alternative 6 was developed which analyzed the impacts of improvements to the intersections of Beechurst Avenue and Campus Drive as well as Beechurst Avenue and University Avenue / Fayette Street with no widening. The alternative also included restriping of the existing three-lane segment between Hough Street and Campus Drive to two northbound lanes and one southbound lane instead of widening to four lanes. Results indicated the same improvements to northbound Beechurst Avenue during A.M. peak hour as Alternative 2 and nearly the same improvements to southbound Beechurst Avenue during P.M. peak hour as Alternative 4.

It should be noted that providing a left-turn lane to allow a left-turning movement to occur outside of an adjacent through lane is preferred, particularly for a single through lane. Therefore, intersection improvements at Beechurst Avenue and Campus Drive as well as at Beechurst Avenue and University Avenue / Fayette Street combined with widening of the three-lane segment between Hough Street and Campus Drive (Alternative 5) would provide this benefit. If widening of the three-lane segment between Hough Street and Campus Drive (Alternative 5) is not pursued, then restriping of the three-lane segment of Beechurst Avenue between Hough Street and Campus Drive (Alternative 6) is recommended to be two lanes northbound and one lane southbound as a short-term improvement.

APPENDIX A – TRAFFIC COUNTS

Beechurst Avenue at 8th Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574569, Location: 39.642354, -79.963284, Site Code: Site 2 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place, Lexington, KY, 40509, US

Leg	8th Street						Beechurst Avenue						8th Street						Beechurst Avenue						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:00AM	102	0	42	0	**144**	0	108	594	5	0	**707**	0	3	1	1	0	**5**	0	9	414	16	0	**439**	0	**1295**
8:00AM	92	0	58	0	**150**	0	104	570	2	0	**676**	0	4	0	2	0	**6**	0	3	505	46	0	**554**	0	**1386**
2:00PM	57	2	69	0	**128**	0	114	588	1	0	**703**	0	10	1	2	0	**13**	0	3	623	80	0	**706**	0	**1550**
3:00PM	102	0	66	0	**168**	1	117	668	0	0	**785**	1	5	2	3	0	**10**	0	1	718	101	0	**820**	0	**1783**
4:00PM	83	1	69	0	**153**	0	99	670	2	0	**771**	0	5	1	2	0	**8**	0	6	749	133	0	**888**	0	**1820**
5:00PM	75	0	53	0	**128**	0	101	658	1	0	**760**	0	4	0	5	0	**9**	0	3	702	152	0	**857**	0	**1754**
Total	511	3	357	0	**871**	1	643	3748	11	0	**4402**	1	31	5	15	0	**51**	0	25	3711	528	0	**4264**	0	**9588**
% Approach	58.7%	0.3%	41.0%	0%	**-**	-	14.6%	85.1%	0.2%	0%	**-**	-	60.8%	9.8%	29.4%	0%	**-**	-	0.6%	87.0%	12.4%	0%	**-**	-	-
% Total	5.3%	0%	3.7%	0%	**9.1%**	-	6.7%	39.1%	0.1%	0%	**45.9%**	-	0.3%	0.1%	0.2%	0%	**0.5%**	-	0.3%	38.7%	5.5%	0%	**44.5%**	-	-
Lights	509	3	352	0	**864**	-	634	3596	10	0	**4240**	-	30	5	15	0	**50**	-	22	3562	526	0	**4110**	-	9264
% Lights	99.6%	100%	98.6%	0%	**99.2%**	-	98.6%	95.9%	90.9%	0%	**96.3%**	-	96.8%	100%	100%	0%	**98.0%**	-	88.0%	96.0%	99.6%	0%	**96.4%**	-	96.6%
Articulated Trucks and Single-Unit Trucks	1	0	1	0	**2**	-	3	83	1	0	**87**	-	1	0	0	0	**1**	-	3	40	2	0	**45**	-	135
% Articulated Trucks and Single-Unit Trucks	0.2%	0%	0.3%	0%	**0.2%**	-	0.5%	2.2%	9.1%	0%	**2.0%**	-	3.2%	0%	0%	0%	**2.0%**	-	12.0%	1.1%	0.4%	0%	**1.1%**	-	1.4%
Buses	1	0	4	0	**5**	-	6	69	0	0	**75**	-	0	0	0	0	**0**	-	0	109	0	0	**109**	-	189
% Buses	0.2%	0%	1.1%	0%	**0.6%**	-	0.9%	1.8%	0%	0%	**1.7%**	-	0%	0%	0%	0%	**0%**	-	0%	2.9%	0%	0%	**2.6%**	-	2.0%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Monongahela Buelvard at Evansdale Drive - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574593, Location: 39.647015, -79.977115, Site Code: Site 1 - Tuesday

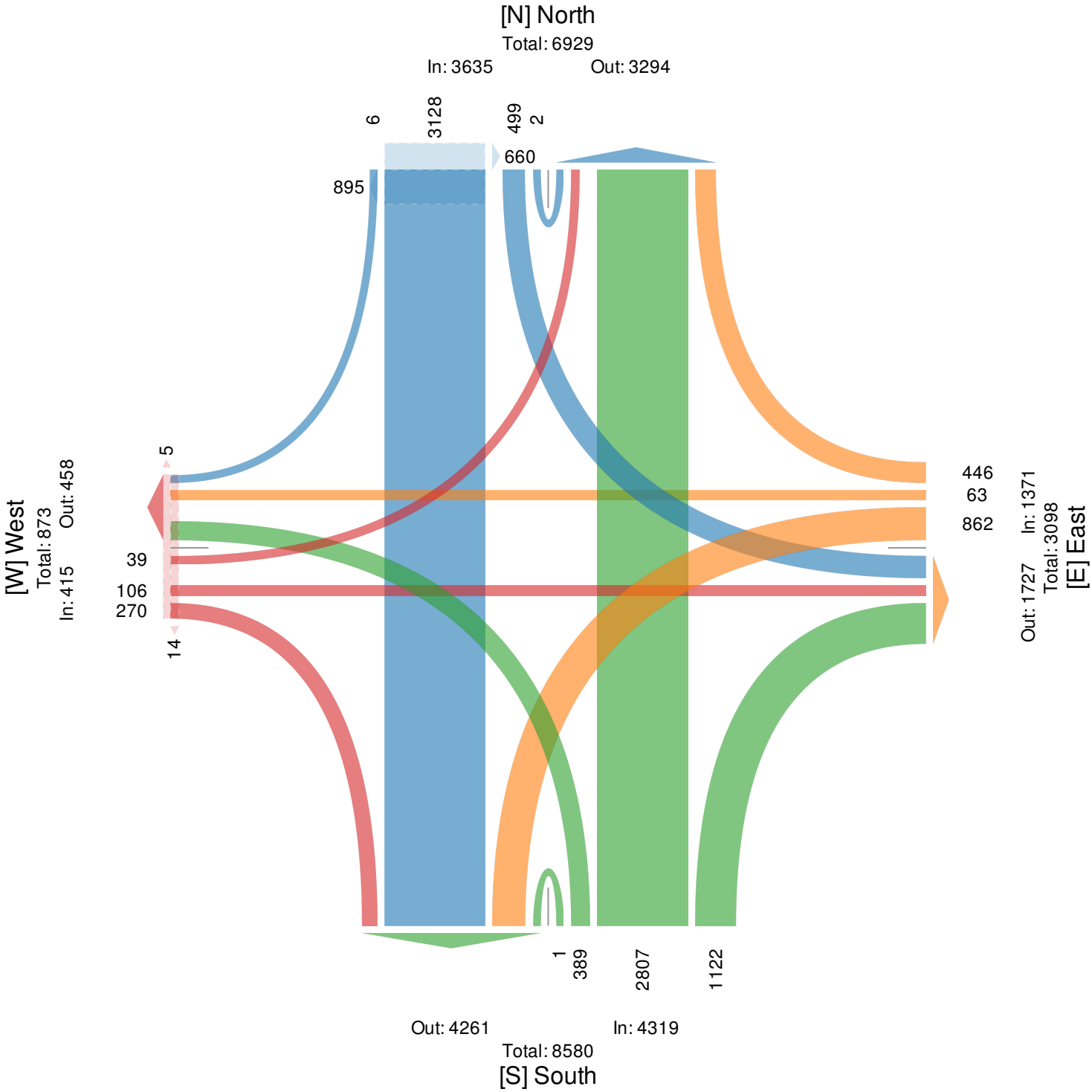
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place, Lexington, KY, 40509, US

Leg	North						East						South						West						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:00AM	1	388	101	0	**490**	265	9	4	40	0	**53**	0	208	361	118	1	**688**	0	9	7	0	0	**16**	0	**1247**
8:00AM	0	453	144	1	**598**	236	24	9	72	0	**105**	0	218	351	106	0	**675**	0	9	10	1	0	**20**	2	**1398**
2:00PM	3	504	51	0	**558**	207	58	6	166	0	**230**	0	157	457	50	0	**664**	0	38	15	7	0	**60**	2	**1512**
3:00PM	0	561	75	0	**636**	348	95	20	197	0	**312**	0	180	513	68	0	**761**	0	66	16	6	0	**88**	10	**1797**
4:00PM	1	625	51	0	**677**	253	152	10	214	0	**376**	0	178	566	22	0	**766**	0	75	20	10	0	**105**	2	**1924**
5:00PM	1	597	77	1	**676**	246	108	14	173	0	**295**	0	181	559	25	0	**765**	0	73	38	15	0	**126**	3	**1862**
Total	6	3128	499	2	**3635**	1555	446	63	862	0	**1371**	0	1122	2807	389	1	**4319**	0	270	106	39	0	**415**	19	**9740**
% Approach	0.2%	86.1%	13.7%	0.1%	-	-	32.5%	4.6%	62.9%	0%	-	-	26.0%	65.0%	9.0%	0%	-	-	65.1%	25.5%	9.4%	0%	-	-	-
% Total	0.1%	32.1%	5.1%	0%	**37.3%**	-	4.6%	0.6%	8.9%	0%	**14.1%**	-	11.5%	28.8%	4.0%	0%	**44.3%**	-	2.8%	1.1%	0.4%	0%	**4.3%**	-	-
Lights	6	3064	483	2	**3555**	-	440	61	779	0	**1280**	-	1054	2723	388	1	**4166**	-	269	88	39	0	**396**	-	9397
% Lights	100%	98.0%	96.8%	100%	**97.8%**	-	98.7%	96.8%	90.4%	0%	**93.4%**	-	93.9%	97.0%	99.7%	100%	**96.5%**	-	99.6%	83.0%	100%	0%	**95.4%**	-	96.5%
Articulated Trucks and Single-Unit Trucks	0	59	3	0	**62**	-	3	1	22	0	**26**	-	1	59	1	0	**61**	-	0	1	0	0	**1**	-	150
% Articulated Trucks and Single-Unit Trucks	0%	1.9%	0.6%	0%	**1.7%**	-	0.7%	1.6%	2.6%	0%	**1.9%**	-	0.1%	2.1%	0.3%	0%	**1.4%**	-	0%	0.9%	0%	0%	**0.2%**	-	1.5%
Buses	0	5	13	0	**18**	-	3	1	61	0	**65**	-	67	25	0	0	**92**	-	1	17	0	0	**18**	-	193
% Buses	0%	0.2%	2.6%	0%	**0.5%**	-	0.7%	1.6%	7.1%	0%	**4.7%**	-	6.0%	0.9%	0%	0%	**2.1%**	-	0.4%	16.0%	0%	0%	**4.3%**	-	2.0%
Pedestrians	-	-	-	-	-	1550	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	19	
% Pedestrians	-	-	-	-	-	99.7%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	5	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0.3%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Monongahela Buelvard at Evansdale Drive - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574593, Location: 39.647015, -79.977115, Site Code: Site 1 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Monongahela Buelvard at Evansdale Drive - TMC
Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574593, Location: 39.647015, -79.977115, Site Code: Site 1 - Tuesday

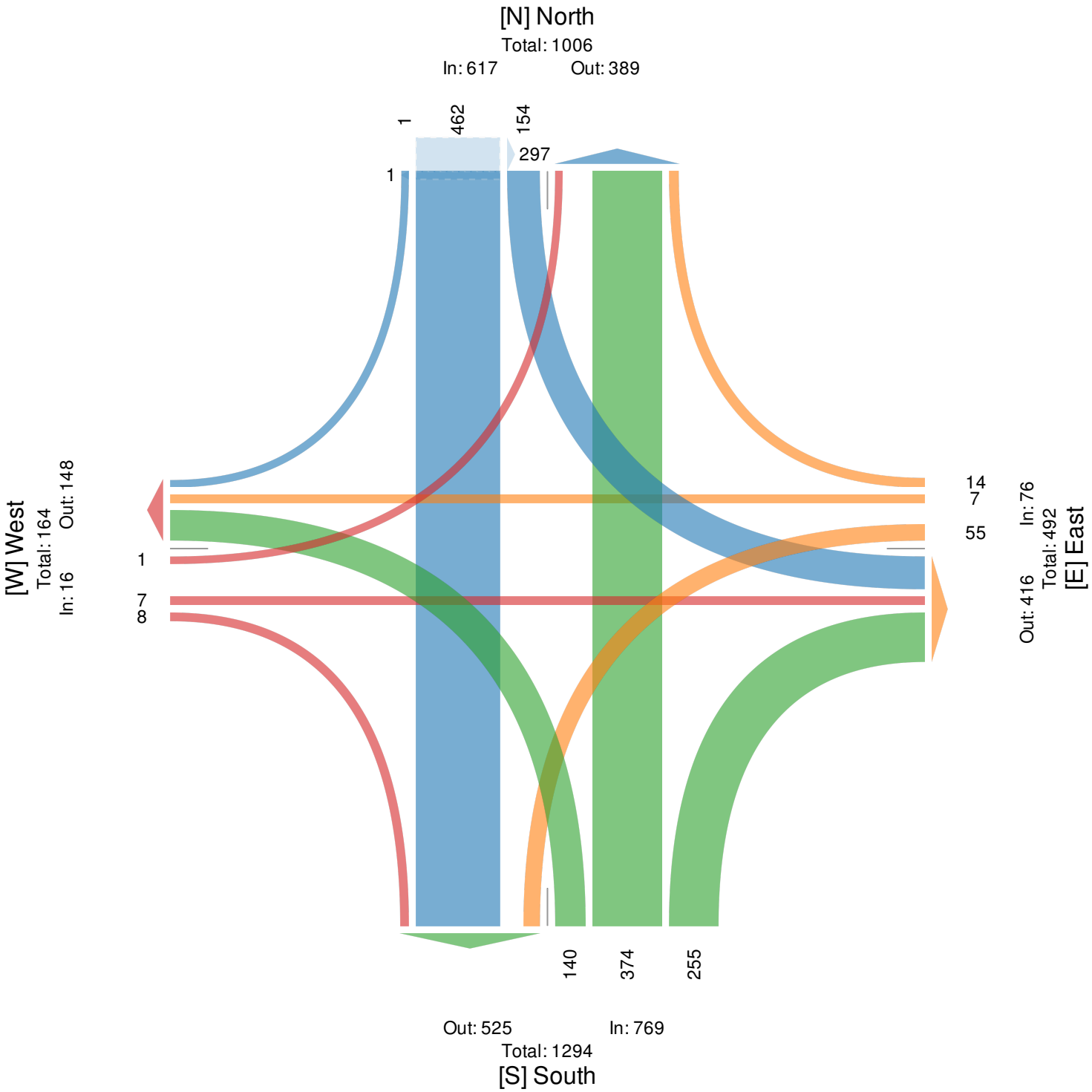
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place, Lexington, KY, 40509, US

Leg / Direction	North Southbound						East Westbound						South Northbound						West Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2018-10-09 7:30AM	1	107	34	0	**142**	83	2	1	10	0	**13**	0	53	103	46	0	**202**	0	5	2	0	0	**7**	0	**364**
7:45AM	0	109	45	0	**154**	125	4	1	11	0	**16**	0	107	97	52	0	**256**	0	0	3	0	0	**3**	0	**429**
8:00AM	0	123	49	0	**172**	51	4	3	21	0	**28**	0	53	93	24	0	**170**	0	2	1	0	0	**3**	0	**373**
8:15AM	0	123	26	0	**149**	39	4	2	13	0	**19**	0	42	81	18	0	**141**	0	1	1	1	0	**3**	0	**312**
Total	1	462	154	0	**617**	298	14	7	55	0	**76**	0	255	374	140	0	**769**	0	8	7	1	0	**16**	0	**1478**
% Approach	0.2%	74.9%	25.0%	0%	**-**	-	18.4%	9.2%	72.4%	0%	**-**	-	33.2%	48.6%	18.2%	0%	**-**	-	50.0%	43.8%	6.3%	0%	**-**	-	-
% Total	0.1%	31.3%	10.4%	0%	**41.7%**	-	0.9%	0.5%	3.7%	0%	**5.1%**	-	17.3%	25.3%	9.5%	0%	**52.0%**	-	0.5%	0.5%	0.1%	0%	**1.1%**	-	-
PHF	0.250	0.939	0.786	-	**0.897**	-	0.875	0.583	0.655	-	**0.679**	-	0.596	0.908	0.673	-	**0.751**	-	0.400	0.583	0.250	-	**0.571**	-	0.861
Lights	1	444	150	0	**595**	-	12	6	43	0	**61**	-	247	347	140	0	**734**	-	8	4	1	0	**13**	-	1403
% Lights	100%	96.1%	97.4%	0%	**96.4%**	-	85.7%	85.7%	78.2%	0%	**80.3%**	-	96.9%	92.8%	100%	0%	**95.4%**	-	100%	57.1%	100%	0%	**81.3%**	-	94.9%
Articulated Trucks and Single-Unit Trucks	0	16	1	0	**17**	-	2	1	5	0	**8**	-	0	20	0	0	**20**	-	0	0	0	0	**0**	-	45
% Articulated Trucks and Single-Unit Trucks	0%	3.5%	0.6%	0%	**2.8%**	-	14.3%	14.3%	9.1%	0%	**10.5%**	-	0%	5.3%	0%	0%	**2.6%**	-	0%	0%	0%	0%	**0%**	-	3.0%
Buses	0	2	3	0	**5**	-	0	0	7	0	**7**	-	8	7	0	0	**15**	-	0	3	0	0	**3**	-	30
% Buses	0%	0.4%	1.9%	0%	**0.8%**	-	0%	0%	12.7%	0%	**9.2%**	-	3.1%	1.9%	0%	0%	**2.0%**	-	0%	42.9%	0%	0%	**18.8%**	-	2.0%
Pedestrians	-	-	-	-	-	297	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	99.7%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0.3%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Monongahela Buelvard at Evansdale Drive - TMC
Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574593, Location: 39.647015, -79.977115, Site Code: Site 1 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Monongahela Buelvard at Evansdale Drive - TMC
Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574593, Location: 39.647015, -79.977115, Site Code: Site 1 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place, Lexington, KY, 40509, US

Leg	North						East						South						West						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 4:30PM	0	180	12	0	**192**	57	40	2	67	0	**109**	0	34	145	7	0	**186**	0	26	8	4	0	**38**	0	**525**
4:45PM	1	170	18	0	**189**	89	57	5	73	0	**135**	0	53	138	7	0	**198**	0	22	5	5	0	**32**	0	**554**
5:00PM	0	157	17	0	**174**	67	39	5	57	0	**101**	0	34	159	6	0	**199**	0	21	3	4	0	**28**	0	**502**
5:15PM	0	154	15	0	**169**	36	24	1	39	0	**64**	0	26	146	11	0	**183**	0	15	5	3	0	**23**	0	**439**
Total	1	661	62	0	**724**	249	160	13	236	0	**409**	0	147	588	31	0	**766**	0	84	21	16	0	**121**	0	**2020**
% Approach	0.1%	91.3%	8.6%	0%	-	-	39.1%	3.2%	57.7%	0%	-	-	19.2%	76.8%	4.0%	0%	-	-	69.4%	17.4%	13.2%	0%	-	-	-
% Total	0%	32.7%	3.1%	0%	**35.8%**	-	7.9%	0.6%	11.7%	0%	**20.2%**	-	7.3%	29.1%	1.5%	0%	**37.9%**	-	4.2%	1.0%	0.8%	0%	**6.0%**	-	-
PHF	0.250	0.918	0.861	-	**0.943**	-	0.702	0.650	0.808	-	**0.757**	-	0.693	0.925	0.705	-	**0.962**	-	0.808	0.656	0.800	-	**0.796**	-	0.912
Lights	1	654	60	0	**715**	-	160	13	224	0	**397**	-	137	581	31	0	**749**	-	84	21	16	0	**121**	-	1982
% Lights	100%	98.9%	96.8%	0%	**98.8%**	-	100%	100%	94.9%	0%	**97.1%**	-	93.2%	98.8%	100%	0%	**97.8%**	-	100%	100%	100%	0%	**100%**	-	98.1%
Articulated Trucks and Single-Unit Trucks	0	7	2	0	**9**	-	0	0	4	0	**4**	-	0	4	0	0	**4**	-	0	0	0	0	**0**	-	17
% Articulated Trucks and Single-Unit Trucks	0%	1.1%	3.2%	0%	**1.2%**	-	0%	0%	1.7%	0%	**1.0%**	-	0%	0.7%	0%	0%	**0.5%**	-	0%	0%	0%	0%	**0%**	-	0.8%
Buses	0	0	0	0	**0**	-	0	0	8	0	**8**	-	10	3	0	0	**13**	-	0	0	0	0	**0**	-	21
% Buses	0%	0%	0%	0%	**0%**	-	0%	0%	3.4%	0%	**2.0%**	-	6.8%	0.5%	0%	0%	**1.7%**	-	0%	0%	0%	0%	**0%**	-	1.0%
Pedestrians	-	-	-	-	-	248	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	99.6%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0.4%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Monongahela Buelvard at Evansdale Drive - TMC
Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574593, Location: 39.647015, -79.977115, Site Code: Site 1 - Tuesday

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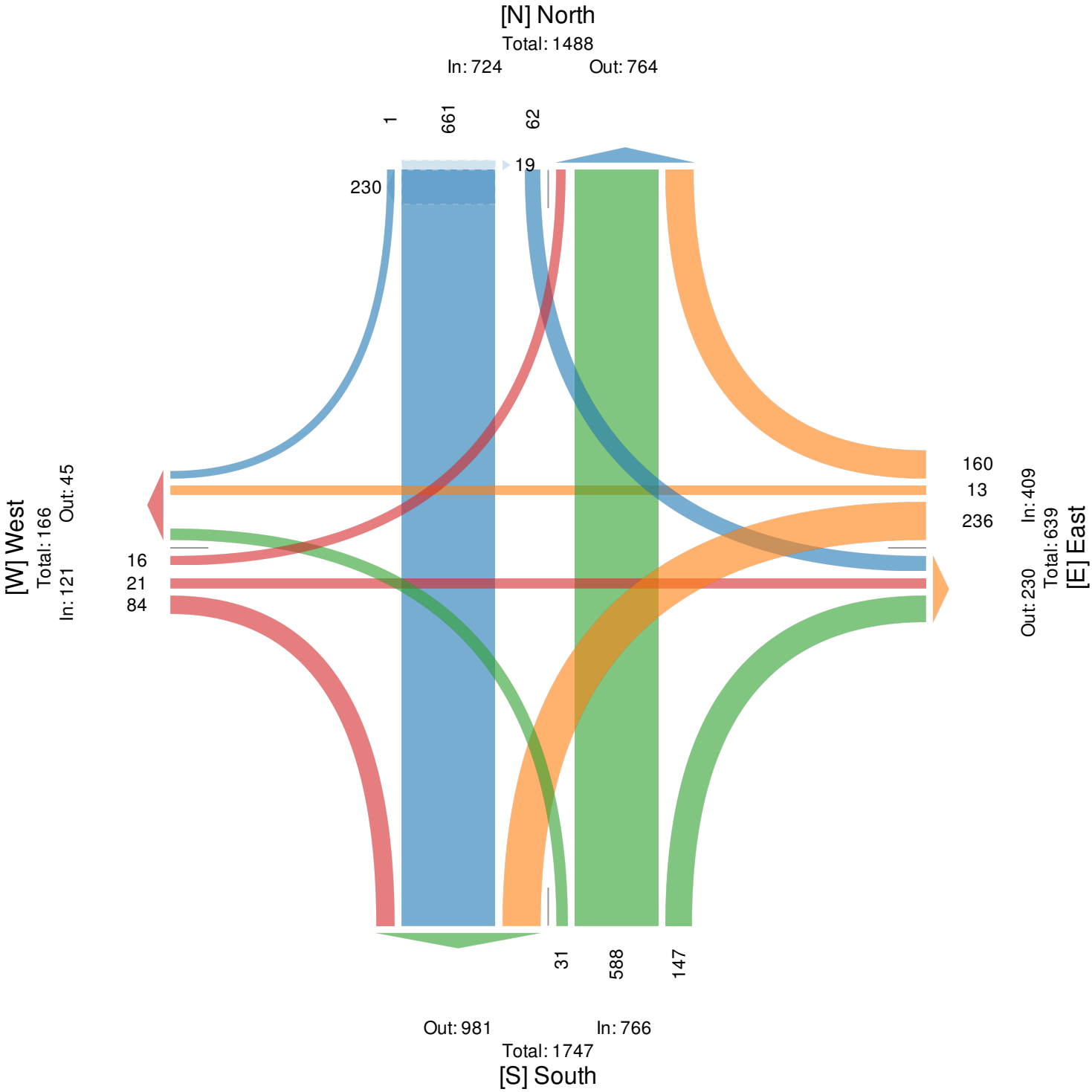
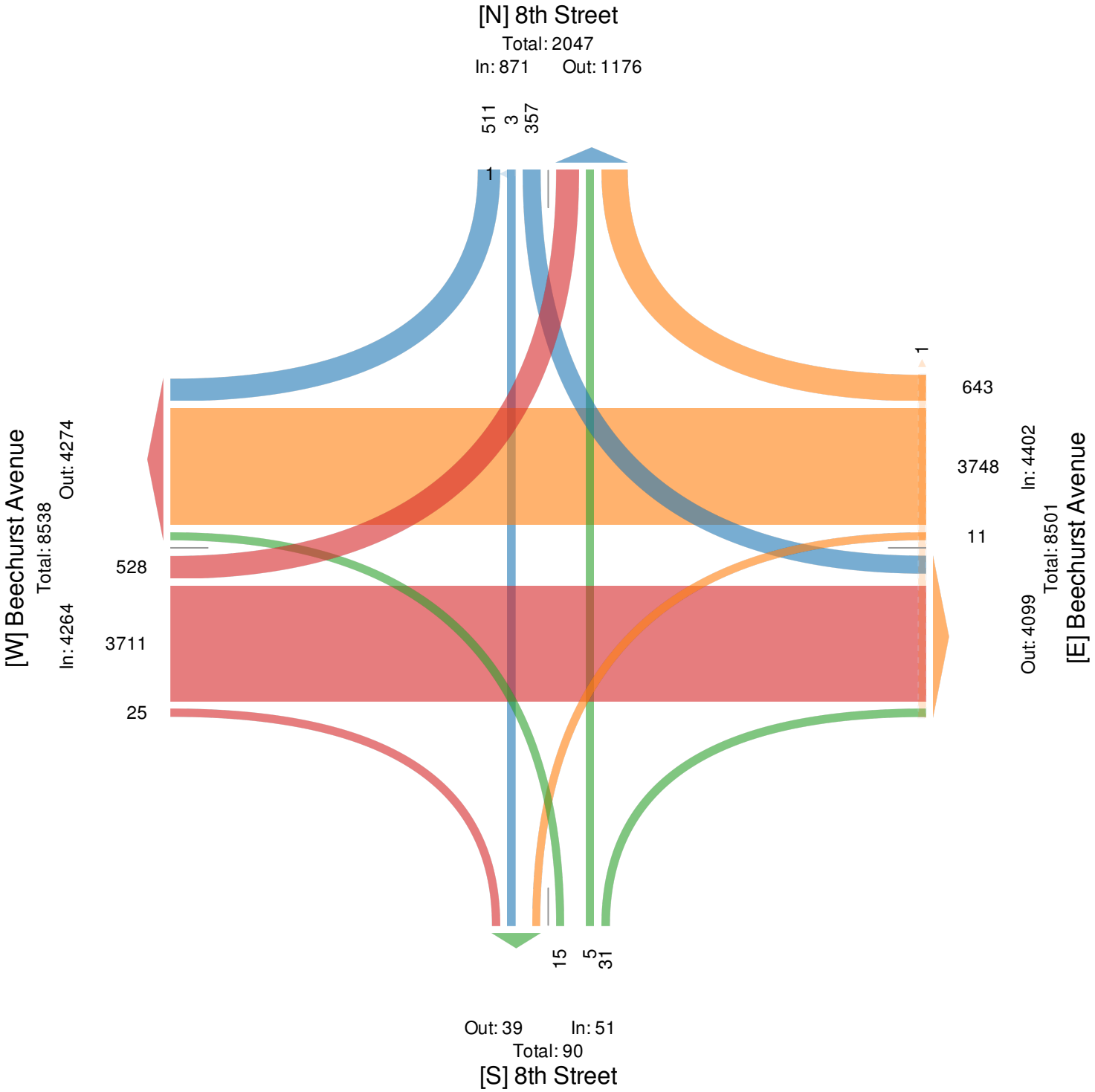
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at 8th Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574569, Location: 39.642354, -79.963284, Site Code: Site 2 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at 8th Street - TMC

Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574569, Location: 39.642354, -79.963284, Site Code: Site 2 - Tuesday

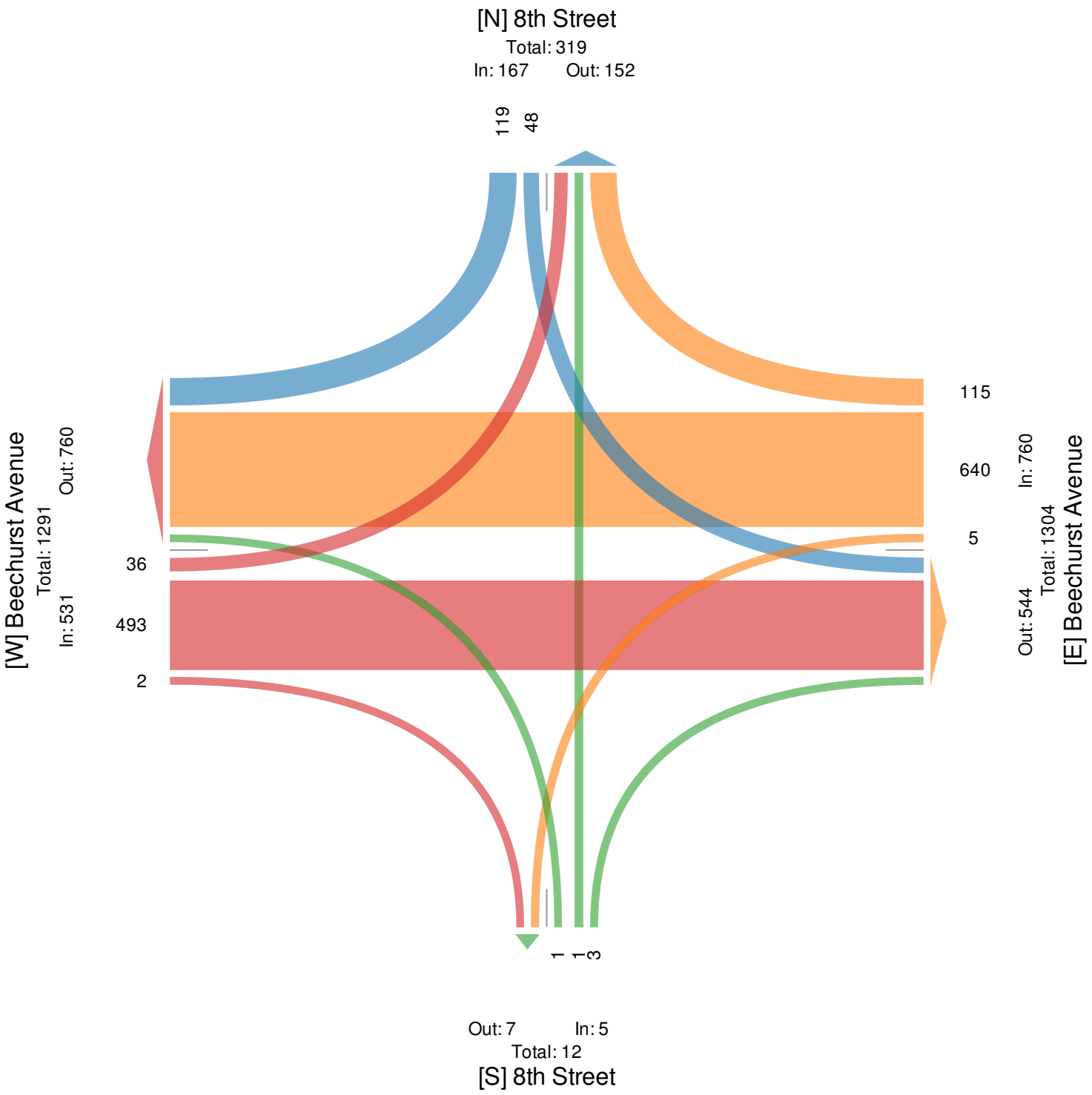
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg	8th Street						Beechurst Avenue						8th Street						Beechurst Avenue						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:30AM	27	0	12	0	**39**	0	27	170	2	0	**199**	0	2	0	1	0	**3**	0	1	109	5	0	**115**	0	**356**
7:45AM	56	0	9	0	**65**	0	30	201	2	0	**233**	0	0	1	0	0	**1**	0	0	119	8	0	**127**	0	**426**
8:00AM	18	0	14	0	**32**	0	30	141	1	0	**172**	0	0	0	0	0	**0**	0	0	129	12	0	**141**	0	**345**
8:15AM	18	0	13	0	**31**	0	28	128	0	0	**156**	0	1	0	0	0	**1**	0	1	136	11	0	**148**	0	**336**
Total	119	0	48	0	**167**	0	115	640	5	0	**760**	0	3	1	1	0	**5**	0	2	493	36	0	**531**	0	**1463**
% Approach	71.3%	0%	28.7%	0%	-	-	15.1%	84.2%	0.7%	0%	-	-	60.0%	20.0%	20.0%	0%	-	-	0.4%	92.8%	6.8%	0%	-	-	-
% Total	8.1%	0%	3.3%	0%	**11.4%**	-	7.9%	43.7%	0.3%	0%	**51.9%**	-	0.2%	0.1%	0.1%	0%	**0.3%**	-	0.1%	33.7%	2.5%	0%	**36.3%**	-	-
PHF	0.531	-	0.857	-	**0.642**	-	0.958	0.796	0.625	-	**0.815**	-	0.375	0.250	0.250	-	**0.417**	-	0.500	0.906	0.750	-	**0.897**	-	0.859
Lights	119	0	47	0	**166**	-	113	605	4	0	**722**	-	2	1	1	0	**4**	-	1	464	35	0	**500**	-	1392
% Lights	100%	0%	97.9%	0%	**99.4%**	-	98.3%	94.5%	80.0%	0%	**95.0%**	-	66.7%	100%	100%	0%	**80.0%**	-	50.0%	94.1%	97.2%	0%	**94.2%**	-	95.1%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	**0**	-	1	26	1	0	**28**	-	1	0	0	0	**1**	-	1	12	1	0	**14**	-	43
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0.9%	4.1%	20.0%	0%	**3.7%**	-	33.3%	0%	0%	0%	**20.0%**	-	50.0%	2.4%	2.8%	0%	**2.6%**	-	2.9%
Buses	0	0	1	0	**1**	-	1	9	0	0	**10**	-	0	0	0	0	**0**	-	0	17	0	0	**17**	-	28
% Buses	0%	0%	2.1%	0%	**0.6%**	-	0.9%	1.4%	0%	0%	**1.3%**	-	0%	0%	0%	0%	**0%**	-	0%	3.4%	0%	0%	**3.2%**	-	1.9%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 8th Street - TMC
Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574569, Location: 39.642354, -79.963284, Site Code: Site 2 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at 8th Street - TMC
Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574569, Location: 39.642354, -79.963284, Site Code: Site 2 - Tuesday

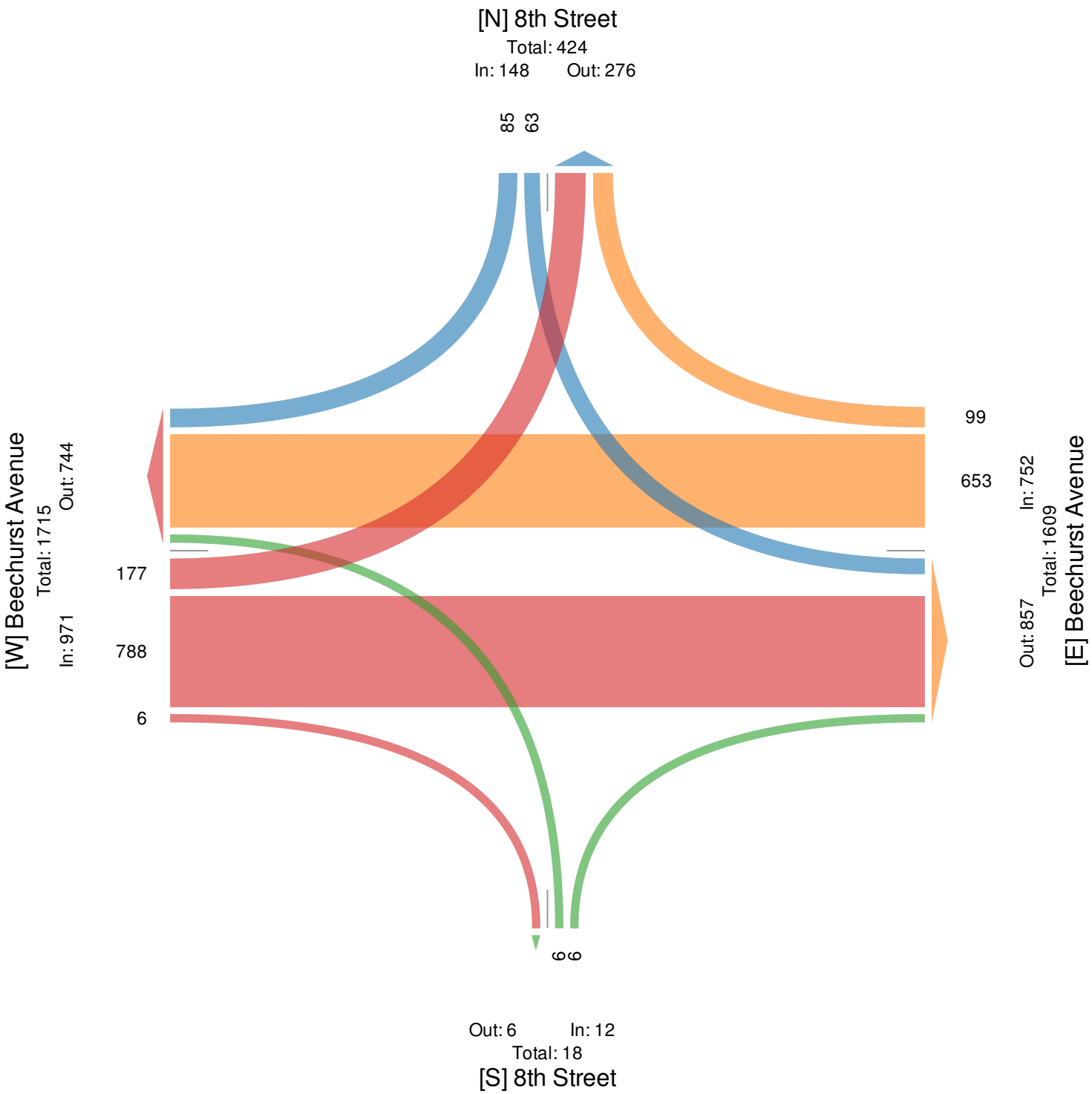
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg	8th Street						Beechurst Avenue						8th Street						Beechurst Avenue						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2018-10-09 4:30PM	19	0	15	0	**34**	0	19	162	0	0	**181**	0	2	0	1	0	**3**	0	3	203	31	0	**237**	0	**455**
4:45PM	26	0	20	0	**46**	0	23	177	0	0	**200**	0	0	0	0	0	**0**	0	0	220	53	0	**273**	0	**519**
5:00PM	19	0	14	0	**33**	0	30	155	0	0	**185**	0	2	0	3	0	**5**	0	1	191	49	0	**241**	0	**464**
5:15PM	21	0	14	0	**35**	0	27	159	0	0	**186**	0	2	0	2	0	**4**	0	2	174	44	0	**220**	0	**445**
Total	85	0	63	0	**148**	0	99	653	0	0	**752**	0	6	0	6	0	**12**	0	6	788	177	0	**971**	0	**1883**
% Approach	57.4%	0%	42.6%	0%	**-**	-	13.2%	86.8%	0%	0%	**-**	-	50.0%	0%	50.0%	0%	**-**	-	0.6%	81.2%	18.2%	0%	**-**	-	-
% Total	4.5%	0%	3.3%	0%	**7.9%**	-	5.3%	34.7%	0%	0%	**39.9%**	-	0.3%	0%	0.3%	0%	**0.6%**	-	0.3%	41.8%	9.4%	0%	**51.6%**	-	-
PHF	0.817	-	0.788	-	**0.804**	-	0.825	0.922	-	-	**0.940**	-	0.750	-	0.500	-	**0.600**	-	0.500	0.895	0.835	-	**0.889**	-	0.907
Lights	85	0	62	0	**147**	-	99	637	0	0	**736**	-	6	0	6	0	**12**	-	6	768	177	0	**951**	-	1846
% Lights	100%	0%	98.4%	0%	**99.3%**	-	100%	97.5%	0%	0%	**97.9%**	-	100%	0%	100%	0%	**100%**	-	100%	97.5%	100%	0%	**97.9%**	-	98.0%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	**0**	-	0	8	0	0	**8**	-	0	0	0	0	**0**	-	0	5	0	0	**5**	-	13
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	1.2%	0%	0%	**1.1%**	-	0%	0%	0%	0%	**0%**	-	0%	0.6%	0%	0%	**0.5%**	-	0.7%
Buses	0	0	1	0	**1**	-	0	8	0	0	**8**	-	0	0	0	0	**0**	-	0	15	0	0	**15**	-	24
% Buses	0%	0%	1.6%	0%	**0.7%**	-	0%	1.2%	0%	0%	**1.1%**	-	0%	0%	0%	0%	**0%**	-	0%	1.9%	0%	0%	**1.5%**	-	1.3%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 8th Street - TMC
Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574569, Location: 39.642354, -79.963284, Site Code: Site 2 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at 7th Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574571, Location: 39.641757, -79.962302, Site Code: Site 3 - Tuesday

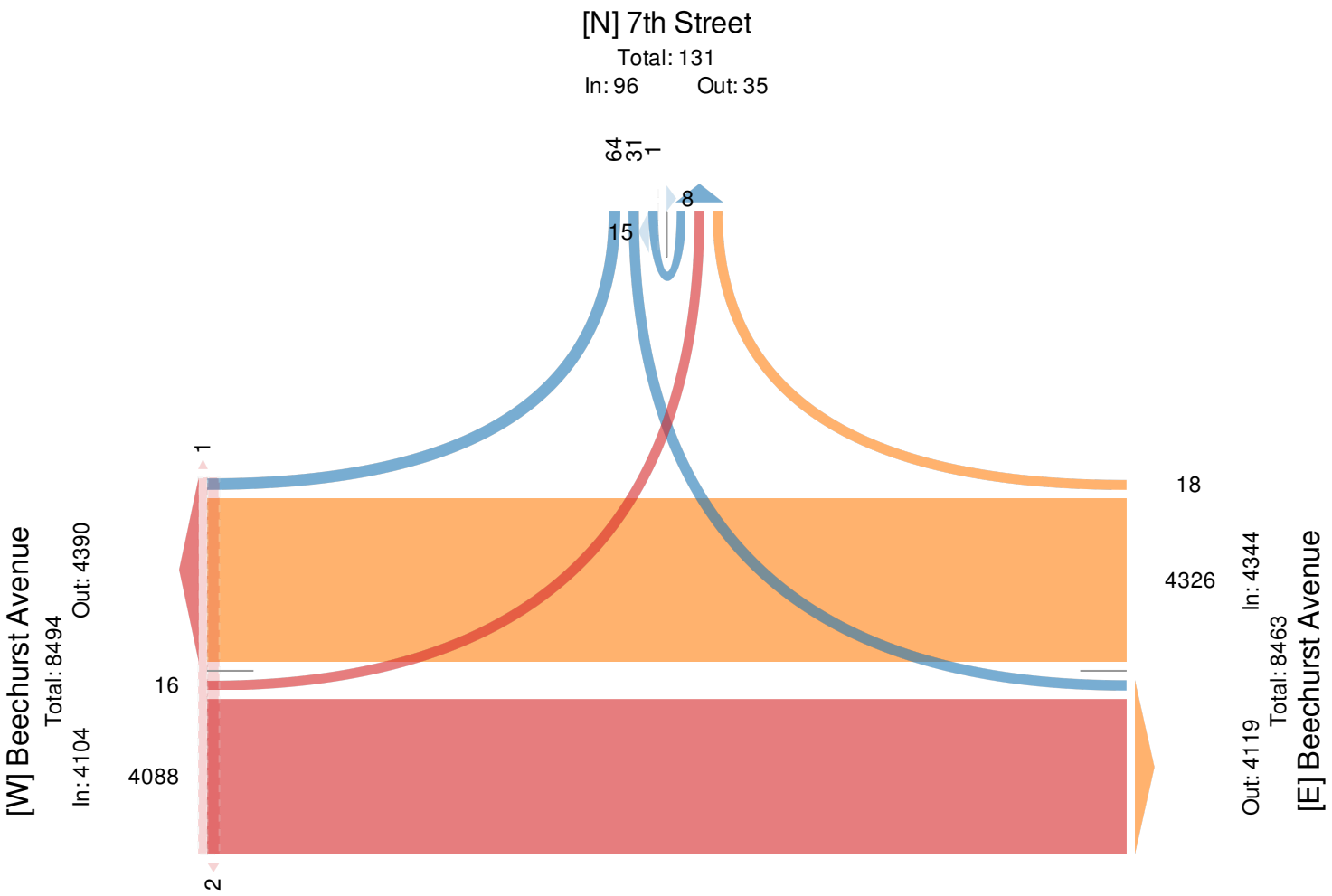
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	7th Street Southbound					Beechurst Avenue Westbound					Beechurst Avenue Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2018-10-09 7:00AM	10	3	0	**13**	0	1	698	0	**699**	0	455	0	0	**455**	0	**1167**
8:00AM	5	3	0	**8**	3	1	670	0	**671**	0	564	0	0	**564**	0	**1243**
2:00PM	10	5	0	**15**	6	5	693	0	**698**	0	697	0	0	**697**	0	**1410**
3:00PM	12	11	0	**23**	6	6	767	0	**773**	0	795	7	0	**802**	1	**1598**
4:00PM	16	3	0	**19**	5	2	756	0	**758**	0	811	4	0	**815**	0	**1592**
5:00PM	11	6	1	**18**	3	3	742	0	**745**	0	766	5	0	**771**	2	**1534**
Total	64	31	1	**96**	23	18	4326	0	**4344**	0	4088	16	0	**4104**	3	**8544**
% Approach	66.7%	32.3%	1.0%	-	-	0.4%	99.6%	0%	-	-	99.6%	0.4%	0%	-	-	-
% Total	0.7%	0.4%	0%	**1.1%**	-	0.2%	50.6%	0%	**50.8%**	-	47.8%	0.2%	0%	**48.0%**	-	-
Lights	64	31	1	**96**	-	18	4169	0	**4187**	-	3935	16	0	**3951**	-	8234
% Lights	100%	100%	100%	**100%**	-	100%	96.4%	0%	**96.4%**	-	96.3%	100%	0%	**96.3%**	-	96.4%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	-	0	78	0	**78**	-	55	0	0	**55**	-	133
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	1.8%	0%	**1.8%**	-	1.3%	0%	0%	**1.3%**	-	1.6%
Buses	0	0	0	**0**	-	0	79	0	**79**	-	98	0	0	**98**	-	177
% Buses	0%	0%	0%	**0%**	-	0%	1.8%	0%	**1.8%**	-	2.4%	0%	0%	**2.4%**	-	2.1%
Pedestrians	-	-	-	-	22	-	-	-	-	0	-	-	-	-	3	
% Pedestrians	-	-	-	-	95.7%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	4.3%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 7th Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574571, Location: 39.641757, -79.962302, Site Code: Site 3 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at 7th Street - TMC

Tue Oct 9, 2018

AM Peak (7:30AM - 8:30AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 574571, Location: 39.641757, -79.962302, Site Code: Site 3 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	7th Street Southbound					Beechurst Avenue Westbound					Beechurst Avenue Eastbound					
Time	R	L	U	App	Ped*	R	T	U	App	Ped*	T	L	U	App	Ped*	Int
2018-10-09 7:30AM	4	1	0	**5**	0	1	198	0	**199**	0	122	0	0	**122**	0	**326**
7:45AM	5	1	0	**6**	0	0	226	0	**226**	0	125	0	0	**125**	0	**357**
8:00AM	1	1	0	**2**	1	1	170	0	**171**	0	141	0	0	**141**	0	**314**
8:15AM	0	1	0	**1**	0	0	161	0	**161**	0	154	0	0	**154**	0	**316**
Total	10	4	0	**14**	1	2	755	0	**757**	0	542	0	0	**542**	0	**1313**
% Approach	71.4%	28.6%	0%	**-**	-	0.3%	99.7%	0%	**-**	-	100%	0%	0%	**-**	-	-
% Total	0.8%	0.3%	0%	**1.1%**	-	0.2%	57.5%	0%	**57.7%**	-	41.3%	0%	0%	**41.3%**	-	-
PHF	0.500	1.000		**0.583**	-	0.500	0.835		**0.837**	-	0.880	-	-	**0.880**	-	0.919
Lights	10	4	0	**14**	-	2	721	0	**723**	-	512	0	0	**512**	-	1249
% Lights	100%	100%	0%	**100%**	-	100%	95.5%	0%	**95.5%**	-	94.5%	0%	0%	**94.5%**	-	95.1%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	-	0	25	0	**25**	-	13	0	0	**13**	-	38
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	3.3%	0%	**3.3%**	-	2.4%	0%	0%	**2.4%**	-	2.9%
Buses	0	0	0	**0**	-	0	9	0	**9**	-	17	0	0	**17**	-	26
% Buses	0%	0%	0%	**0%**	-	0%	1.2%	0%	**1.2%**	-	3.1%	0%	0%	**3.1%**	-	2.0%
Pedestrians	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 7th Street - TMC
Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574571, Location: 39.641757, -79.962302, Site Code: Site 3 - Tuesday

Provided by: Cummins Consulting Services, PLLC
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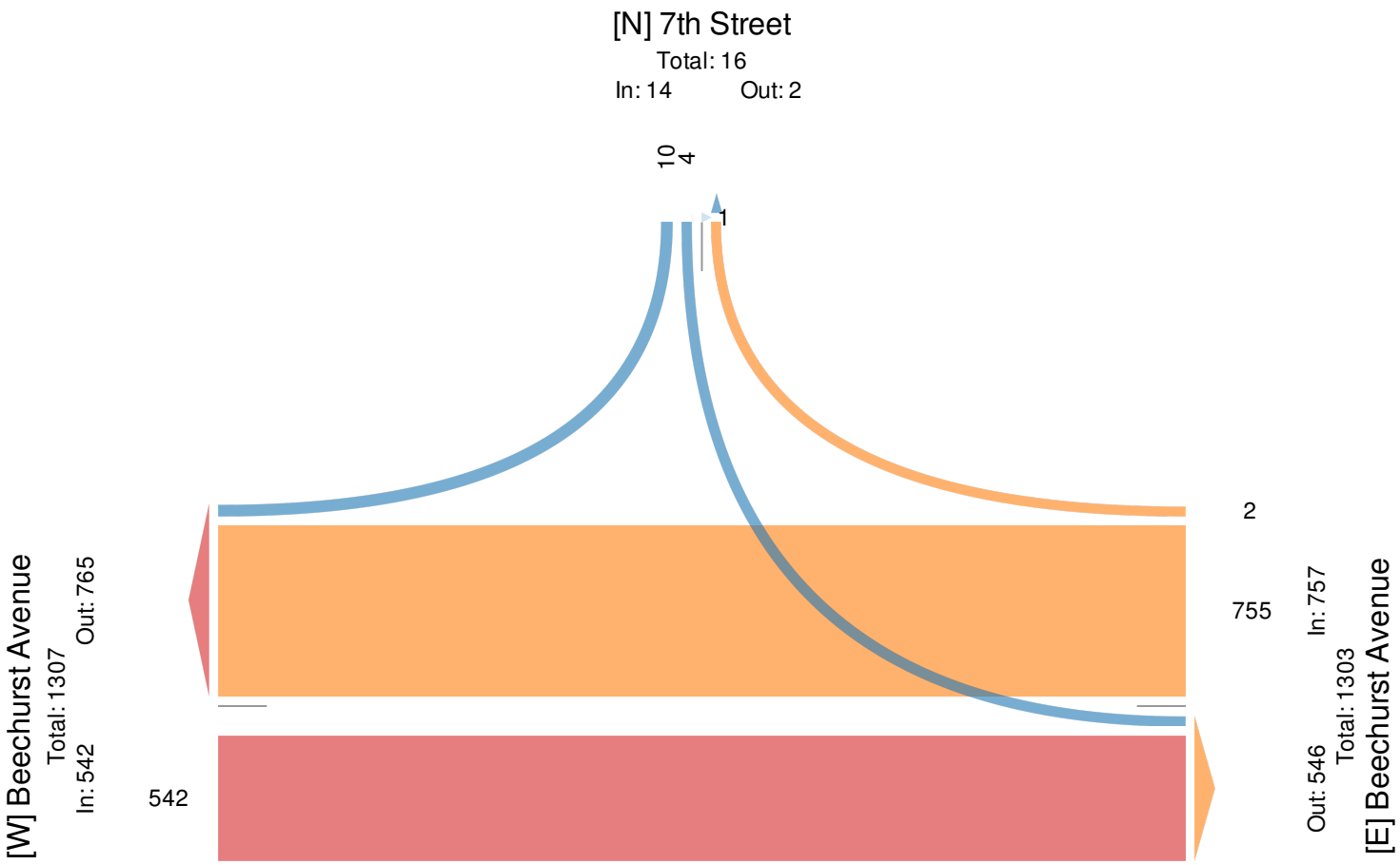

Beechurst Avenue at 7th Street - TMC
Tue Oct 9, 2018
PM Peak (4:15PM - 5:15PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574571, Location: 39.641757, -79.962302, Site Code: Site 3 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg Direction	7th Street Southbound					Beechurst Avenue Westbound					Beechurst Avenue Eastbound					
Time	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	T	L	U	**App**	Ped*	**Int**
2018-10-09 4:15PM	3	2	0	**5**	1	1	179	0	**180**	0	212	1	0	**213**	0	**398**
4:30PM	2	1	0	**3**	4	0	181	0	**181**	0	211	0	0	**211**	0	**395**
4:45PM	7	0	0	**7**	0	0	191	0	**191**	0	237	3	0	**240**	0	**438**
5:00PM	3	2	1	**6**	2	1	184	0	**185**	0	214	0	0	**214**	1	**405**
Total	15	5	1	**21**	7	2	735	0	**737**	0	874	4	0	**878**	1	**1636**
% Approach	71.4%	23.8%	4.8%	-	-	0.3%	99.7%	0%	-	-	99.5%	0.5%	0%	-	-	-
% Total	0.9%	0.3%	0.1%	**1.3%**	-	0.1%	44.9%	0%	**45.0%**	-	53.4%	0.2%	0%	**53.7%**	-	-
PHF	0.536	0.625	0.250	**0.750**	-	0.500	0.962	-	**0.965**	-	0.922	0.333	-	**0.915**	-	0.934
Lights	15	5	1	**21**	-	2	716	0	**718**	-	853	4	0	**857**	-	1596
% Lights	100%	100%	100%	**100%**	-	100%	97.4%	0%	**97.4%**	-	97.6%	100%	0%	**97.6%**	-	97.6%
Articulated Trucks and Single-Unit Trucks	0	0	0	**0**	-	0	6	0	**6**	-	9	0	0	**9**	-	15
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	**0%**	-	0%	0.8%	0%	**0.8%**	-	1.0%	0%	0%	**1.0%**	-	0.9%
Buses	0	0	0	**0**	-	0	13	0	**13**	-	12	0	0	**12**	-	25
% Buses	0%	0%	0%	**0%**	-	0%	1.8%	0%	**1.8%**	-	1.4%	0%	0%	**1.4%**	-	1.5%
Pedestrians	-	-	-	-	7	-	-	-	-	0	-	-	-	-	1	
% Pedestrians	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 7th Street - TMC
Tue Oct 9, 2018
PM Peak (4:15PM - 5:15PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574571, Location: 39.641757, -79.962302, Site Code: Site 3 - Tuesday

Provided by: Cummins Consulting Services, PLLC
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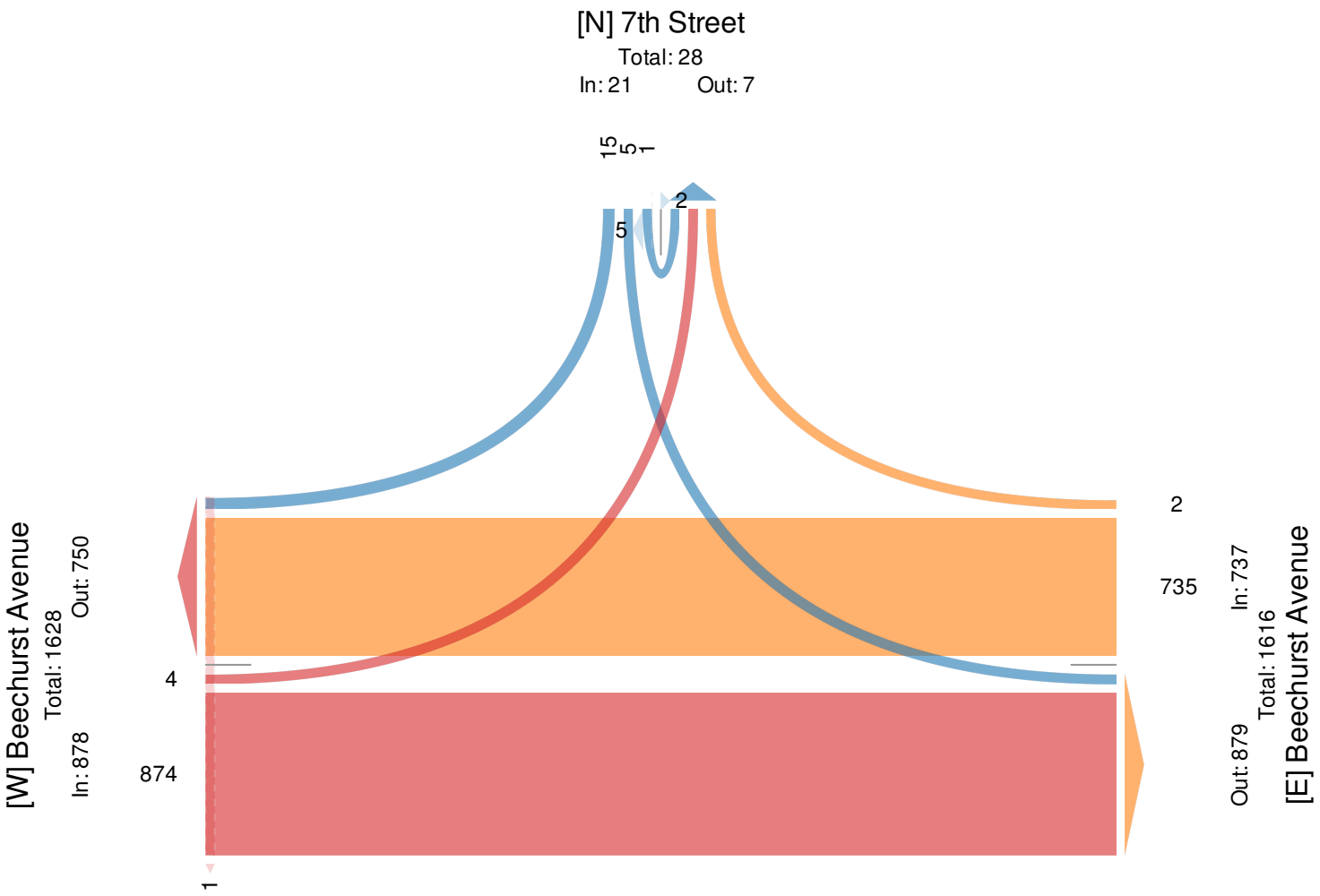
Lexington, KY, 40509, US



Beechurst Avenue at 6th Street - TMC

Tue Oct 9, 2018

Full Length (7AM-9AM, 2PM-6PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 574573, Location: 39.64114, -79.961359, Site Code: Site 4 - Tuesday

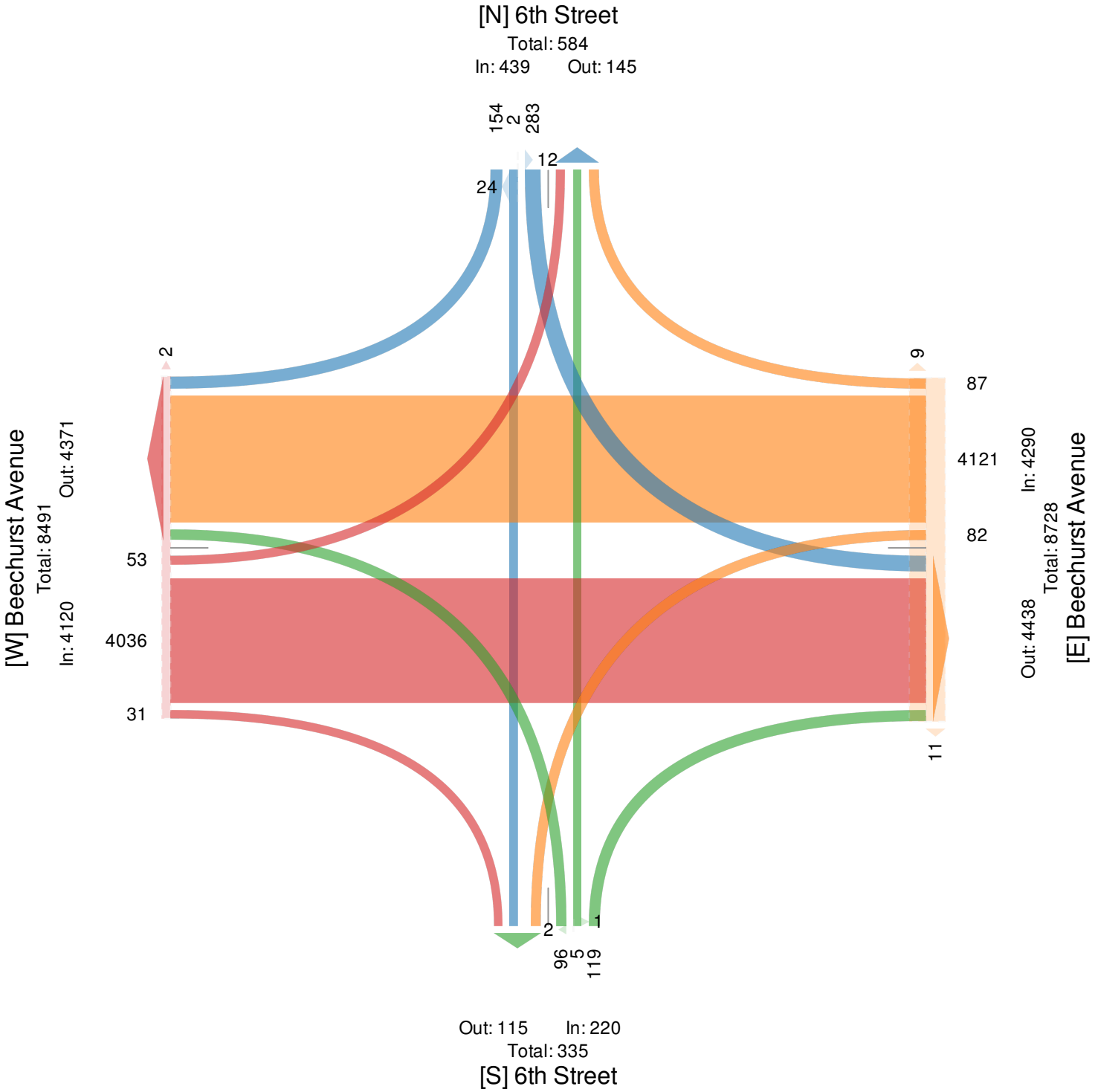
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place, Lexington, KY, 40509, US

Leg	6th Street						Beechurst Avenue						6th Street						Beechurst Avenue						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:00AM	29	0	10	0	**39**	3	3	675	19	0	**697**	0	18	1	7	0	**26**	0	5	451	2	0	**458**	0	**1220**
8:00AM	18	0	30	0	**48**	3	9	644	27	0	**680**	2	20	0	12	0	**32**	0	11	537	1	0	**549**	0	**1309**
2:00PM	23	2	36	0	**61**	8	15	650	8	0	**673**	4	26	0	22	0	**48**	1	7	687	9	0	**703**	0	**1485**
3:00PM	32	0	52	0	**84**	8	18	732	11	0	**761**	5	19	1	17	0	**37**	0	0	802	18	0	**820**	0	**1702**
4:00PM	26	0	82	0	**108**	7	20	712	5	0	**737**	5	17	0	23	0	**40**	2	4	797	13	0	**814**	1	**1699**
5:00PM	26	0	73	0	**99**	7	22	708	12	0	**742**	4	19	3	15	0	**37**	0	4	762	10	0	**776**	1	**1654**
Total	154	2	283	0	**439**	36	87	4121	82	0	**4290**	20	119	5	96	0	**220**	3	31	4036	53	0	**4120**	2	**9069**
% Approach	35.1%	0.5%	64.5%	0%	-	-	2.0%	96.1%	1.9%	0%	-	-	54.1%	2.3%	43.6%	0%	-	-	0.8%	98.0%	1.3%	0%	-	-	-
% Total	1.7%	0%	3.1%	0%	**4.8%**	-	1.0%	45.4%	0.9%	0%	**47.3%**	-	1.3%	0.1%	1.1%	0%	**2.4%**	-	0.3%	44.5%	0.6%	0%	**45.4%**	-	-
Lights	154	2	279	0	**435**	-	87	3977	55	0	**4119**	-	84	5	76	0	**165**	-	10	3898	53	0	**3961**	-	8680
% Lights	100%	100%	98.6%	0%	**99.1%**	-	100%	96.5%	67.1%	0%	**96.0%**	-	70.6%	100%	79.2%	0%	**75.0%**	-	32.3%	96.6%	100%	0%	**96.1%**	-	95.7%
Articulated Trucks and Single-Unit Trucks	0	0	1	0	**1**	-	0	54	27	0	**81**	-	35	0	18	0	**53**	-	21	33	0	0	**54**	-	189
% Articulated Trucks and Single-Unit Trucks	0%	0%	0.4%	0%	**0.2%**	-	0%	1.3%	32.9%	0%	**1.9%**	-	29.4%	0%	18.8%	0%	**24.1%**	-	67.7%	0.8%	0%	0%	**1.3%**	-	2.1%
Buses	0	0	3	0	**3**	-	0	90	0	0	**90**	-	0	0	2	0	**2**	-	0	105	0	0	**105**	-	200
% Buses	0%	0%	1.1%	0%	**0.7%**	-	0%	2.2%	0%	0%	**2.1%**	-	0%	0%	2.1%	0%	**0.9%**	-	0%	2.6%	0%	0%	**2.5%**	-	2.2%
Pedestrians	-	-	-	-	-	36	-	-	-	-	-	19	-	-	-	-	-	3	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	95.0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	5.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 6th Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574573, Location: 39.64114, -79.961359, Site Code: Site 4 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at 6th Street - TMC

Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574573, Location: 39.64114, -79.961359, Site Code: Site 4 - Tuesday

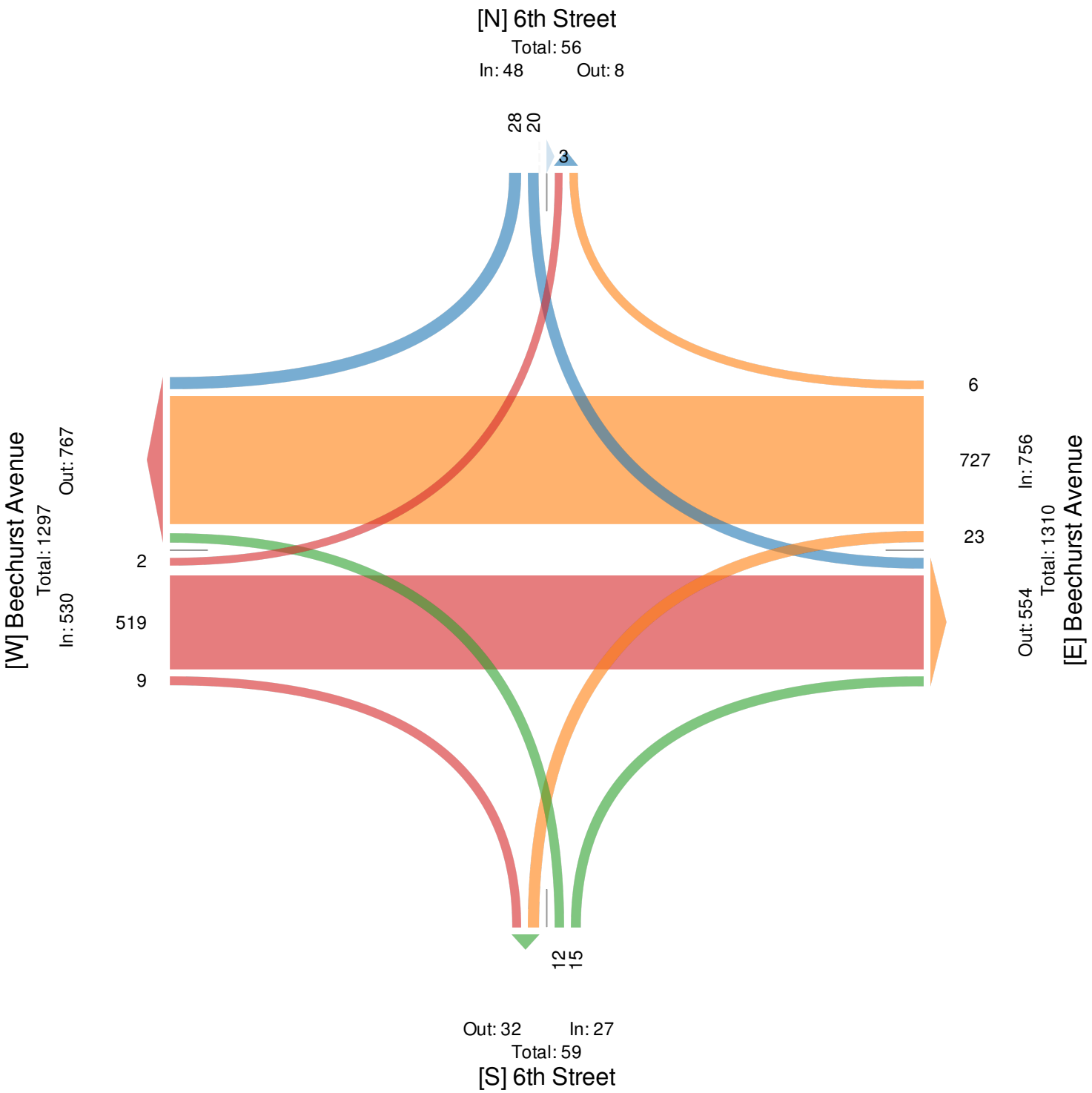
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	6th Street Southbound						Beechurst Avenue Westbound						6th Street Northbound						Beechurst Avenue Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:30AM	6	0	4	0	**10**	0	0	190	2	0	**192**	0	4	0	4	0	**8**	0	1	119	1	0	**121**	0	**331**
7:45AM	13	0	3	0	**16**	1	1	214	8	0	**223**	0	4	0	2	0	**6**	0	1	124	1	0	**126**	0	**371**
8:00AM	4	0	6	0	**10**	2	3	165	6	0	**174**	0	4	0	2	0	**6**	0	4	129	0	0	**133**	0	**323**
8:15AM	5	0	7	0	**12**	0	2	158	7	0	**167**	0	3	0	4	0	**7**	0	3	147	0	0	**150**	0	**336**
Total	28	0	20	0	**48**	3	6	727	23	0	**756**	0	15	0	12	0	**27**	0	9	519	2	0	**530**	0	**1361**
% Approach	58.3%	0%	41.7%	0%	**-**	-	0.8%	96.2%	3.0%	0%	**-**	-	55.6%	0%	44.4%	0%	**-**	-	1.7%	97.9%	0.4%	0%	**-**	-	-
% Total	2.1%	0%	1.5%	0%	**3.5%**	-	0.4%	53.4%	1.7%	0%	**55.5%**	-	1.1%	0%	0.9%	0%	**2.0%**	-	0.7%	38.1%	0.1%	0%	**38.9%**	-	-
PHF	0.538	-	0.714	-	**0.750**	-	0.500	0.849	0.719	-	**0.848**	-	0.938	-	0.750	-	**0.844**	-	0.563	0.883	0.500	-	**0.883**	-	0.917
Lights	28	0	19	0	**47**	-	6	701	10	0	**717**	-	0	0	3	0	**3**	-	1	497	2	0	**500**	-	1267
% Lights	100%	0%	95.0%	0%	**97.9%**	-	100%	96.4%	43.5%	0%	**94.8%**	-	0%	0%	25.0%	0%	**11.1%**	-	11.1%	95.8%	100%	0%	**94.3%**	-	93.1%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	**0**	-	0	16	13	0	**29**	-	15	0	8	0	**23**	-	8	5	0	0	**13**	-	65
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	2.2%	56.5%	0%	**3.8%**	-	100%	0%	66.7%	0%	**85.2%**	-	88.9%	1.0%	0%	0%	**2.5%**	-	4.8%
Buses	0	0	1	0	**1**	-	0	10	0	0	**10**	-	0	0	1	0	**1**	-	0	17	0	0	**17**	-	29
% Buses	0%	0%	5.0%	0%	**2.1%**	-	0%	1.4%	0%	0%	**1.3%**	-	0%	0%	8.3%	0%	**3.7%**	-	0%	3.3%	0%	0%	**3.2%**	-	2.1%
Pedestrians	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 6th Street - TMC
Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574573, Location: 39.64114, -79.961359, Site Code: Site 4 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at 6th Street - TMC
Tue Oct 9, 2018
PM Peak (4:15PM - 5:15PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574573, Location: 39.64114, -79.961359, Site Code: Site 4 - Tuesday

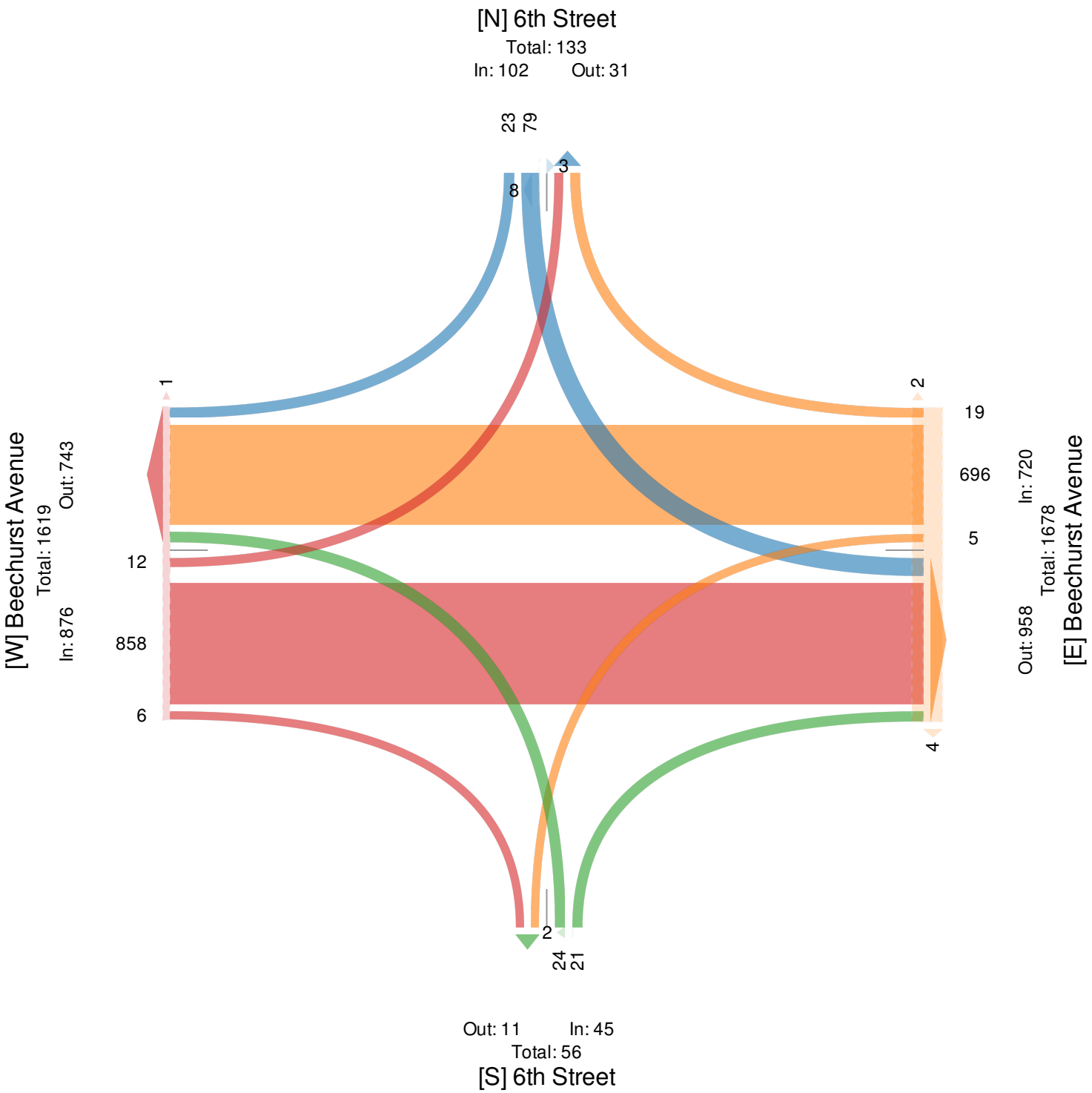
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg	6th Street Southbound						Beechurst Avenue Westbound						6th Street Northbound						Beechurst Avenue Eastbound						
Direction																									
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2018-10-09 4:15PM	5	0	14	0	**19**	0	2	176	1	0	**179**	0	6	0	2	0	**8**	2	3	209	4	0	**216**	1	**422**
4:30PM	8	0	21	0	**29**	4	3	166	2	0	**171**	2	1	0	10	0	**11**	0	0	204	3	0	**207**	0	**418**
4:45PM	6	0	21	0	**27**	3	6	176	2	0	**184**	2	6	0	8	0	**14**	0	1	230	3	0	**234**	0	**459**
5:00PM	4	0	23	0	**27**	4	8	178	0	0	**186**	2	8	0	4	0	**12**	0	2	215	2	0	**219**	0	**444**
Total	23	0	79	0	**102**	11	19	696	5	0	**720**	6	21	0	24	0	**45**	2	6	858	12	0	**876**	1	**1743**
% Approach	22.5%	0%	77.5%	0%	**-**	-	2.6%	96.7%	0.7%	0%	**-**	-	46.7%	0%	53.3%	0%	**-**	-	0.7%	97.9%	1.4%	0%	**-**	-	**-**
% Total	1.3%	0%	4.5%	0%	**5.9%**	-	1.1%	39.9%	0.3%	0%	**41.3%**	-	1.2%	0%	1.4%	0%	**2.6%**	-	0.3%	49.2%	0.7%	0%	**50.3%**	-	**-**
PHF	0.719	-	0.859	-	**0.879**	-	0.594	0.978	0.625	-	**0.968**	-	0.656	-	0.600	-	**0.804**	-	0.500	0.933	0.750	-	**0.936**	-	0.949
Lights	23	0	78	0	**101**	-	19	674	5	0	**698**	-	21	0	24	0	**45**	-	4	840	12	0	**856**	-	1700
% Lights	100%	0%	98.7%	0%	**99.0%**	-	100%	96.8%	100%	0%	**96.9%**	-	100%	0%	100%	0%	**100%**	-	66.7%	97.9%	100%	0%	**97.7%**	-	97.5%
Articulated Trucks and Single-Unit Trucks	0	0	1	0	**1**	-	0	3	0	0	**3**	-	0	0	0	0	**0**	-	2	4	0	0	**6**	-	10
% Articulated Trucks and Single-Unit Trucks	0%	0%	1.3%	0%	**1.0%**	-	0%	0.4%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**0%**	-	33.3%	0.5%	0%	0%	**0.7%**	-	0.6%
Buses	0	0	0	0	**0**	-	0	19	0	0	**19**	-	0	0	0	0	**0**	-	0	14	0	0	**14**	-	33
% Buses	0%	0%	0%	0%	**0%**	-	0%	2.7%	0%	0%	**2.6%**	-	0%	0%	0%	0%	**0%**	-	0%	1.6%	0%	0%	**1.6%**	-	1.9%
Pedestrians	-	-	-	-	-	11	-	-	-	-	-	6	-	-	-	-	-	2	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 6th Street - TMC
Tue Oct 9, 2018
PM Peak (4:15PM - 5:15PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574573, Location: 39.64114, -79.961359, Site Code: Site 4 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at 4th Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574575, Location: 39.639738, -79.959369, Site Code: Site 5 - Tuesday

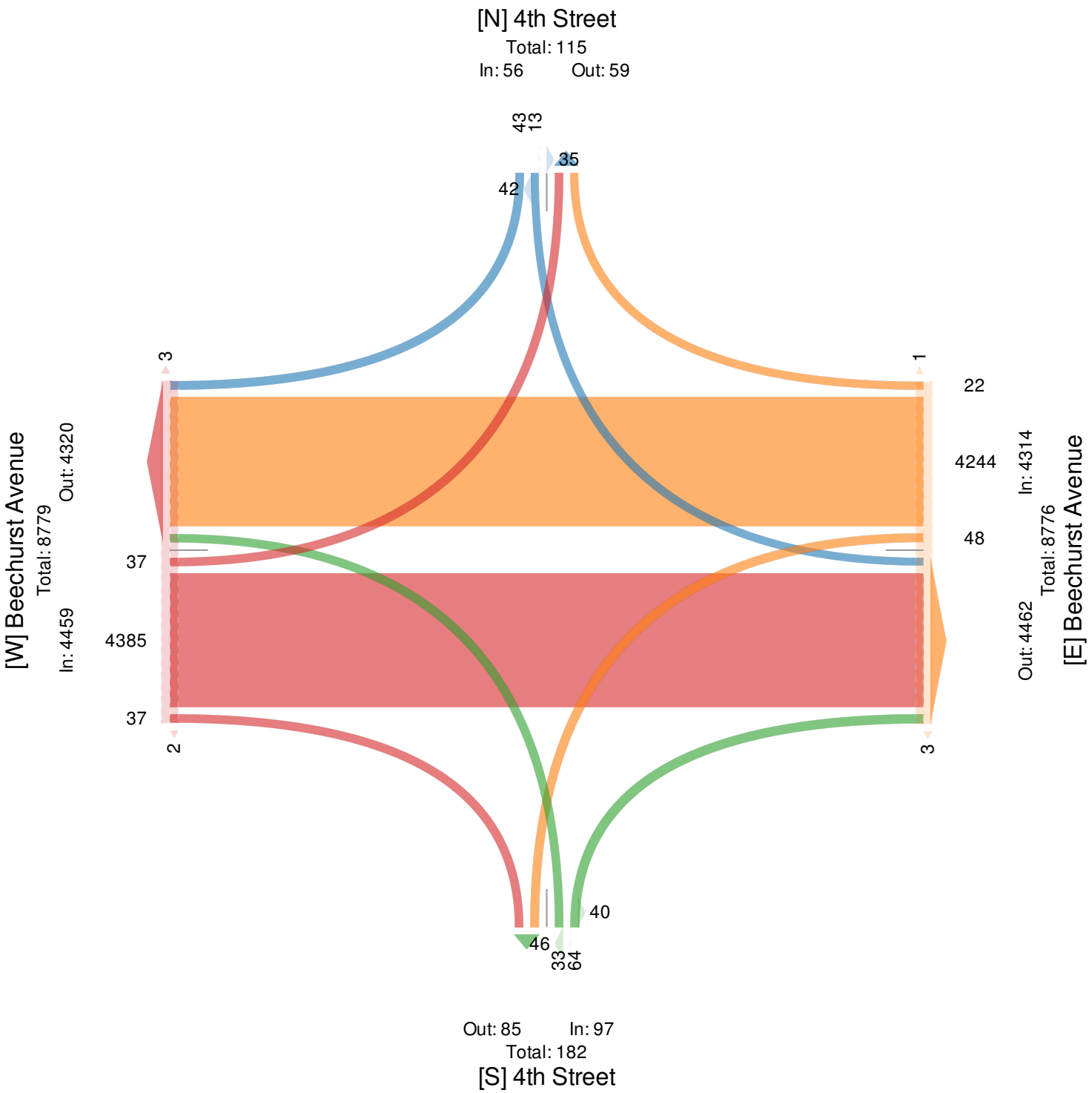
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg	4th Street						Beechurst Avenue						4th Street						Beechurst Avenue						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:00AM	4	0	0	0	**4**	3	2	676	5	0	**683**	1	4	0	5	0	**9**	5	1	475	2	0	**478**	0	**1174**
8:00AM	5	0	1	0	**6**	9	3	689	2	0	**694**	0	11	0	3	0	**14**	9	0	595	3	0	**598**	0	**1312**
2:00PM	4	0	1	0	**5**	17	3	690	12	0	**705**	0	12	0	6	0	**18**	18	6	744	2	0	**752**	2	**1480**
3:00PM	12	0	5	0	**17**	7	6	748	6	0	**760**	0	10	0	4	0	**14**	27	13	844	8	0	**865**	1	**1656**
4:00PM	7	0	4	0	**11**	25	2	717	15	0	**734**	3	18	0	4	0	**22**	12	6	870	11	0	**887**	2	**1654**
5:00PM	11	0	2	0	**13**	16	6	724	8	0	**738**	0	9	0	11	0	**20**	15	11	857	11	0	**879**	0	**1650**
Total	43	0	13	0	**56**	77	22	4244	48	0	**4314**	4	64	0	33	0	**97**	86	37	4385	37	0	**4459**	5	**8926**
% Approach	76.8%	0%	23.2%	0%	**-**	-	0.5%	98.4%	1.1%	0%	**-**	-	66.0%	0%	34.0%	0%	**-**	-	0.8%	98.3%	0.8%	0%	**-**	-	**-**
% Total	0.5%	0%	0.1%	0%	**0.6%**	-	0.2%	47.5%	0.5%	0%	**48.3%**	-	0.7%	0%	0.4%	0%	**1.1%**	-	0.4%	49.1%	0.4%	0%	**50.0%**	-	-
Lights	43	0	13	0	**56**	-	22	4072	47	0	**4141**	-	64	0	33	0	**97**	-	37	4208	37	0	**4282**	-	8576
% Lights	100%	0%	100%	0%	**100%**	-	100%	95.9%	97.9%	0%	**96.0%**	-	100%	0%	100%	0%	**100%**	-	100%	96.0%	100%	0%	**96.0%**	-	96.1%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	**0**	-	0	86	1	0	**87**	-	0	0	0	0	**0**	-	0	69	0	0	**69**	-	156
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	2.0%	2.1%	0%	**2.0%**	-	0%	0%	0%	0%	**0%**	-	0%	1.6%	0%	0%	**1.5%**	-	1.7%
Buses	0	0	0	0	**0**	-	0	86	0	0	**86**	-	0	0	0	0	**0**	-	0	108	0	0	**108**	-	194
% Buses	0%	0%	0%	0%	**0%**	-	0%	2.0%	0%	0%	**2.0%**	-	0%	0%	0%	0%	**0%**	-	0%	2.5%	0%	0%	**2.4%**	-	2.2%
Pedestrians	-	-	-	-	-	74	-	-	-	-	-	4	-	-	-	-	-	82	-	-	-	-	-	5	
% Pedestrians	-	-	-	-	-	96.1%	-	-	-	-	-	100%	-	-	-	-	-	95.3%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	4	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	3.9%	-	-	-	-	-	0%	-	-	-	-	-	4.7%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 4th Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574575, Location: 39.639738, -79.959369, Site Code: Site 5 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at 4th Street - TMC

Tue Oct 9, 2018

AM Peak (7:45AM - 8:45AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 574575, Location: 39.639738, -79.959369, Site Code: Site 5 - Tuesday

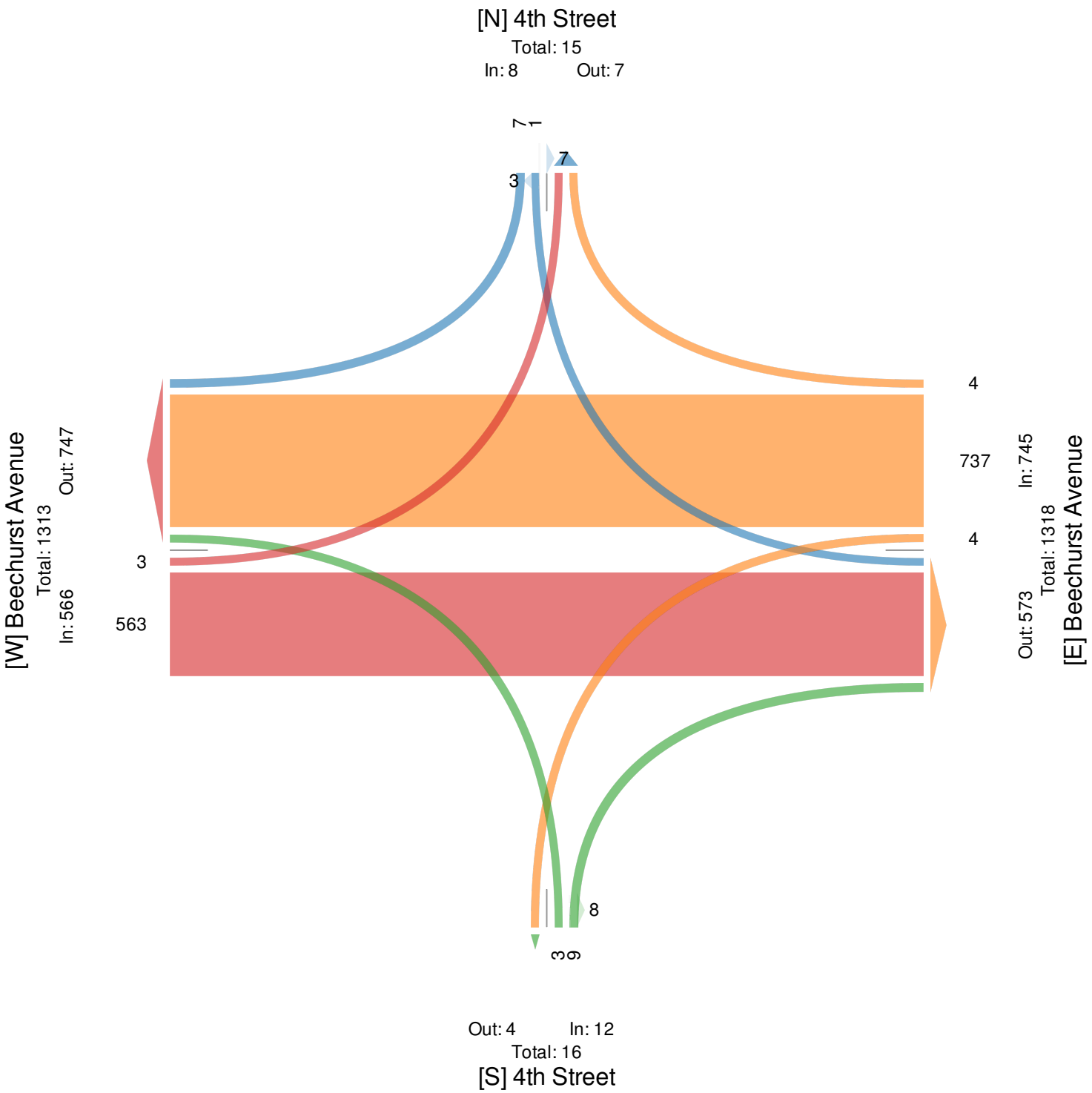
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg	4th Street						Beechurst Avenue						4th Street						Beechurst Avenue						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:45AM	4	0	0	0	**4**	1	2	206	3	0	**211**	0	0	0	2	0	**2**	4	0	131	0	0	**131**	0	**348**
8:00AM	1	0	1	0	**2**	5	1	178	0	0	**179**	0	2	0	1	0	**3**	0	0	145	2	0	**147**	0	**331**
8:15AM	2	0	0	0	**2**	2	0	170	0	0	**170**	0	3	0	0	0	**3**	1	0	156	0	0	**156**	0	**331**
8:30AM	0	0	0	0	**0**	2	1	183	1	0	**185**	0	4	0	0	0	**4**	3	0	131	1	0	**132**	0	**321**
Total	7	0	1	0	**8**	10	4	737	4	0	**745**	0	9	0	3	0	**12**	8	0	563	3	0	**566**	0	**1331**
% Approach	87.5%	0%	12.5%	0%	-	-	0.5%	98.9%	0.5%	0%	-	-	75.0%	0%	25.0%	0%	-	-	0%	99.5%	0.5%	0%	-	-	-
% Total	0.5%	0%	0.1%	0%	**0.6%**	-	0.3%	55.4%	0.3%	0%	**56.0%**	-	0.7%	0%	0.2%	0%	**0.9%**	-	0%	42.3%	0.2%	0%	**42.5%**	-	-
PHF	0.438	-	0.250	-	**0.500**	-	0.500	0.894	0.333	-	**0.883**	-	0.563	-	0.375	-	**0.750**	-	-	0.902	0.375	-	**0.907**	-	0.956
Lights	7	0	1	0	**8**	-	4	692	4	0	**700**	-	9	0	3	0	**12**	-	0	524	3	0	**527**	-	1247
% Lights	100%	0%	100%	0%	**100%**	-	100%	93.9%	100%	0%	**94.0%**	-	100%	0%	100%	0%	**100%**	-	0%	93.1%	100%	0%	**93.1%**	-	93.7%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	**0**	-	0	34	0	0	**34**	-	0	0	0	0	**0**	-	0	19	0	0	**19**	-	53
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	4.6%	0%	0%	**4.6%**	-	0%	0%	0%	0%	**0%**	-	0%	3.4%	0%	0%	**3.4%**	-	4.0%
Buses	0	0	0	0	**0**	-	0	11	0	0	**11**	-	0	0	0	0	**0**	-	0	20	0	0	**20**	-	31
% Buses	0%	0%	0%	0%	**0%**	-	0%	1.5%	0%	0%	**1.5%**	-	0%	0%	0%	0%	**0%**	-	0%	3.6%	0%	0%	**3.5%**	-	2.3%
Pedestrians	-	-	-	-	-	7	-	-	-	-	-	0	-	-	-	-	-	8	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	70.0%	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	30.0%	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 4th Street - TMC
Tue Oct 9, 2018
AM Peak (7:45AM - 8:45AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574575, Location: 39.639738, -79.959369, Site Code: Site 5 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at 4th Street - TMC
Tue Oct 9, 2018
PM Peak (4:45PM - 5:45PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574575, Location: 39.639738, -79.959369, Site Code: Site 5 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	4th Street Southbound						Beechurst Avenue Westbound						4th Street Northbound						Beechurst Avenue Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 4:45PM	3	0	0	0	**3**	9	0	178	7	0	**185**	0	6	0	1	0	**7**	3	2	243	6	0	**251**	1	**446**
5:00PM	3	0	1	0	**4**	1	1	174	3	0	**178**	0	2	0	1	0	**3**	4	1	242	5	0	**248**	0	**433**
5:15PM	3	0	0	0	**3**	3	2	179	2	0	**183**	0	3	0	1	0	**4**	4	2	221	2	0	**225**	0	**415**
5:30PM	3	0	1	0	**4**	8	1	190	2	0	**193**	0	1	0	3	0	**4**	3	3	197	3	0	**203**	0	**404**
Total	12	0	2	0	**14**	21	4	721	14	0	**739**	0	12	0	6	0	**18**	14	8	903	16	0	**927**	1	**1698**
% Approach	85.7%	0%	14.3%	0%	-	-	0.5%	97.6%	1.9%	0%	-	-	66.7%	0%	33.3%	0%	-	-	0.9%	97.4%	1.7%	0%	-	-	-
% Total	0.7%	0%	0.1%	0%	**0.8%**	-	0.2%	42.5%	0.8%	0%	**43.5%**	-	0.7%	0%	0.4%	0%	**1.1%**	-	0.5%	53.2%	0.9%	0%	**54.6%**	-	-
PHF	1.000	-	0.500	-	**0.875**	-	0.500	0.949	0.500	-	**0.957**	-	0.500	-	0.500	-	**0.643**	-	0.667	0.929	0.667	-	**0.923**	-	0.952
Lights	12	0	2	0	**14**	-	4	709	14	0	**727**	-	12	0	6	0	**18**	-	8	886	16	0	**910**	-	1669
% Lights	100%	0%	100%	0%	**100%**	-	100%	98.3%	100%	0%	**98.4%**	-	100%	0%	100%	0%	**100%**	-	100%	98.1%	100%	0%	**98.2%**	-	98.3%
Articulated Trucks and Single-Unit Trucks	0	0	0	0	**0**	-	0	6	0	0	**6**	-	0	0	0	0	**0**	-	0	6	0	0	**6**	-	12
% Articulated Trucks and Single-Unit Trucks	0%	0%	0%	0%	**0%**	-	0%	0.8%	0%	0%	**0.8%**	-	0%	0%	0%	0%	**0%**	-	0%	0.7%	0%	0%	**0.6%**	-	0.7%
Buses	0	0	0	0	**0**	-	0	6	0	0	**6**	-	0	0	0	0	**0**	-	0	11	0	0	**11**	-	17
% Buses	0%	0%	0%	0%	**0%**	-	0%	0.8%	0%	0%	**0.8%**	-	0%	0%	0%	0%	**0%**	-	0%	1.2%	0%	0%	**1.2%**	-	1.0%
Pedestrians	-	-	-	-	-	21	-	-	-	-	-	0	-	-	-	-	-	13	-	-	-	-	-	1	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	-	-	-	-	-	-	92.9%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	-	-	-	-	-	-	7.1%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at 4th Street - TMC
Tue Oct 9, 2018
PM Peak (4:45PM - 5:45PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574575, Location: 39.639738, -79.959369, Site Code: Site 5 - Tuesday

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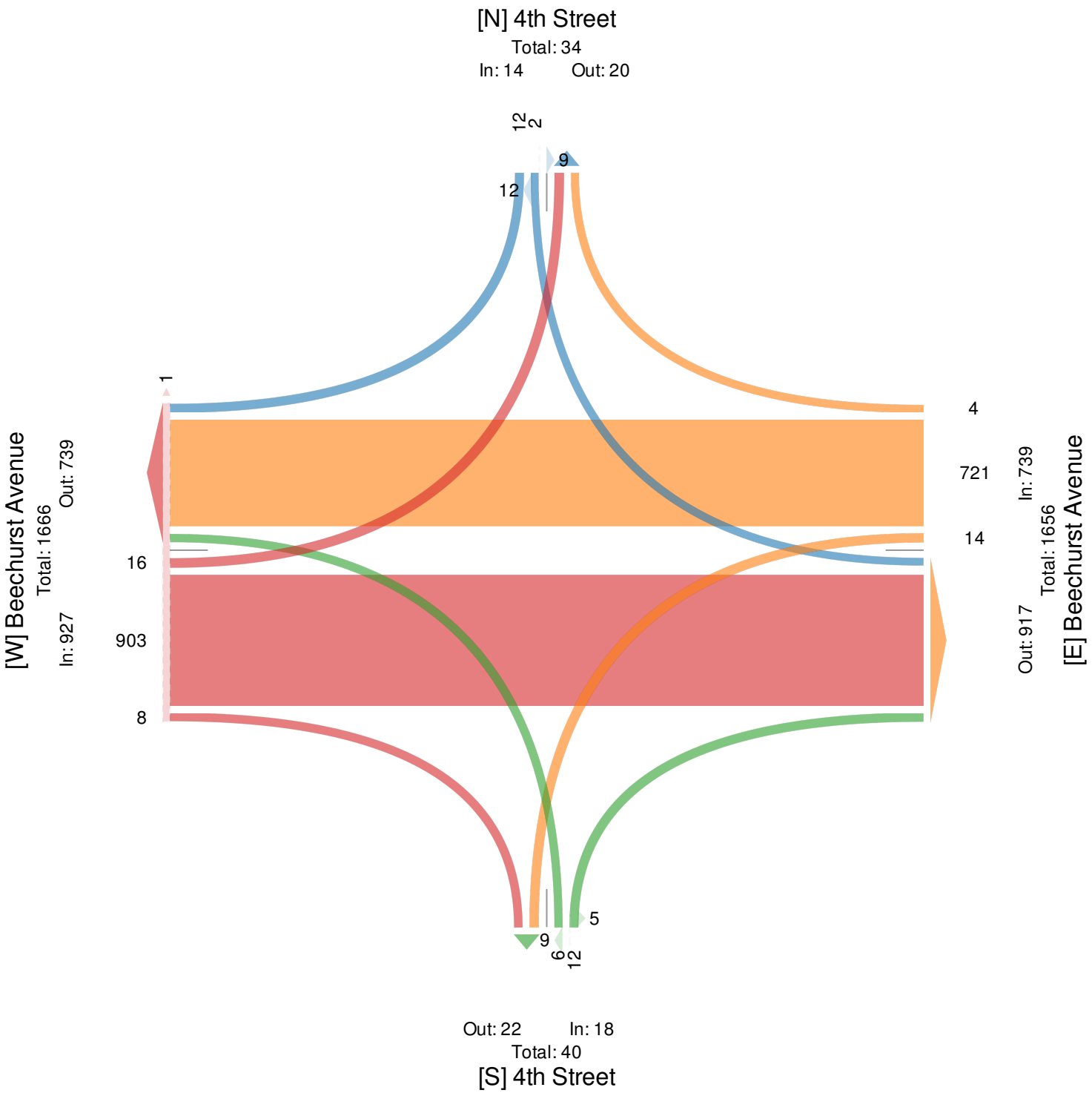

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Sunny - 72 Degrees
WVU - Schools in Session

File Name : Beechurst_Avenue_at_3rd_Street_10-09-2018
Site Code : Site 5 - Tuesday
Start Date : 10/9/2018
Page No : 1

Groups Printed- Cars - Buses - Trucks - Bicycles on Crosswalk - Pedestrians

	3rd Street From North					Beechurst Avenue From East					3rd Street From South					Beechurst Avenue From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
07:00 AM	0	0	4	1	5	1	127	0	0	128	0	0	1	0	1	0	107	1	0	108	242
07:15 AM	0	0	6	1	7	0	150	0	0	150	1	0	0	1	2	0	117	0	0	117	276
07:30 AM	0	0	8	0	8	1	176	0	1	178	0	0	0	0	0	3	125	0	0	128	314
07:45 AM	0	0	9	2	11	3	199	2	0	204	2	0	0	2	4	3	128	0	0	131	350
Total	0	0	27	4	31	5	652	2	1	660	3	0	1	3	7	6	477	1	0	484	1182
08:00 AM	1	0	2	4	7	0	175	1	0	176	1	0	2	1	4	2	147	0	0	149	336
08:15 AM	0	0	6	3	9	0	165	0	0	165	0	0	3	1	4	2	163	0	0	165	343
08:30 AM	0	0	8	1	9	1	172	1	0	174	0	0	2	2	4	0	135	0	0	135	322
08:45 AM	0	0	5	0	5	1	162	1	0	164	2	0	2	5	9	4	164	6	0	174	352
Total	1	0	21	8	30	2	674	3	0	679	3	0	9	9	21	8	609	6	0	623	1353
02:00 PM	0	0	7	3	10	5	146	1	0	152	1	0	0	5	6	7	191	4	1	203	371
02:15 PM	0	0	4	4	8	1	152	0	1	154	0	0	4	7	11	2	175	1	0	178	351
02:30 PM	0	0	2	5	7	2	178	0	0	180	2	0	3	6	11	5	162	0	0	167	365
02:45 PM	1	0	4	3	8	4	207	2	0	213	3	0	5	0	8	17	194	2	0	213	442
Total	1	0	17	15	33	12	683	3	1	699	6	0	12	18	36	31	722	7	1	761	1529
03:00 PM	1	0	4	2	7	1	166	2	0	169	4	0	1	2	7	13	190	4	1	208	391
03:15 PM	2	0	8	0	10	2	201	1	0	204	5	0	2	6	13	15	210	2	0	227	454
03:30 PM	1	0	9	3	13	1	163	2	0	166	2	0	4	7	13	13	209	4	1	227	419
03:45 PM	1	0	8	2	11	2	180	1	0	183	1	0	2	4	7	4	209	3	0	216	417
Total	5	0	29	7	41	6	710	6	0	722	12	0	9	19	40	45	818	13	2	878	1681
04:00 PM	2	0	2	6	10	2	185	1	0	188	3	0	3	3	9	5	206	1	0	212	419
04:15 PM	0	0	9	2	11	4	169	1	1	175	0	0	7	6	13	6	213	2	0	221	420
04:30 PM	2	0	5	10	17	2	176	0	2	180	0	0	5	4	9	2	215	1	1	219	425
04:45 PM	0	0	4	8	12	7	174	0	0	181	5	0	6	2	13	13	237	2	1	253	459
Total	4	0	20	26	50	15	704	2	3	724	8	0	21	15	44	26	871	6	2	905	1723
05:00 PM	1	0	2	2	5	3	168	1	0	172	7	0	5	5	17	6	238	1	0	245	439
05:15 PM	0	0	2	2	4	2	170	2	0	174	8	0	6	5	19	9	216	2	0	227	424
05:30 PM	1	0	6	6	13	2	186	1	0	189	3	0	7	1	11	2	202	3	0	207	420
05:45 PM	0	0	6	4	10	1	174	2	0	177	8	0	5	4	17	5	200	5	0	210	414
Total	2	0	16	14	32	8	698	6	0	712	26	0	23	15	64	22	856	11	0	889	1697
Grand Total	13	0	130	74	217	48	4121	22	5	4196	58	0	75	79	212	138	4353	44	5	4540	9165
Apprch %	6	0	59.9	34.1		1.1	98.2	0.5	0.1		27.4	0	35.4	37.3		3	95.9	1	0.1		
Total %	0.1	0	1.4	0.8	2.4	0.5	45	0.2	0.1	45.8	0.6	0	0.8	0.9	2.3	1.5	47.5	0.5	0.1	49.5	
Cars	13	0	130	0	143	47	3954	22	0	4023	58	0	75	0	133	138	4158	44	0	4340	8639
% Cars	100	0	100	0	65.9	97.9	95.9	100	0	95.9	100	0	100	0	62.7	100	95.5	100	0	95.6	94.3
Buses	0	0	0	0	0	0	89	0	0	89	0	0	0	0	0	0	96	0	0	96	185
% Buses	0	0	0	0	0	0	2.2	0	0	2.1	0	0	0	0	0	0	2.2	0	0	2.1	2
Trucks	0	0	0	0	0	1	78	0	0	79	0	0	0	0	0	0	99	0	0	99	178
% Trucks	0	0	0	0	0	2.1	1.9	0	0	1.9	0	0	0	0	0	0	2.3	0	0	2.2	1.9
Bicycles on Crosswalk	0	0	0	3	3	0	0	0	0	0	0	0	0	3	3	0	0	0	0	0	6
% Bicycles on Crosswalk	0	0	0	4.1	1.4	0	0	0	0	0	0	0	0	3.8	1.4	0	0	0	0	0	0.1
Pedestrians	0	0	0	71	71	0	0	0	5	5	0	0	0	76	76	0	0	0	5	5	157
% Pedestrians	0	0	0	95.9	32.7	0	0	0	100	0.1	0	0	0	96.2	35.8	0	0	0	100	0.1	1.7

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File Name : Beechurst_Avenue_at_3rd_Street_10-09-2018
Site Code : Site 5 - Tuesday
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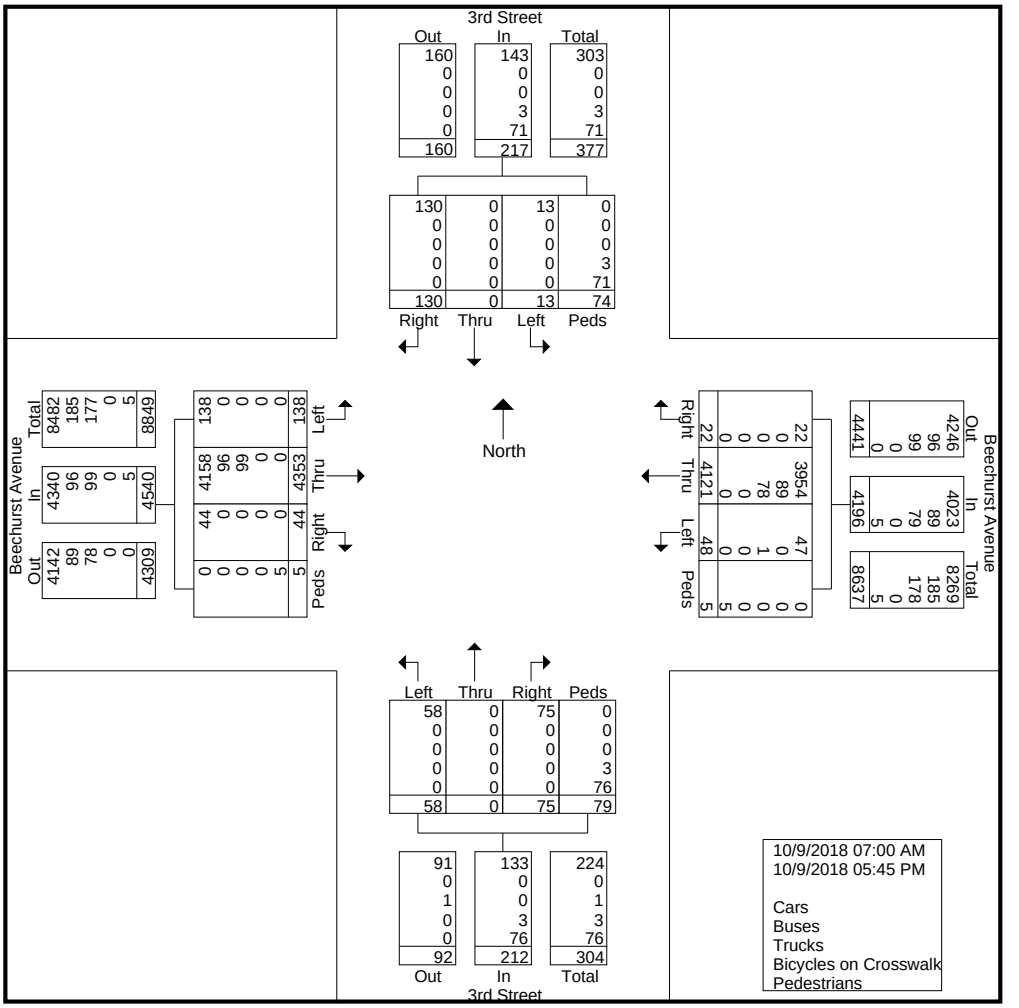

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File Name : Beechurst_Avenue_at_3rd_Street_10-09-2018
Site Code : Site 5 - Tuesday
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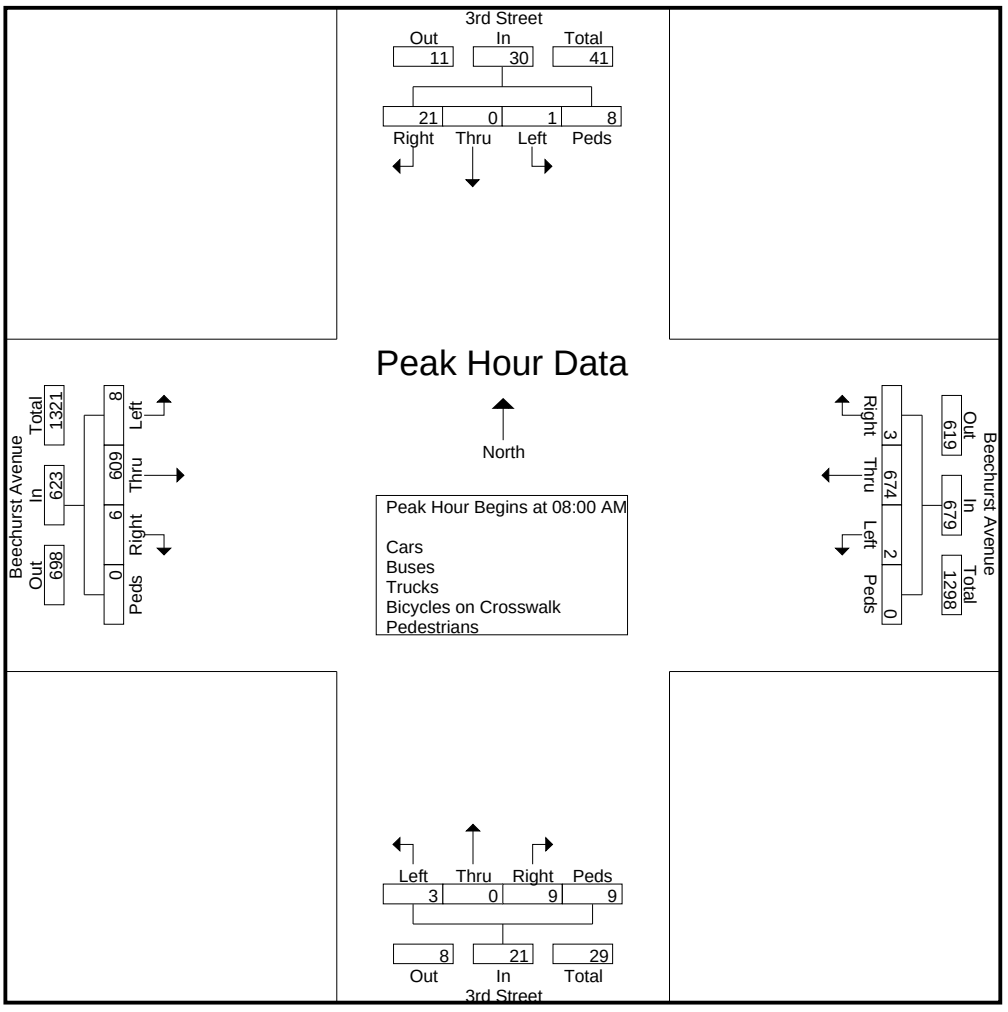
Page No : 3

	3rd Street From North					Beechurst Avenue From East					3rd Street From South					Beechurst Avenue From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 09:45 AM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 08:00 AM																					
08:00 AM	**1**	0	2	**4**	7	0	**175**	**1**	0	**176**	1	0	2	1	4	2	147	0	0	149	336
08:15 AM	0	0	6	3	**9**	0	165	0	0	165	0	0	**3**	1	4	2	163	0	0	165	343
08:30 AM	0	0	**8**	1	9	**1**	172	1	0	174	0	0	2	2	4	0	135	0	0	135	322
08:45 AM	0	0	5	0	5	1	162	1	0	164	**2**	0	2	**5**	**9**	**4**	**164**	**6**	0	**174**	**352**
Total Volume	1	0	21	8	30	2	674	3	0	679	3	0	9	9	21	8	609	6	0	623	1353
% App. Total	3.3	0	70	26.7		0.3	99.3	0.4	0		14.3	0	42.9	42.9		1.3	97.8	1	0		
PHF	.250	.000	.656	.500	.833	.500	.963	.750	.000	.964	.375	.000	.750	.450	.583	.500	.928	.250	.000	.895	.961



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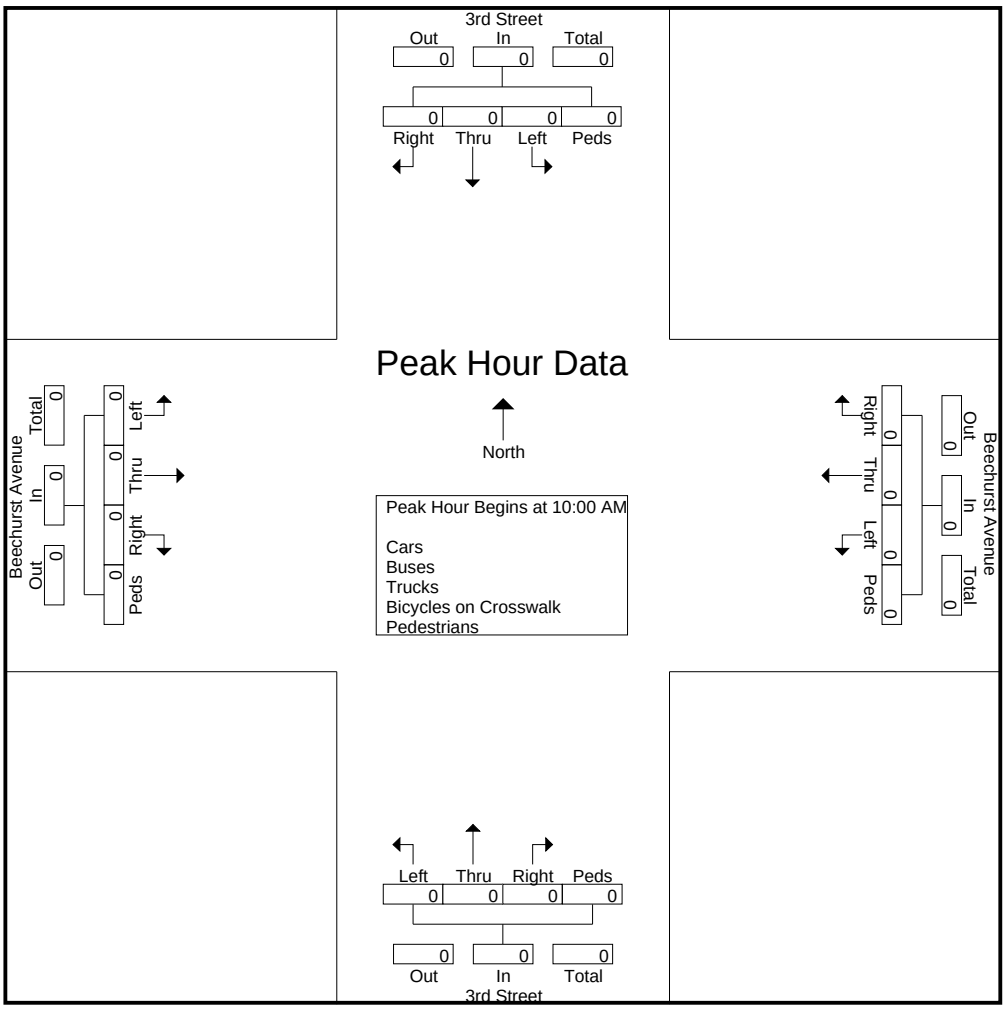
"simplifying Data Collection since 2004"

File Name : Beechurst_Avenue_at_3rd_Street_10-09-2018
Site Code : Site 5 - Tuesday
Start Date : 10/9/2018

	3rd Street From North					Beechurst Avenue From East					3rd Street From South					Beechurst Avenue From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 10:00 AM to 01:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 10:00 AM																					
10:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
10:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Volume	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
% App. Total	0	0	0	0		0	0	0	0		0	0	0	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000



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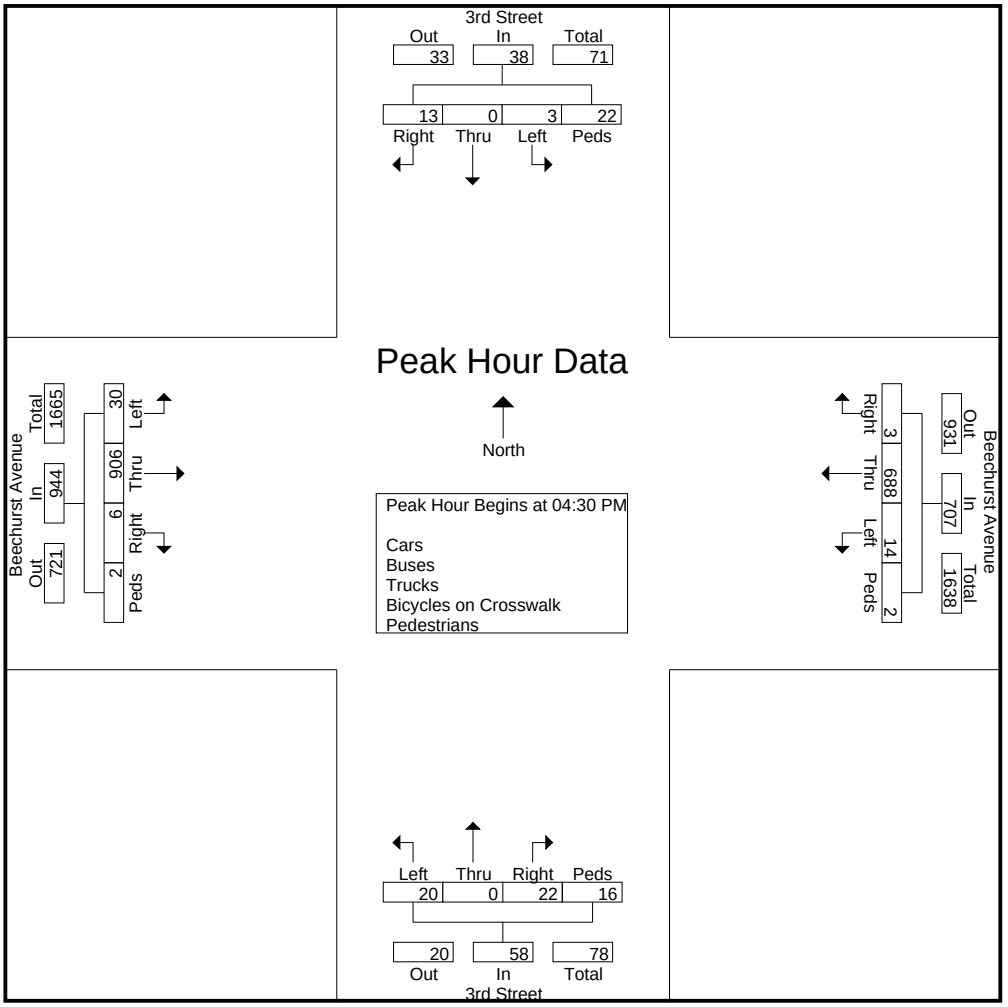
File Name : Beechurst_Avenue_at_3rd_Street_10-09-2018
Site Code : Site 5 - Tuesday
Start Date : 10/9/2018
Page No : 5

	3rd Street From North					Beechurst Avenue From East					3rd Street From South					Beechurst Avenue From West					
Start Time	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Left	Thru	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 02:00 PM to 05:45 PM - Peak 1 of 1																					
Peak Hour for Entire Intersection Begins at 04:30 PM																					
04:30 PM	**2**	0	**5**	**10**	**17**	2	**176**	0	**2**	180	0	0	5	4	9	2	215	1	**1**	219	425
04:45 PM	0	0	4	8	12	**7**	174	0	0	**181**	5	0	**6**	2	13	**13**	237	**2**	1	**253**	**459**
05:00 PM	1	0	2	2	5	3	168	1	0	172	7	0	5	**5**	17	6	**238**	1	0	245	439
05:15 PM	0	0	2	2	4	2	170	**2**	0	174	**8**	0	6	5	**19**	9	216	2	0	227	424
Total Volume	3	0	13	22	38	14	688	3	2	707	20	0	22	16	58	30	906	6	2	944	1747
% App. Total	7.9	0	34.2	57.9		2	97.3	0.4	0.3		34.5	0	37.9	27.6		3.2	96	0.6	0.2		
PHF	.375	.000	.650	.550	.559	.500	.977	.375	.250	.977	.625	.000	.917	.800	.763	.577	.952	.750	.500	.933	.952



3rd Street at Beechurst Avenue - ATR
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Channels
ID: 591137, Location: 39.63885, -79.958686, Site Code: Site 1 -
Tuesday

Provided by: Cummins Consulting Services, PLLC
2216 Young Drive, Suite 1,
Lexington, KY, 40505, US

Leg Direction	North Southbound		South Northbound		
Time	T	**App**	T	**App**	**Int**
2018-10-09 7:00AM	477	**477**	652	**652**	**1129**
8:00AM	609	**609**	674	**674**	**1283**
2:00PM	722	**722**	683	**683**	**1405**
3:00PM	818	**818**	710	**710**	**1528**
4:00PM	871	**871**	704	**704**	**1575**
5:00PM	856	**856**	698	**698**	**1554**
Total	4353	**4353**	4121	**4121**	**8474**
% Approach	100%	-	100%	-	-
% Total	51.4%	**51.4%**	48.6%	**48.6%**	-
Lights	4158	**4158**	3954	**3954**	8112
% Lights	95.5%	**95.5%**	95.9%	**95.9%**	95.7%
Articulated Trucks and Single-Unit Trucks	99	**99**	78	**78**	177
% Articulated Trucks and Single-Unit Trucks	2.3%	**2.3%**	1.9%	**1.9%**	2.1%
Buses	96	**96**	89	**89**	185
% Buses	2.2%	**2.2%**	2.2%	**2.2%**	2.2%

*T: Thru

3rd Street at Beechurst Avenue - ATR
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Channels
ID: 591137, Location: 39.63885, -79.958686, Site Code: Site 1 -
Tuesday

Provided by: Cummins Consulting Services, PLLC
2216 Young Drive, Suite 1,
Lexington, KY, 40505, US

3rd Street at Beechurst Avenue - ATR
Tue Oct 9, 2018
AM Peak (7:45AM - 8:45AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Channels
ID: 591137, Location: 39.63885, -79.958686, Site Code: Site 1 -
Tuesday

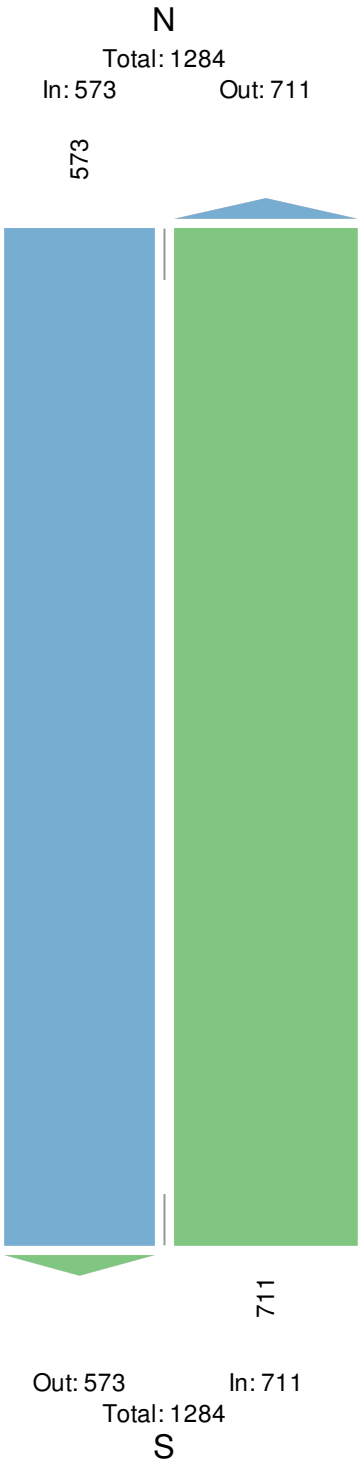
Provided by: Cummins Consulting Services, PLLC
2216 Young Drive, Suite 1,
Lexington, KY, 40505, US

Leg Direction	North Southbound		South Northbound		
Time	T	**App**	T	**App**	**Int**
2018-10-09 7:45AM	128	**128**	199	**199**	**327**
8:00AM	147	**147**	175	**175**	**322**
8:15AM	163	**163**	165	**165**	**328**
8:30AM	135	**135**	172	**172**	**307**
Total	573	**573**	711	**711**	**1284**
% Approach	100%	-	100%	-	-
% Total	44.6%	**44.6%**	55.4%	**55.4%**	-
PHF	0.879	**0.879**	0.893	**0.893**	0.979
Lights	531	**531**	667	**667**	1198
% Lights	92.7%	**92.7%**	93.8%	**93.8%**	93.3%
Articulated Trucks and Single-Unit Trucks	27	**27**	33	**33**	60
% Articulated Trucks and Single-Unit Trucks	4.7%	**4.7%**	4.6%	**4.6%**	4.7%
Buses	15	**15**	11	**11**	26
% Buses	2.6%	**2.6%**	1.5%	**1.5%**	2.0%

*T: Thru

3rd Street at Beechurst Avenue - ATR
Tue Oct 9, 2018
AM Peak (7:45AM - 8:45AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Channels
ID: 591137, Location: 39.63885, -79.958686, Site Code: Site 1 -
Tuesday

Provided by: Cummins Consulting Services, PLLC
2216 Young Drive, Suite 1,
Lexington, KY, 40505, US



3rd Street at Beechurst Avenue - ATR
Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Channels
ID: 591137, Location: 39.63885, -79.958686, Site Code: Site 1 -
Tuesday

Provided by: Cummins Consulting Services, PLLC
2216 Young Drive, Suite 1,
Lexington, KY, 40505, US

Leg Direction	North Southbound		South Northbound		
Time	T	**App**	T	**App**	**Int**
2018-10-09 4:30PM	215	**215**	176	**176**	**391**
4:45PM	237	**237**	174	**174**	**411**
5:00PM	238	**238**	168	**168**	**406**
5:15PM	216	**216**	170	**170**	**386**
Total	906	**906**	688	**688**	**1594**
% Approach	100%	-	100%	-	-
% Total	56.8%	**56.8%**	43.2%	**43.2%**	-
PHF	0.952	**0.952**	0.977	**0.977**	0.970
Lights	886	**886**	673	**673**	1559
% Lights	97.8%	**97.8%**	97.8%	**97.8%**	97.8%
Articulated Trucks and Single-Unit Trucks	6	**6**	3	**3**	9
% Articulated Trucks and Single-Unit Trucks	0.7%	**0.7%**	0.4%	**0.4%**	0.6%
Buses	14	**14**	12	**12**	26
% Buses	1.5%	**1.5%**	1.7%	**1.7%**	1.6%

*T: Thru

3rd Street at Beechurst Avenue - ATR
Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses)
All Channels
ID: 591137, Location: 39.63885, -79.958686, Site Code: Site 1 -
Tuesday

Provided by: Cummins Consulting Services, PLLC
2216 Young Drive, Suite 1,
Lexington, KY, 40505, US

Beechurst Avenue at Campus Drive - TMC

Tue Oct 9, 2018

Full Length (7AM-9AM, 2PM-6PM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 574578, Location: 39.637339, -79.957446, Site Code: Site 7 - Tuesday

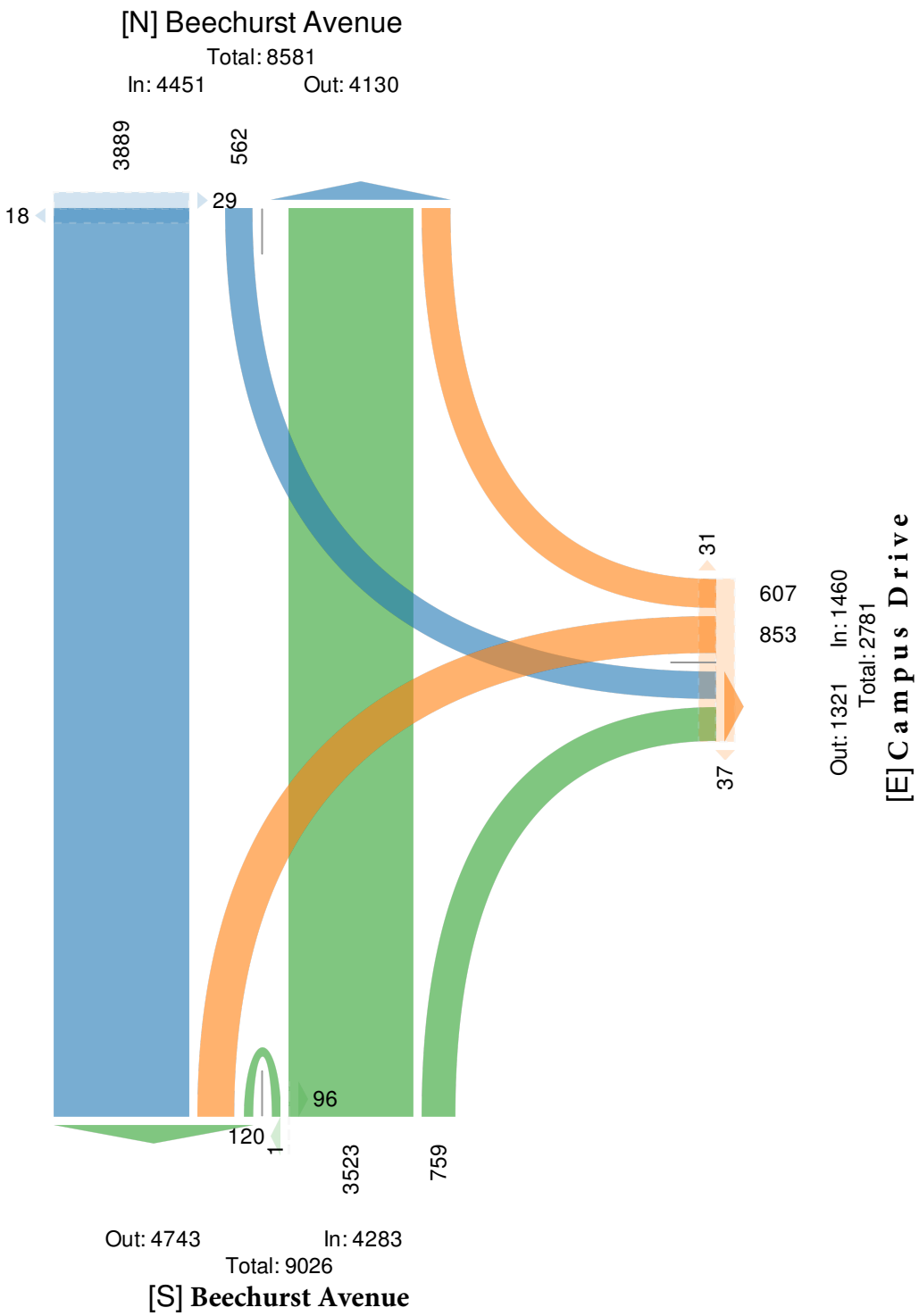
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	Beechurst Avenue Southbound					Campus Drive					Beechurst Avenue Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2018-10-09 7:00AM	439	51	0	**490**	2	64	96	0	**160**	4	160	607	0	**767**	3	**1417**
8:00AM	511	90	0	**601**	4	81	105	0	**186**	16	120	583	0	**703**	37	**1490**
2:00PM	667	93	0	**760**	14	105	171	0	**276**	17	98	585	1	**684**	46	**1720**
3:00PM	736	109	0	**845**	16	103	142	0	**245**	5	98	604	0	**702**	55	**1792**
4:00PM	800	104	0	**904**	6	118	173	0	**291**	7	140	580	0	**720**	35	**1915**
5:00PM	736	115	0	**851**	5	136	166	0	**302**	19	143	564	0	**707**	40	**1860**
Total	3889	562	0	**4451**	47	607	853	0	**1460**	68	759	3523	1	**4283**	216	**10194**
% Approach	87.4%	12.6%	0%	-	-	41.6%	58.4%	0%	-	-	17.7%	82.3%	0%	-	-	-
% Total	38.1%	5.5%	0%	**43.7%**	-	6.0%	8.4%	0%	**14.3%**	-	7.4%	34.6%	0%	**42.0%**	-	-
Lights	3749	532	0	**4281**	-	584	838	0	**1422**	-	744	3377	1	**4122**	-	9825
% Lights	96.4%	94.7%	0%	**96.2%**	-	96.2%	98.2%	0%	**97.4%**	-	98.0%	95.9%	100%	**96.2%**	-	96.4%
Articulated Trucks and Single-Unit Trucks	68	1	0	**69**	-	5	9	0	**14**	-	6	71	0	**77**	-	160
% Articulated Trucks and Single-Unit Trucks	1.7%	0.2%	0%	**1.6%**	-	0.8%	1.1%	0%	**1.0%**	-	0.8%	2.0%	0%	**1.8%**	-	1.6%
Buses	72	29	0	**101**	-	18	6	0	**24**	-	9	75	0	**84**	-	209
% Buses	1.9%	5.2%	0%	**2.3%**	-	3.0%	0.7%	0%	**1.6%**	-	1.2%	2.1%	0%	**2.0%**	-	2.1%
Pedestrians	-	-	-	-	46	-	-	-	-	65	-	-	-	-	212	
% Pedestrians	-	-	-	-	97.9%	-	-	-	-	95.6%	-	-	-	-	98.1%	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	3	-	-	-	-	4	
% Bicycles on Crosswalk	-	-	-	-	2.1%	-	-	-	-	4.4%	-	-	-	-	1.9%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at Campus Drive - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574578, Location: 39.637339, -79.957446, Site Code: Site 7 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at Campus Drive - TMC

Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574578, Location: 39.637339, -79.957446, Site Code: Site 7 - Tuesday

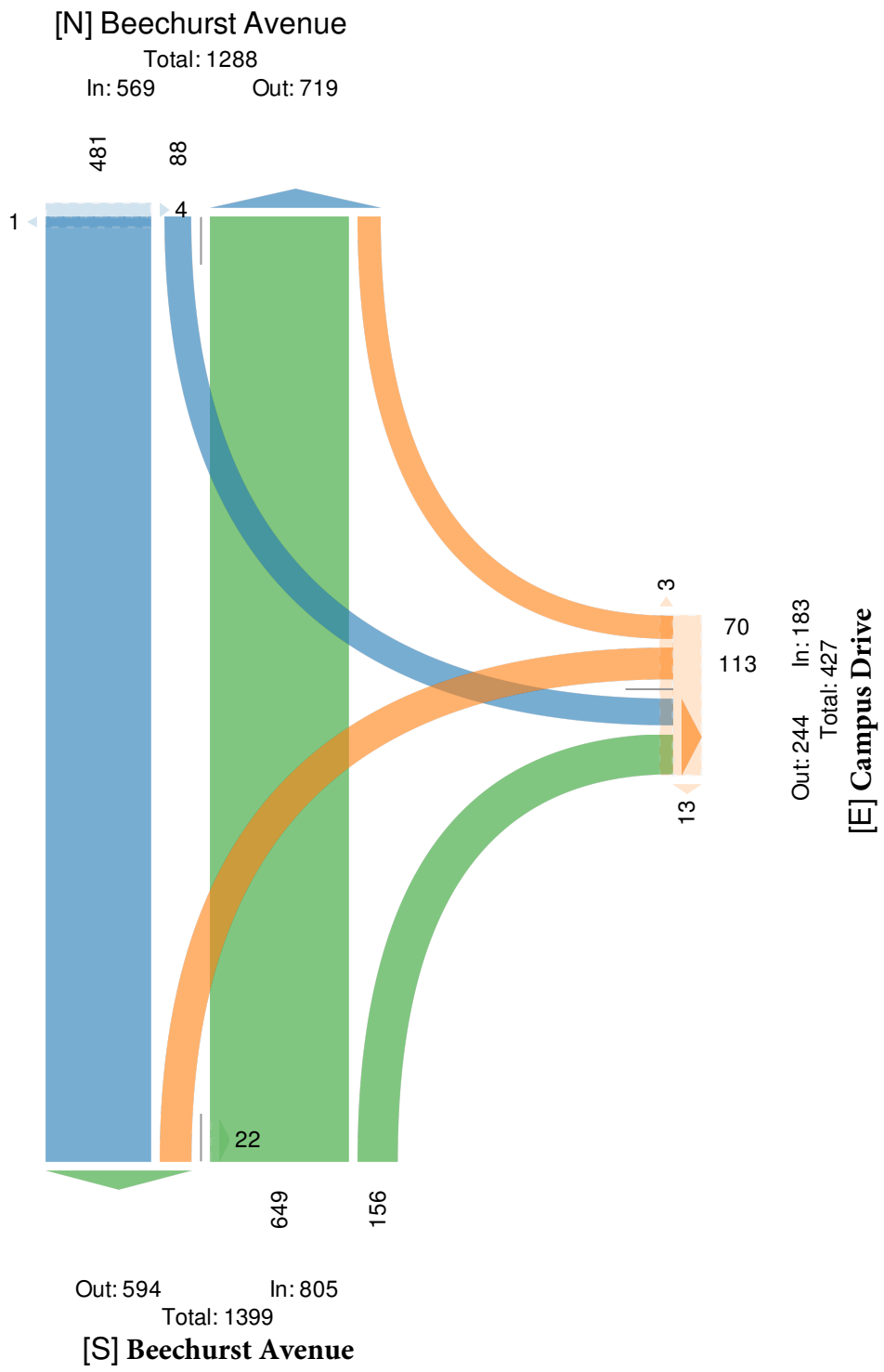
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	Beechurst Avenue Southbound					Campus Drive Westbound					Beechurst Avenue Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2018-10-09 7:30AM	106	14	0	**120**	1	14	27	0	**41**	2	49	168	0	**217**	0	**378**
7:45AM	126	13	0	**139**	0	25	23	0	**48**	0	49	185	0	**234**	1	**421**
8:00AM	119	24	0	**143**	0	12	29	0	**41**	2	32	155	0	**187**	5	**371**
8:15AM	130	37	0	**167**	4	19	34	0	**53**	12	26	141	0	**167**	16	**387**
Total	481	88	0	**569**	5	70	113	0	**183**	16	156	649	0	**805**	22	**1557**
% Approach	84.5%	15.5%	0%	**-**	-	38.3%	61.7%	0%	**-**	-	19.4%	80.6%	0%	**-**	-	-
% Total	30.9%	5.7%	0%	**36.5%**	-	4.5%	7.3%	0%	**11.8%**	-	10.0%	41.7%	0%	**51.7%**	-	-
PHF	0.925	0.595	-	**0.852**	-	0.700	0.831	-	**0.863**	-	0.796	0.877	-	**0.860**	-	0.925
Lights	448	84	0	**532**	-	67	111	0	**178**	-	152	612	0	**764**	-	1474
% Lights	93.1%	95.5%	0%	**93.5%**	-	95.7%	98.2%	0%	**97.3%**	-	97.4%	94.3%	0%	**94.9%**	-	94.7%
Articulated Trucks and Single-Unit Trucks	21	0	0	**21**	-	1	1	0	**2**	-	1	26	0	**27**	-	50
% Articulated Trucks and Single-Unit Trucks	4.4%	0%	0%	**3.7%**	-	1.4%	0.9%	0%	**1.1%**	-	0.6%	4.0%	0%	**3.4%**	-	3.2%
Buses	12	4	0	**16**	-	2	1	0	**3**	-	3	11	0	**14**	-	33
% Buses	2.5%	4.5%	0%	**2.8%**	-	2.9%	0.9%	0%	**1.6%**	-	1.9%	1.7%	0%	**1.7%**	-	2.1%
Pedestrians	-	-	-	-	5	-	-	-	-	15	-	-	-	-	22	
% Pedestrians	-	-	-	-	100%	-	-	-	-	93.8%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	0	-	-	-	-	1	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	0%	-	-	-	-	6.3%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at Campus Drive - TMC
Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574578, Location: 39.637339, -79.957446, Site Code: Site 7 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at Campus Drive - TMC

Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574578, Location: 39.637339, -79.957446, Site Code: Site 7 - Tuesday

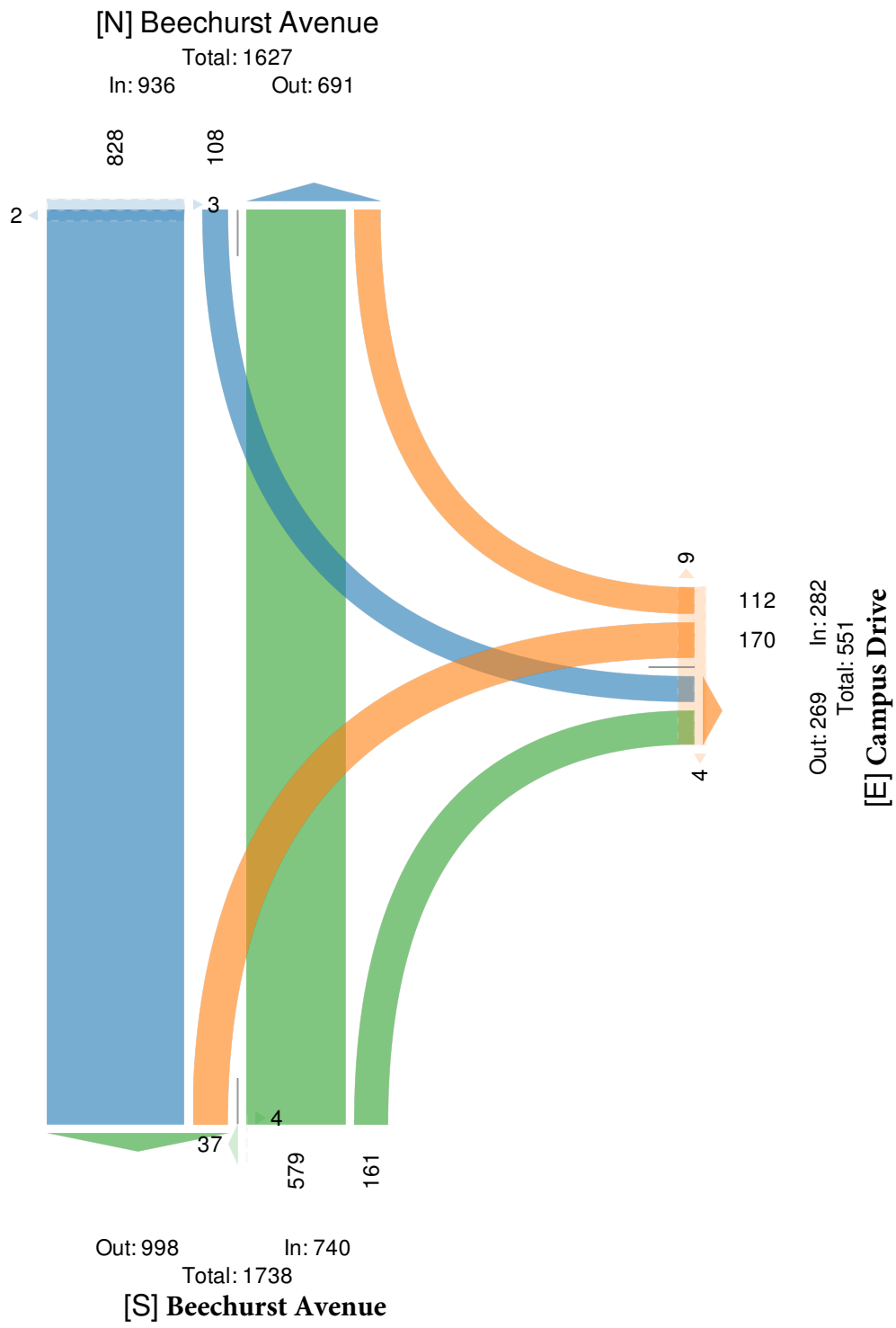
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg Direction	Beechurst Avenue Southbound					Campus Drive Westbound					Beechurst Avenue Northbound					
Time	T	L	U	**App**	Ped*	R	L	U	**App**	Ped*	R	T	U	**App**	Ped*	**Int**
2018-10-09 4:30PM	207	24	0	**231**	1	26	41	0	**67**	3	43	157	0	**200**	8	**498**
4:45PM	224	27	0	**251**	0	26	37	0	**63**	0	39	148	0	**187**	8	**501**
5:00PM	210	23	0	**233**	1	36	39	0	**75**	3	39	131	0	**170**	8	**478**
5:15PM	187	34	0	**221**	3	24	53	0	**77**	7	40	143	0	**183**	17	**481**
Total	828	108	0	**936**	5	112	170	0	**282**	13	161	579	0	**740**	41	**1958**
% Approach	88.5%	11.5%	0%	-	-	39.7%	60.3%	0%	-	-	21.8%	78.2%	0%	-	-	-
% Total	42.3%	5.5%	0%	**47.8%**	-	5.7%	8.7%	0%	**14.4%**	-	8.2%	29.6%	0%	**37.8%**	-	-
PHF	0.924	0.794	-	**0.932**	-	0.778	0.802	-	**0.916**	-	0.936	0.922	-	**0.925**	-	0.977
Lights	815	103	0	**918**	-	109	169	0	**278**	-	160	568	0	**728**	-	1924
% Lights	98.4%	95.4%	0%	**98.1%**	-	97.3%	99.4%	0%	**98.6%**	-	99.4%	98.1%	0%	**98.4%**	-	98.3%
Articulated Trucks and Single-Unit Trucks	6	0	0	**6**	-	0	0	0	**0**	-	0	3	0	**3**	-	9
% Articulated Trucks and Single-Unit Trucks	0.7%	0%	0%	**0.6%**	-	0%	0%	0%	**0%**	-	0%	0.5%	0%	**0.4%**	-	0.5%
Buses	7	5	0	**12**	-	3	1	0	**4**	-	1	8	0	**9**	-	25
% Buses	0.8%	4.6%	0%	**1.3%**	-	2.7%	0.6%	0%	**1.4%**	-	0.6%	1.4%	0%	**1.2%**	-	1.3%
Pedestrians	-	-	-	-	4	-	-	-	-	13	-	-	-	-	41	
% Pedestrians	-	-	-	-	80.0%	-	-	-	-	100%	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	1	-	-	-	-	0	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	20.0%	-	-	-	-	0%	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at Campus Drive - TMC
Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574578, Location: 39.637339, -79.957446, Site Code: Site 7 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at Hough Street - TMC

Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574583, Location: 39.634015, -79.956523, Site Code: Site 8 - Tuesday

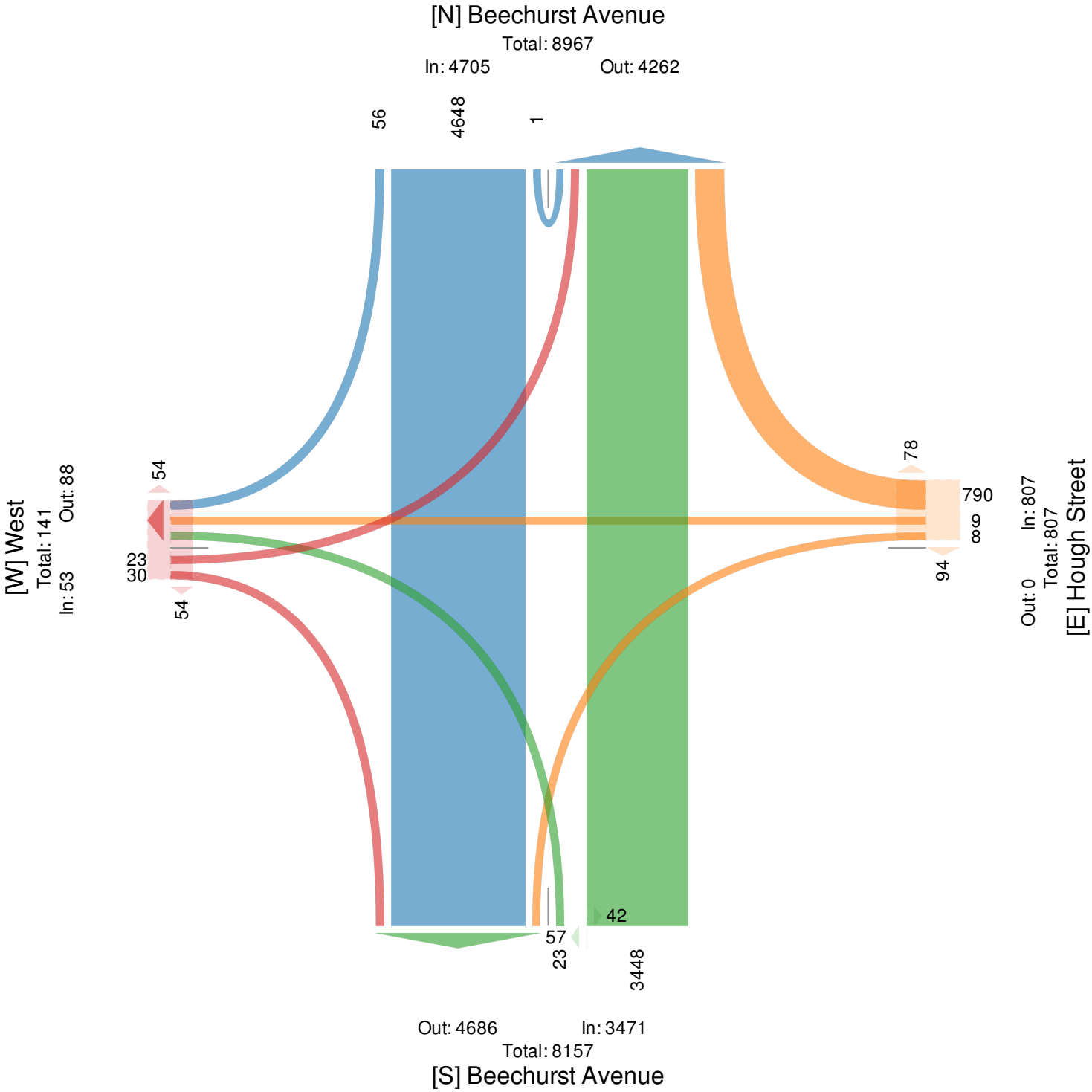
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg	Beechurst Avenue						Hough Street						Beechurst Avenue						West						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2018-10-09 7:00AM	5	506	0	0	**511**	0	105	1	1	0	**107**	8	0	667	7	0	**674**	3	1	0	5	0	**6**	0	**1298**
8:00AM	19	602	0	0	**621**	0	121	4	1	0	**126**	37	0	589	10	0	**599**	14	0	0	3	0	**3**	11	**1349**
2:00PM	9	823	0	0	**832**	0	161	0	2	0	**163**	36	0	530	1	0	**531**	31	6	0	1	0	**7**	26	**1533**
3:00PM	9	849	0	0	**858**	0	139	0	0	0	**139**	40	0	533	2	0	**535**	21	6	0	8	0	**14**	27	**1546**
4:00PM	9	933	0	0	**942**	0	118	2	1	0	**121**	24	0	564	1	0	**565**	22	10	0	2	0	**12**	14	**1640**
5:00PM	5	935	0	1	**941**	0	146	2	3	0	**151**	27	0	565	2	0	**567**	8	7	0	4	0	**11**	30	**1670**
Total	56	4648	0	1	**4705**	0	790	9	8	0	**807**	172	0	3448	23	0	**3471**	99	30	0	23	0	**53**	108	**9036**
% Approach	1.2%	98.8%	0%	0%	**-**	-	97.9%	1.1%	1.0%	0%	**-**	-	0%	99.3%	0.7%	0%	**-**	-	56.6%	0%	43.4%	0%	**-**	-	**-**
% Total	0.6%	51.4%	0%	0%	**52.1%**	-	8.7%	0.1%	0.1%	0%	**8.9%**	-	0%	38.2%	0.3%	0%	**38.4%**	-	0.3%	0%	0.3%	0%	**0.6%**	-	-
Lights	56	4554	0	1	**4611**	-	784	9	8	0	**801**	-	0	3354	23	0	**3377**	-	30	0	23	0	**53**	-	8842
% Lights	100%	98.0%	0%	100%	**98.0%**	-	99.2%	100%	100%	0%	**99.3%**	-	0%	97.3%	100%	0%	**97.3%**	-	100%	0%	100%	0%	**100%**	-	97.9%
Articulated Trucks and Single-Unit Trucks	0	73	0	0	**73**	-	0	0	0	0	**0**	-	0	71	0	0	**71**	-	0	0	0	0	**0**	-	144
% Articulated Trucks and Single-Unit Trucks	0%	1.6%	0%	0%	**1.6%**	-	0%	0%	0%	0%	**0%**	-	0%	2.1%	0%	0%	**2.0%**	-	0%	0%	0%	0%	**0%**	-	1.6%
Buses	0	21	0	0	**21**	-	6	0	0	0	**6**	-	0	23	0	0	**23**	-	0	0	0	0	**0**	-	50
% Buses	0%	0.5%	0%	0%	**0.4%**	-	0.8%	0%	0%	0%	**0.7%**	-	0%	0.7%	0%	0%	**0.7%**	-	0%	0%	0%	0%	**0%**	-	0.6%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	169	-	-	-	-	-	97	-	-	-	-	-	107	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	98.3%	-	-	-	-	-	98.0%	-	-	-	-	-	99.1%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	1.7%	-	-	-	-	-	2.0%	-	-	-	-	-	0.9%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at Hough Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574583, Location: 39.634015, -79.956523, Site Code: Site 8 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at Hough Street - TMC

Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574583, Location: 39.634015, -79.956523, Site Code: Site 8 - Tuesday

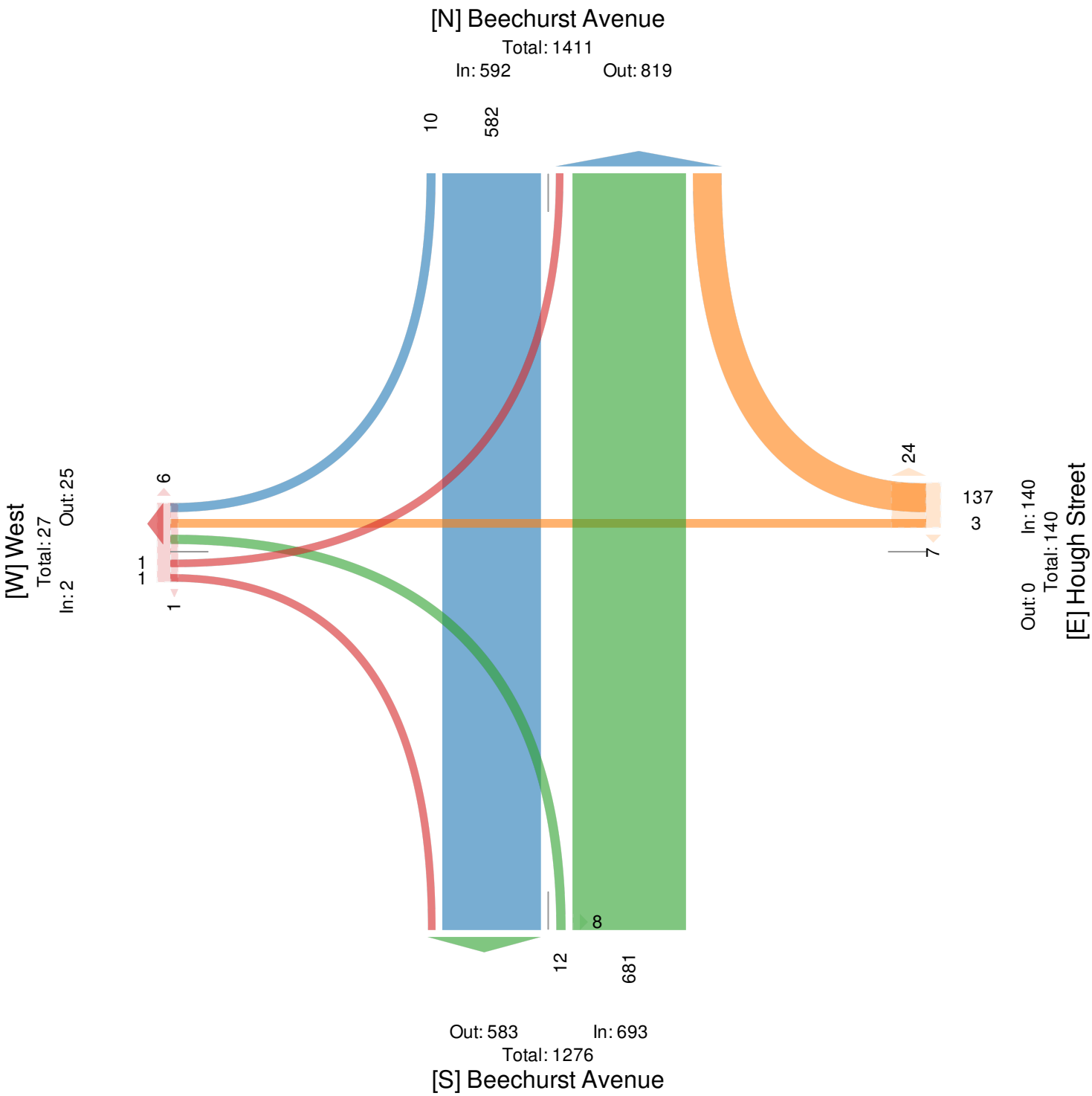
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg	Beechurst Avenue						Hough Street						Beechurst Avenue						West						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:30AM	0	134	0	0	**134**	0	29	1	0	0	**30**	2	0	179	3	0	**182**	1	0	0	0	0	**0**	0	**346**
7:45AM	0	140	0	0	**140**	0	48	0	0	0	**48**	3	0	196	3	0	**199**	1	1	0	0	0	**1**	0	**388**
8:00AM	4	151	0	0	**155**	0	27	2	0	0	**29**	6	0	163	2	0	**165**	2	0	0	1	0	**1**	3	**350**
8:15AM	6	157	0	0	**163**	0	33	0	0	0	**33**	20	0	143	4	0	**147**	4	0	0	0	0	**0**	4	**343**
Total	10	582	0	0	**592**	0	137	3	0	0	**140**	31	0	681	12	0	**693**	8	1	0	1	0	**2**	7	**1427**
% Approach	1.7%	98.3%	0%	0%	-	-	97.9%	2.1%	0%	0%	-	-	0%	98.3%	1.7%	0%	-	-	50.0%	0%	50.0%	0%	-	-	-
% Total	0.7%	40.8%	0%	0%	**41.5%**	-	9.6%	0.2%	0%	0%	**9.8%**	-	0%	47.7%	0.8%	0%	**48.6%**	-	0.1%	0%	0.1%	0%	**0.1%**	-	-
PHF	0.417	0.927	-	-	**0.908**	-	0.714	0.375	-	-	**0.729**	-	-	0.869	0.750	-	**0.871**	-	0.250	-	0.250	-	**0.500**	-	0.919
Lights	10	556	0	0	**566**	-	137	3	0	0	**140**	-	0	652	12	0	**664**	-	1	0	1	0	**2**	-	1372
% Lights	100%	95.5%	0%	0%	**95.6%**	-	100%	100%	0%	0%	**100%**	-	0%	95.7%	100%	0%	**95.8%**	-	100%	0%	100%	0%	**100%**	-	96.1%
Articulated Trucks and Single-Unit Trucks	0	20	0	0	**20**	-	0	0	0	0	**0**	-	0	25	0	0	**25**	-	0	0	0	0	**0**	-	45
% Articulated Trucks and Single-Unit Trucks	0%	3.4%	0%	0%	**3.4%**	-	0%	0%	0%	0%	**0%**	-	0%	3.7%	0%	0%	**3.6%**	-	0%	0%	0%	0%	**0%**	-	3.2%
Buses	0	6	0	0	**6**	-	0	0	0	0	**0**	-	0	4	0	0	**4**	-	0	0	0	0	**0**	-	10
% Buses	0%	1.0%	0%	0%	**1.0%**	-	0%	0%	0%	0%	**0%**	-	0%	0.6%	0%	0%	**0.6%**	-	0%	0%	0%	0%	**0%**	-	0.7%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	29	-	-	-	-	-	7	-	-	-	-	-	7	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	93.5%	-	-	-	-	-	87.5%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	2	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	6.5%	-	-	-	-	-	12.5%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at Hough Street - TMC
Tue Oct 9, 2018
AM Peak (7:30AM - 8:30AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574583, Location: 39.634015, -79.956523, Site Code: Site 8 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at Hough Street - TMC

Tue Oct 9, 2018

PM Peak (4:30PM - 5:30PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 574583, Location: 39.634015, -79.956523, Site Code: Site 8 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg	Beechurst Avenue						Hough Street						Beechurst Avenue						West						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2018-10-09 4:30PM	0	236	0	0	**236**	0	35	0	0	0	**35**	4	0	145	0	0	**145**	2	1	0	0	0	**1**	2	**417**
4:45PM	4	256	0	0	**260**	0	35	1	0	0	**36**	4	0	133	0	0	**133**	7	3	0	1	0	**4**	10	**433**
5:00PM	0	267	0	0	**267**	0	25	0	0	0	**25**	2	0	161	0	0	**161**	1	1	0	2	0	**3**	16	**456**
5:15PM	3	241	0	0	**244**	0	36	2	0	0	**38**	14	0	147	1	0	**148**	4	1	0	0	0	**1**	4	**431**
Total	7	1000	0	0	**1007**	0	131	3	0	0	**134**	24	0	586	1	0	**587**	14	6	0	3	0	**9**	32	**1737**
% Approach	0.7%	99.3%	0%	0%	**-**	-	97.8%	2.2%	0%	0%	**-**	-	0%	99.8%	0.2%	0%	**-**	-	66.7%	0%	33.3%	0%	**-**	-	-
% Total	0.4%	57.6%	0%	0%	**58.0%**	-	7.5%	0.2%	0%	0%	**7.7%**	-	0%	33.7%	0.1%	0%	**33.8%**	-	0.3%	0%	0.2%	0%	**0.5%**	-	-
PHF	0.438	0.936	-	-	**0.943**	-	0.910	0.375	-	-	**0.882**	-	-	0.910	0.250	-	**0.911**	-	0.500	-	0.375	-	**0.563**	-	0.952
Lights	7	992	0	0	**999**	-	130	3	0	0	**133**	-	0	584	1	0	**585**	-	6	0	3	0	**9**	-	1726
% Lights	100%	99.2%	0%	0%	**99.2%**	-	99.2%	100%	0%	0%	**99.3%**	-	0%	99.7%	100%	0%	**99.7%**	-	100%	0%	100%	0%	**100%**	-	99.4%
Articulated Trucks and Single-Unit Trucks	0	6	0	0	**6**	-	0	0	0	0	**0**	-	0	2	0	0	**2**	-	0	0	0	0	**0**	-	8
% Articulated Trucks and Single-Unit Trucks	0%	0.6%	0%	0%	**0.6%**	-	0%	0%	0%	0%	**0%**	-	0%	0.3%	0%	0%	**0.3%**	-	0%	0%	0%	0%	**0%**	-	0.5%
Buses	0	2	0	0	**2**	-	1	0	0	0	**1**	-	0	0	0	0	**0**	-	0	0	0	0	**0**	-	3
% Buses	0%	0.2%	0%	0%	**0.2%**	-	0.8%	0%	0%	0%	**0.7%**	-	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	**0%**	-	0.2%
Pedestrians	-	-	-	-	-	0	-	-	-	-	-	24	-	-	-	-	-	14	-	-	-	-	-	32	
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at Hough Street - TMC

Tue Oct 9, 2018

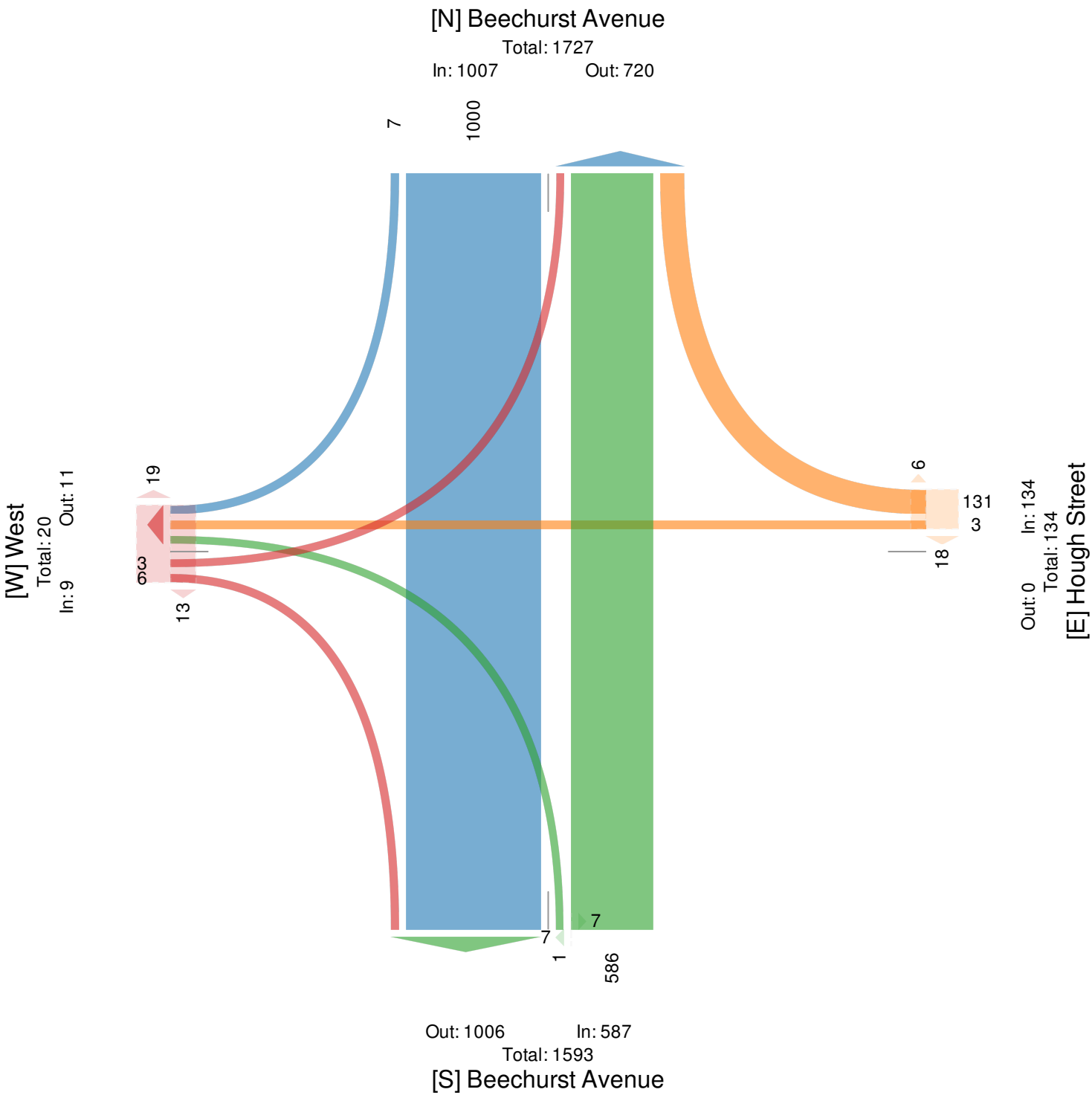
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 574583, Location: 39.634015, -79.956523, Site Code: Site 8 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at University Avenue and Fayette Street - TMC

Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574586, Location: 39.631815, -79.956663, Site Code: Site 9 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg Direction	Beechurst Avenue Southbound							University Avenue Southwestbound							Fayette Street Westbound						
Time	R	BR	L	HL	U	**App**	Ped*	HR	BR	T	HL	U	**App**	Ped*	HR	R	T	BL	U	**App**	Ped*
2018-10-09 7:00AM	1	458	42	0	0	**501**	0	22	0	183	4	0	**209**	6	0	0	0	0	0	**0**	5
8:00AM	1	485	94	0	0	**580**	1	24	0	137	6	0	**167**	21	0	0	0	0	0	**0**	34
2:00PM	0	624	213	0	0	**837**	2	40	1	125	15	0	**181**	22	0	0	0	0	0	**0**	33
3:00PM	1	662	191	0	0	**854**	1	34	2	171	13	0	**220**	17	0	0	0	0	0	**0**	38
4:00PM	0	774	179	0	0	**953**	2	35	1	245	16	0	**297**	9	0	0	0	0	0	**0**	18
5:00PM	0	649	183	0	0	**832**	2	38	4	210	16	0	**268**	18	0	0	0	0	0	**0**	20
Total	3	3652	902	0	0	**4557**	8	193	8	1071	70	0	**1342**	93	0	0	0	0	0	**0**	148
% Approach	0.1%	80.1%	19.8%	0%	0%	-	-	14.4%	0.6%	79.8%	5.2%	0%	-	-	0%	0%	0%	0%	0%	-	-
% Total	0%	37.7%	9.3%	0%	0%	**47.1%**	-	2.0%	0.1%	11.1%	0.7%	0%	**13.9%**	-	0%	0%	0%	0%	0%	**0%**	-
Lights	3	3563	898	0	0	**4464**	-	189	7	1048	66	0	**1310**	-	0	0	0	0	0	**0**	-
% Lights	100%	97.6%	99.6%	0%	0%	**98.0%**	-	97.9%	87.5%	97.9%	94.3%	0%	**97.6%**	-	0%	0%	0%	0%	0%	-	-
Articulated Trucks and Single-Unit Trucks	0	70	3	0	0	**73**	-	2	1	14	4	0	**21**	-	0	0	0	0	0	**0**	-
% Articulated Trucks and Single-Unit Trucks	0%	1.9%	0.3%	0%	0%	**1.6%**	-	1.0%	12.5%	1.3%	5.7%	0%	**1.6%**	-	0%	0%	0%	0%	0%	-	-
Buses	0	19	1	0	0	**20**	-	2	0	9	0	0	**11**	-	0	0	0	0	0	**0**	-
% Buses	0%	0.5%	0.1%	0%	0%	**0.4%**	-	1.0%	0%	0.8%	0%	0%	**0.8%**	-	0%	0%	0%	0%	0%	-	-
Pedestrians	-	-	-	-	-	-	8	-	-	-	-	-	-	91	-	-	-	-	-	-	147
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	97.8%	-	-	-	-	-	-	99.3%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	2	-	-	-	-	-	-	1
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	2.2%	-	-	-	-	-	-	0.7%

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at University Avenue and Fayette Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574586, Location: 39.631815, -79.956663, Site Code: Site 9 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	University Avenue Northeastbound							Fayette Street Eastbound							
Time	BR	T	BL	HL	U	**App**	Ped*	HR	T	BL	L	U	**App**	Ped*	**Int**
2018-10-09 7:00AM	60	0	660	0	0	**720**	3	0	2	0	5	0	**7**	6	**1437**
8:00AM	64	0	585	0	1	**650**	7	7	0	0	6	0	**13**	6	**1410**
2:00PM	88	0	485	1	0	**574**	18	9	9	0	8	0	**26**	4	**1618**
3:00PM	70	0	496	1	0	**567**	5	6	6	0	9	0	**21**	9	**1662**
4:00PM	86	0	504	2	0	**592**	14	6	2	0	7	0	**15**	15	**1857**
5:00PM	74	0	502	3	0	**579**	12	1	4	0	8	0	**13**	0	**1692**
Total	442	0	3232	7	1	**3682**	59	29	23	0	43	0	**95**	40	**9676**
% Approach	12.0%	0%	87.8%	0.2%	0%	-	-	30.5%	24.2%	0%	45.3%	0%	-	-	-
% Total	4.6%	0%	33.4%	0.1%	0%	**38.1%**	-	0.3%	0.2%	0%	0.4%	0%	**1.0%**	-	-
Lights	438	0	3146	7	1	**3592**	-	28	23	0	43	0	**94**	-	9460
% Lights	99.1%	0%	97.3%	100%	100%	**97.6%**	-	96.6%	100%	0%	100%	0%	**98.9%**	-	97.8%
Articulated Trucks and Single-Unit Trucks	3	0	66	0	0	**69**	-	0	0	0	0	0	**0**	-	163
% Articulated Trucks and Single-Unit Trucks	0.7%	0%	2.0%	0%	0%	**1.9%**	-	0%	0%	0%	0%	0%	**0%**	-	1.7%
Buses	1	0	20	0	0	**21**	-	1	0	0	0	0	**1**	-	53
% Buses	0.2%	0%	0.6%	0%	0%	**0.6%**	-	3.4%	0%	0%	0%	0%	**1.1%**	-	0.5%
Pedestrians	-	-	-	-	-	-	59	-	-	-	-	-	-	39	
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	97.5%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	2.5%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at University Avenue and Fayette Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574586, Location: 39.631815, -79.956663, Site Code: Site 9 - Tuesday

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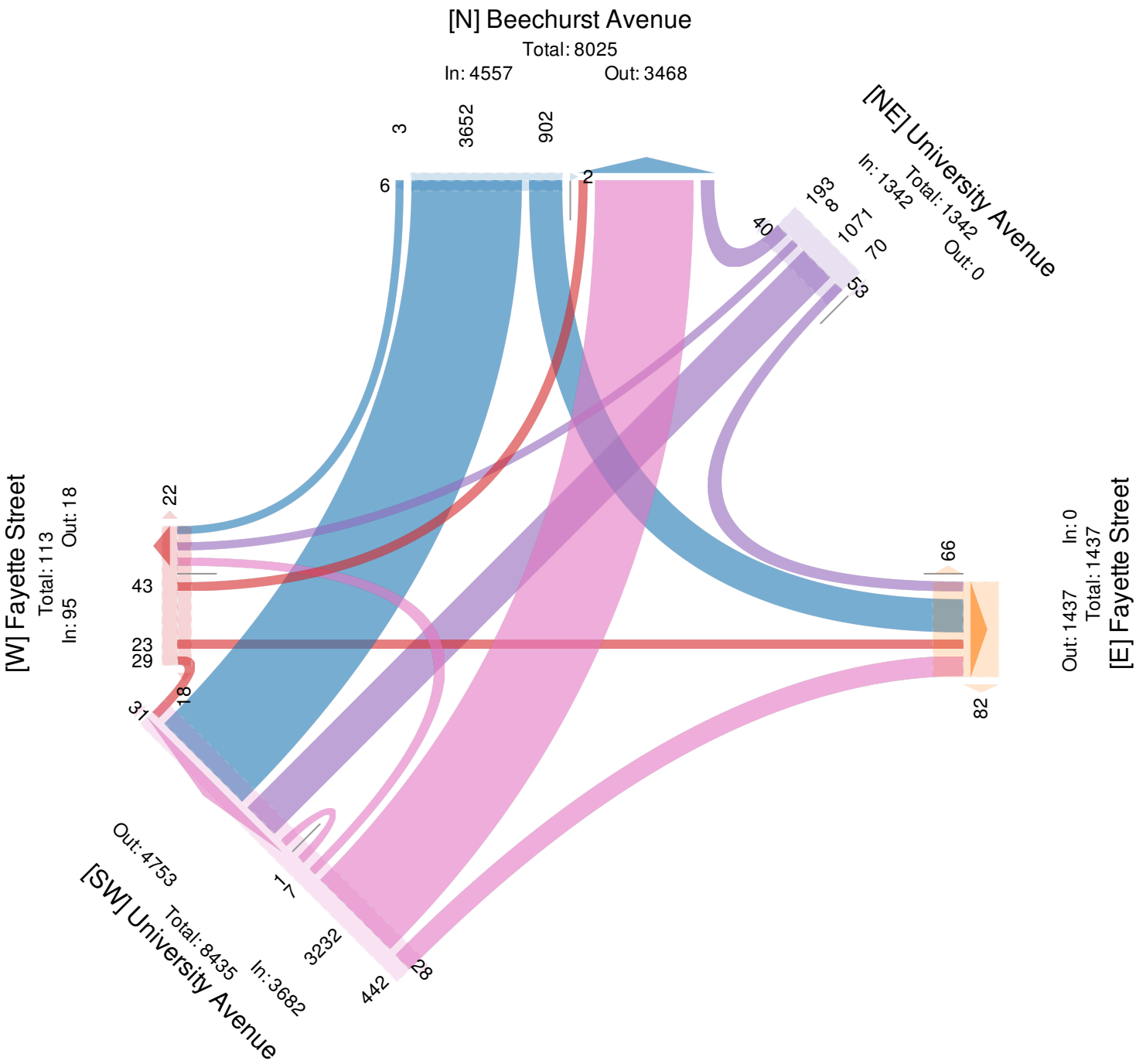


Beechurst Avenue at University Avenue and Fayette Street - TMC

Tue Oct 9, 2018
AM Peak (7:15AM - 8:15AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574586, Location: 39.631815, -79.956663, Site Code: Site 9 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	Beechurst Avenue Southbound							University Avenue Southwestbound							Fayette Street Westbound						
Time	R	BR	L	HL	U	**App**	Ped*	HR	BR	T	HL	U	**App**	Ped*	HR	R	T	BL	U	**App**	Ped*
2018-10-09 7:15AM	0	109	5	0	0	**114**	0	6	0	60	1	0	**67**	1	0	0	0	0	0	**0**	1
7:30AM	1	122	11	0	0	**134**	0	7	0	39	1	0	**47**	1	0	0	0	0	0	**0**	0
7:45AM	0	121	16	0	0	**137**	0	7	0	52	1	0	**60**	4	0	0	0	0	0	**0**	2
8:00AM	1	119	29	0	0	**149**	0	10	0	45	1	0	**56**	4	0	0	0	0	0	**0**	9
Total	2	471	61	0	0	**534**	0	30	0	196	4	0	**230**	10	0	0	0	0	0	**0**	12
% Approach	0.4%	88.2%	11.4%	0%	0%	**-**	-	13.0%	0%	85.2%	1.7%	0%	**-**	-	0%	0%	0%	0%	0%	**-**	-
% Total	0.1%	31.2%	4.0%	0%	0%	**35.3%**	-	2.0%	0%	13.0%	0.3%	0%	**15.2%**	-	0%	0%	0%	0%	0%	**0%**	-
PHF	0.500	0.965	0.526	-	-	**0.896**	-	0.750	-	0.817	1.000	-	**0.858**	-	-	-	-	-	-	**-**	-
Lights	2	447	59	0	0	**508**	-	30	0	190	3	0	**223**	-	0	0	0	0	0	**0**	-
% Lights	100%	94.9%	96.7%	0%	0%	**95.1%**	-	100%	0%	96.9%	75.0%	0%	**97.0%**	-	0%	0%	0%	0%	0%	**-**	-
Articulated Trucks and Single-Unit Trucks	0	22	1	0	0	**23**	-	0	0	4	1	0	**5**	-	0	0	0	0	0	**0**	-
% Articulated Trucks and Single-Unit Trucks	0%	4.7%	1.6%	0%	0%	**4.3%**	-	0%	0%	2.0%	25.0%	0%	**2.2%**	-	0%	0%	0%	0%	0%	**-**	-
Buses	0	2	1	0	0	**3**	-	0	0	2	0	0	**2**	-	0	0	0	0	0	**0**	-
% Buses	0%	0.4%	1.6%	0%	0%	**0.6%**	-	0%	0%	1.0%	0%	0%	**0.9%**	-	0%	0%	0%	0%	0%	**-**	-
Pedestrians	-	-	-	-	-	-	0	-	-	-	-	-	-	10	-	-	-	-	-	-	12
% Pedestrians	-	-	-	-	-	-	-	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	-	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at University Avenue and Fayette Street - TMC

Tue Oct 9, 2018

AM Peak (7:15AM - 8:15AM)

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 574586, Location: 39.631815, -79.956663, Site Code: Site 9 - Tuesday

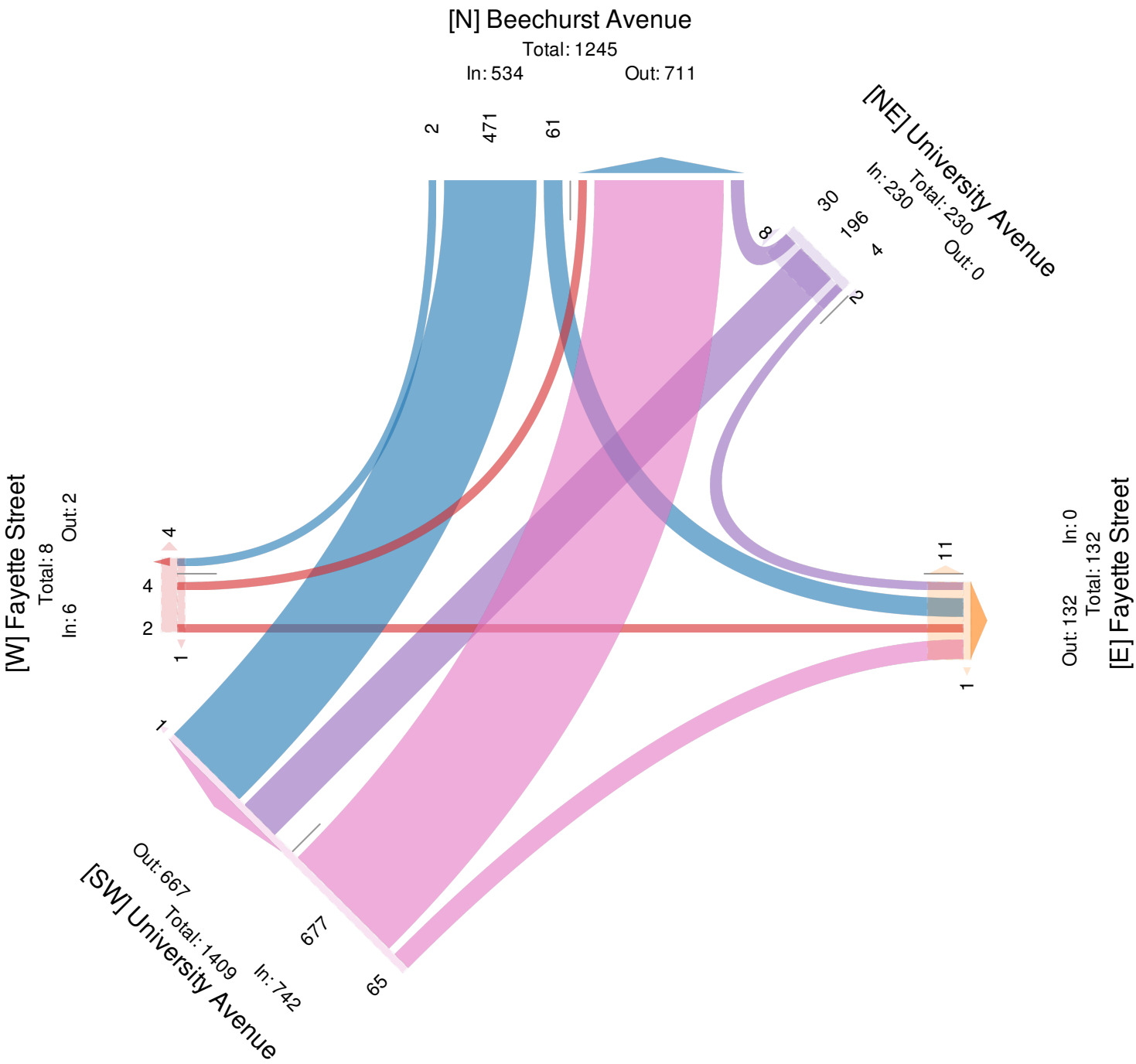
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	University Avenue Northeastbound							Fayette Street Eastbound							
Time	BR	T	BL	HL	U	App	Ped*	HR	T	BL	L	U	App	Ped*	Int
2018-10-09 7:15AM	11	0	153	0	0	**164**	0	0	0	0	1	0	**1**	1	**346**
7:30AM	16	0	181	0	0	**197**	0	0	2	0	2	0	**4**	0	**382**
7:45AM	18	0	188	0	0	**206**	1	0	0	0	0	0	**0**	3	**403**
8:00AM	20	0	155	0	0	**175**	0	0	0	0	1	0	**1**	1	**381**
Total	65	0	677	0	0	**742**	1	0	2	0	4	0	**6**	5	**1512**
% Approach	8.8%	0%	91.2%	0%	0%	-	-	0%	33.3%	0%	66.7%	0%	-	-	-
% Total	4.3%	0%	44.8%	0%	0%	**49.1%**	-	0%	0.1%	0%	0.3%	0%	**0.4%**	-	-
PHF	0.813	-	0.900	-	-	**0.900**	-	-	0.250	-	0.500	-	**0.375**	-	0.938
Lights	65	0	645	0	0	**710**	-	0	2	0	4	0	**6**	-	1447
% Lights	100%	0%	95.3%	0%	0%	**95.7%**	-	0%	100%	0%	100%	0%	**100%**	-	95.7%
Articulated Trucks and Single-Unit Trucks	0	0	24	0	0	**24**	-	0	0	0	0	0	**0**	-	52
% Articulated Trucks and Single-Unit Trucks	0%	0%	3.5%	0%	0%	**3.2%**	-	0%	0%	0%	0%	0%	**0%**	-	3.4%
Buses	0	0	8	0	0	**8**	-	0	0	0	0	0	**0**	-	13
% Buses	0%	0%	1.2%	0%	0%	**1.1%**	-	0%	0%	0%	0%	0%	**0%**	-	0.9%
Pedestrians	-	-	-	-	-	-	1	-	-	-	-	-	-	4	
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	80.0%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	1	
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	20.0%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at University Avenue and Fayette Street - TMC
Tue Oct 9, 2018
AM Peak (7:15AM - 8:15AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574586, Location: 39.631815, -79.956663, Site Code: Site 9 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Beechurst Avenue at University Avenue and Fayette Street - TMC

Tue Oct 9, 2018
PM Peak (4:15PM - 5:15PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574586, Location: 39.631815, -79.956663, Site Code: Site 9 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	Beechurst Avenue Southbound							University Avenue Southwestbound							Fayette Street Westbound						
Time	R	BR	L	HL	U	**App**	Ped*	HR	BR	T	HL	U	**App**	Ped*	HR	R	T	BL	U	**App**	Ped*
2018-10-09 4:15PM	0	176	47	0	0	**223**	0	9	0	60	3	0	**72**	2	0	0	0	0	0	**0**	5
4:30PM	0	212	28	0	0	**240**	1	6	0	67	6	0	**79**	1	0	0	0	0	0	**0**	5
4:45PM	0	211	47	0	0	**258**	1	13	0	52	3	0	**68**	1	0	0	0	0	0	**0**	3
5:00PM	0	199	56	0	0	**255**	0	9	1	55	0	0	**65**	2	0	0	0	0	0	**0**	8
Total	0	798	178	0	0	**976**	2	37	1	234	12	0	**284**	6	0	0	0	0	0	**0**	21
% Approach	0%	81.8%	18.2%	0%	0%	**-**	-	13.0%	0.4%	82.4%	4.2%	0%	**-**	-	0%	0%	0%	0%	0%	**-**	-
% Total	0%	42.3%	9.4%	0%	0%	**51.7%**	-	2.0%	0.1%	12.4%	0.6%	0%	**15.0%**	-	0%	0%	0%	0%	0%	**0%**	-
PHF	-	0.941	0.795	-	-	**0.946**	-	0.712	0.250	0.873	0.500	-	**0.899**	-	-	-	-	-	-	**-**	-
Lights	0	794	178	0	0	**972**	-	37	1	234	12	0	**284**	-	0	0	0	0	0	**0**	-
% Lights	0%	99.5%	100%	0%	0%	**99.6%**	-	100%	100%	100%	100%	0%	**100%**	-	0%	0%	0%	0%	0%	**-**	-
Articulated Trucks and Single-Unit Trucks	0	2	0	0	0	**2**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-
% Articulated Trucks and Single-Unit Trucks	0%	0.3%	0%	0%	0%	**0.2%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**-**	-
Buses	0	2	0	0	0	**2**	-	0	0	0	0	0	**0**	-	0	0	0	0	0	**0**	-
% Buses	0%	0.3%	0%	0%	0%	**0.2%**	-	0%	0%	0%	0%	0%	**0%**	-	0%	0%	0%	0%	0%	**-**	-
Pedestrians	-	-	-	-	-	-	2	-	-	-	-	-	-	6	-	-	-	-	-	-	21
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	-	-	-	-	-	-	0
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at University Avenue and Fayette Street - TMC
Tue Oct 9, 2018
PM Peak (4:15PM - 5:15PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574586, Location: 39.631815, -79.956663, Site Code: Site 9 - Tuesday

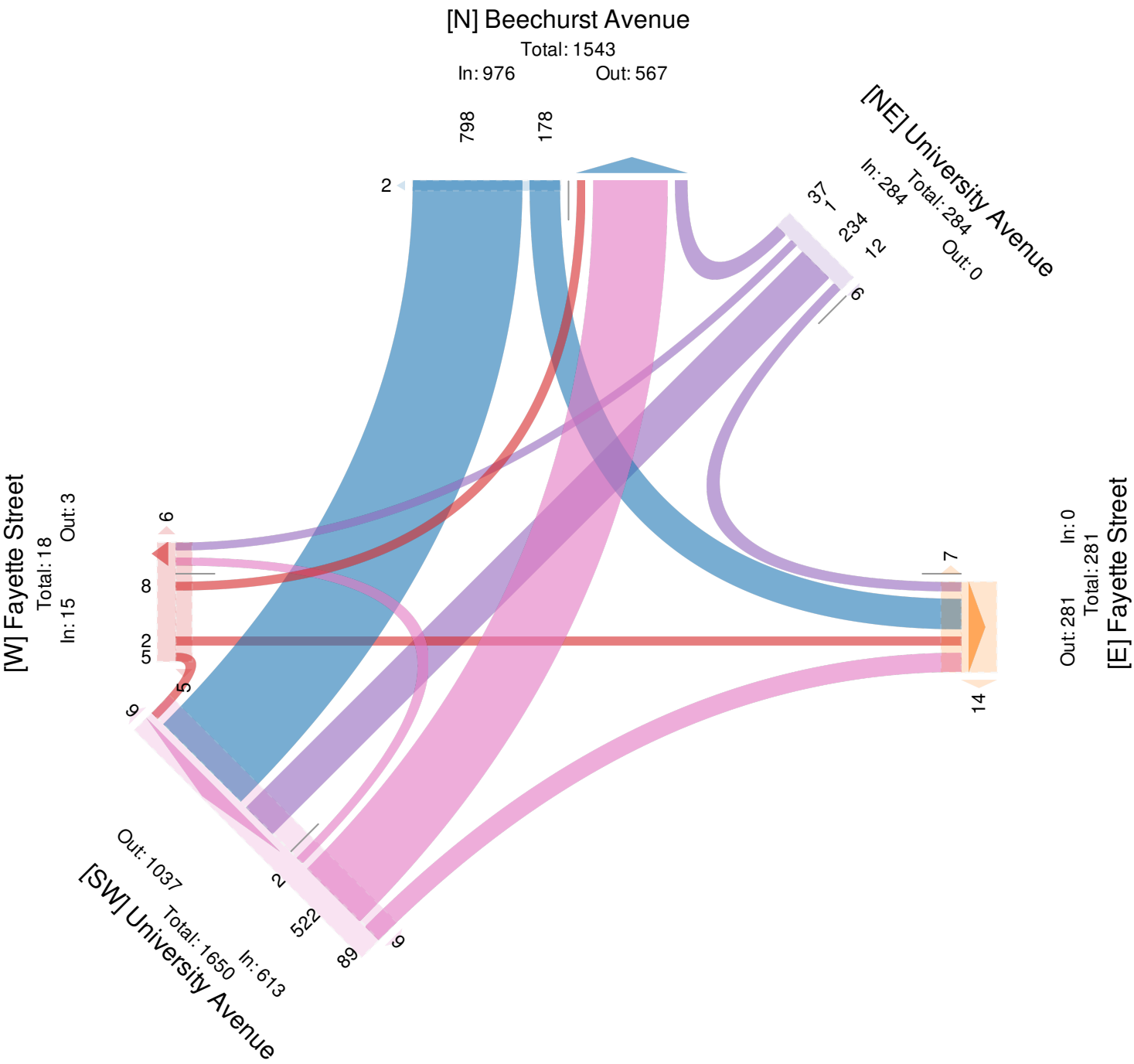
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	University Avenue Northeastbound							Fayette Street Eastbound							
Time	BR	T	BL	HL	U	**App**	Ped*	HR	T	BL	L	U	**App**	Ped*	**Int**
2018-10-09 4:15PM	14	0	122	2	0	**138**	7	2	1	0	0	0	**3**	7	**436**
4:30PM	27	0	141	0	0	**168**	3	0	0	0	4	0	**4**	4	**491**
4:45PM	28	0	118	0	0	**146**	2	3	1	0	3	0	**7**	0	**479**
5:00PM	20	0	141	0	0	**161**	6	0	0	0	1	0	**1**	0	**482**
Total	89	0	522	2	0	**613**	18	5	2	0	8	0	**15**	11	**1888**
% Approach	14.5%	0%	85.2%	0.3%	0%	-	-	33.3%	13.3%	0%	53.3%	0%	-	-	-
% Total	4.7%	0%	27.6%	0.1%	0%	**32.5%**	-	0.3%	0.1%	0%	0.4%	0%	**0.8%**	-	-
PHF	0.795	-	0.926	0.250	-	**0.912**	-	0.417	0.500	-	0.500	-	**0.536**	-	0.961
Lights	88	0	519	2	0	**609**	-	5	2	0	8	0	**15**	-	1880
% Lights	98.9%	0%	99.4%	100%	0%	**99.3%**	-	100%	100%	0%	100%	0%	**100%**	-	99.6%
Articulated Trucks and Single-Unit Trucks	0	0	2	0	0	**2**	-	0	0	0	0	0	**0**	-	4
% Articulated Trucks and Single-Unit Trucks	0%	0%	0.4%	0%	0%	**0.3%**	-	0%	0%	0%	0%	0%	**0%**	-	0.2%
Buses	1	0	1	0	0	**2**	-	0	0	0	0	0	**0**	-	4
% Buses	1.1%	0%	0.2%	0%	0%	**0.3%**	-	0%	0%	0%	0%	0%	**0%**	-	0.2%
Pedestrians	-	-	-	-	-	-	18	-	-	-	-	-	-	11	
% Pedestrians	-	-	-	-	-	-	100%	-	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	-	0	-	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	-	0%	-	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. BL: Bear left, BR: Bear right, HL: Hard left, HR: Hard right, L: Left, R: Right, T: Thru, U: U-Turn

Beechurst Avenue at University Avenue and Fayette Street - TMC
Tue Oct 9, 2018
PM Peak (4:15PM - 5:15PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574586, Location: 39.631815, -79.956663, Site Code: Site 9 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



University Avenue at Walnut Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574589, Location: 39.630643, -79.957643, Site Code: Site 10 - Tuesday

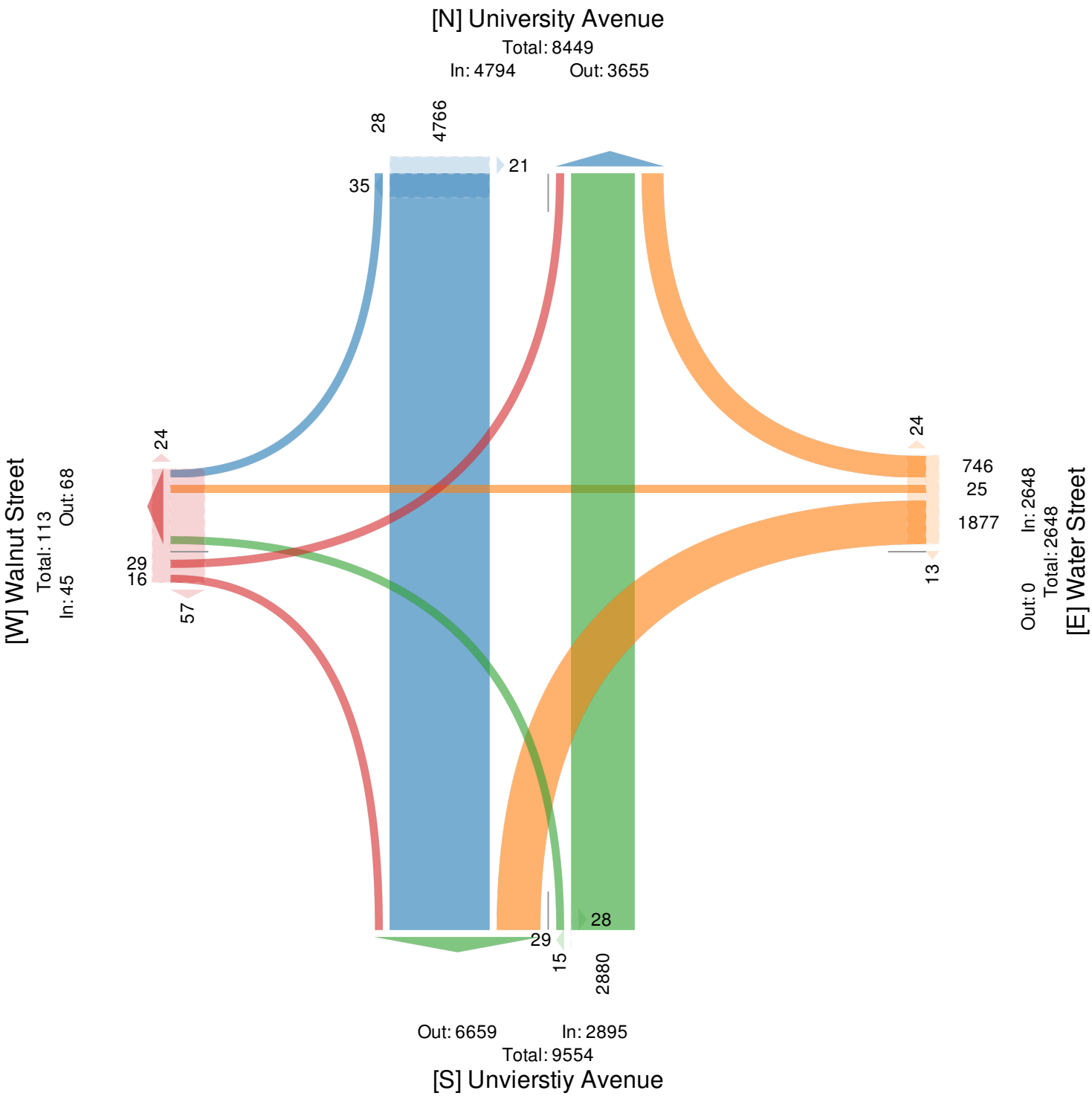
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg	University Avenue Southbound						Water Street Westbound						Unviersiy Avenue Northbound						Walnut Street Eastbound						
Direction																									
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:00AM	1	638	0	0	**639**	3	132	3	183	0	**318**	3	0	583	1	0	**584**	3	0	0	1	0	**1**	2	**1542**
8:00AM	8	612	0	0	**620**	6	126	1	226	0	**353**	2	0	541	1	0	**542**	10	0	0	3	0	**3**	9	**1518**
2:00PM	2	748	0	0	**750**	7	127	2	355	0	**484**	6	0	422	3	0	**425**	6	2	0	2	0	**4**	21	**1663**
3:00PM	2	818	0	0	**820**	11	124	5	351	0	**480**	9	0	438	3	0	**441**	9	2	0	4	0	**6**	15	**1747**
4:00PM	7	1006	0	0	**1013**	9	110	4	393	0	**507**	10	0	468	3	0	**471**	18	3	0	7	0	**10**	14	**2001**
5:00PM	8	944	0	0	**952**	20	127	10	369	0	**506**	7	0	428	4	0	**432**	11	9	0	12	0	**21**	20	**1911**
Total	28	4766	0	0	**4794**	56	746	25	1877	0	**2648**	37	0	2880	15	0	**2895**	57	16	0	29	0	**45**	81	**10382**
% Approach	0.6%	99.4%	0%	0%	**-**	-	28.2%	0.9%	70.9%	0%	**-**	-	0%	99.5%	0.5%	0%	**-**	-	35.6%	0%	64.4%	0%	**-**	-	-
% Total	0.3%	45.9%	0%	0%	**46.2%**	-	7.2%	0.2%	18.1%	0%	**25.5%**	-	0%	27.7%	0.1%	0%	**27.9%**	-	0.2%	0%	0.3%	0%	**0.4%**	-	-
Lights	28	4654	0	0	**4682**	-	706	24	1786	0	**2516**	-	0	2826	15	0	**2841**	-	15	0	28	0	**43**	-	10082
% Lights	100%	97.7%	0%	0%	**97.7%**	-	94.6%	96.0%	95.2%	0%	**95.0%**	-	0%	98.1%	100%	0%	**98.1%**	-	93.8%	0%	96.6%	0%	**95.6%**	-	97.1%
Articulated Trucks and Single-Unit Trucks	0	86	0	0	**86**	-	35	1	48	0	**84**	-	0	37	0	0	**37**	-	1	0	1	0	**2**	-	209
% Articulated Trucks and Single-Unit Trucks	0%	1.8%	0%	0%	**1.8%**	-	4.7%	4.0%	2.6%	0%	**3.2%**	-	0%	1.3%	0%	0%	**1.3%**	-	6.3%	0%	3.4%	0%	**4.4%**	-	2.0%
Buses	0	26	0	0	**26**	-	5	0	43	0	**48**	-	0	17	0	0	**17**	-	0	0	0	0	**0**	-	91
% Buses	0%	0.5%	0%	0%	**0.5%**	-	0.7%	0%	2.3%	0%	**1.8%**	-	0%	0.6%	0%	0%	**0.6%**	-	0%	0%	0%	0%	**0%**	-	0.9%
Pedestrians	-	-	-	-	-	54	-	-	-	-	-	34	-	-	-	-	-	56	-	-	-	-	-	81	
% Pedestrians	-	-	-	-	-	96.4%	-	-	-	-	-	91.9%	-	-	-	-	-	98.2%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	2	-	-	-	-	-	3	-	-	-	-	-	1	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	3.6%	-	-	-	-	-	8.1%	-	-	-	-	-	1.8%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

University Avenue at Walnut Street - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574589, Location: 39.630643, -79.957643, Site Code: Site 10 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



University Avenue at Walnut Street - TMC
Tue Oct 9, 2018
AM Peak (7:15AM - 8:15AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574589, Location: 39.630643, -79.957643, Site Code: Site 10 - Tuesday

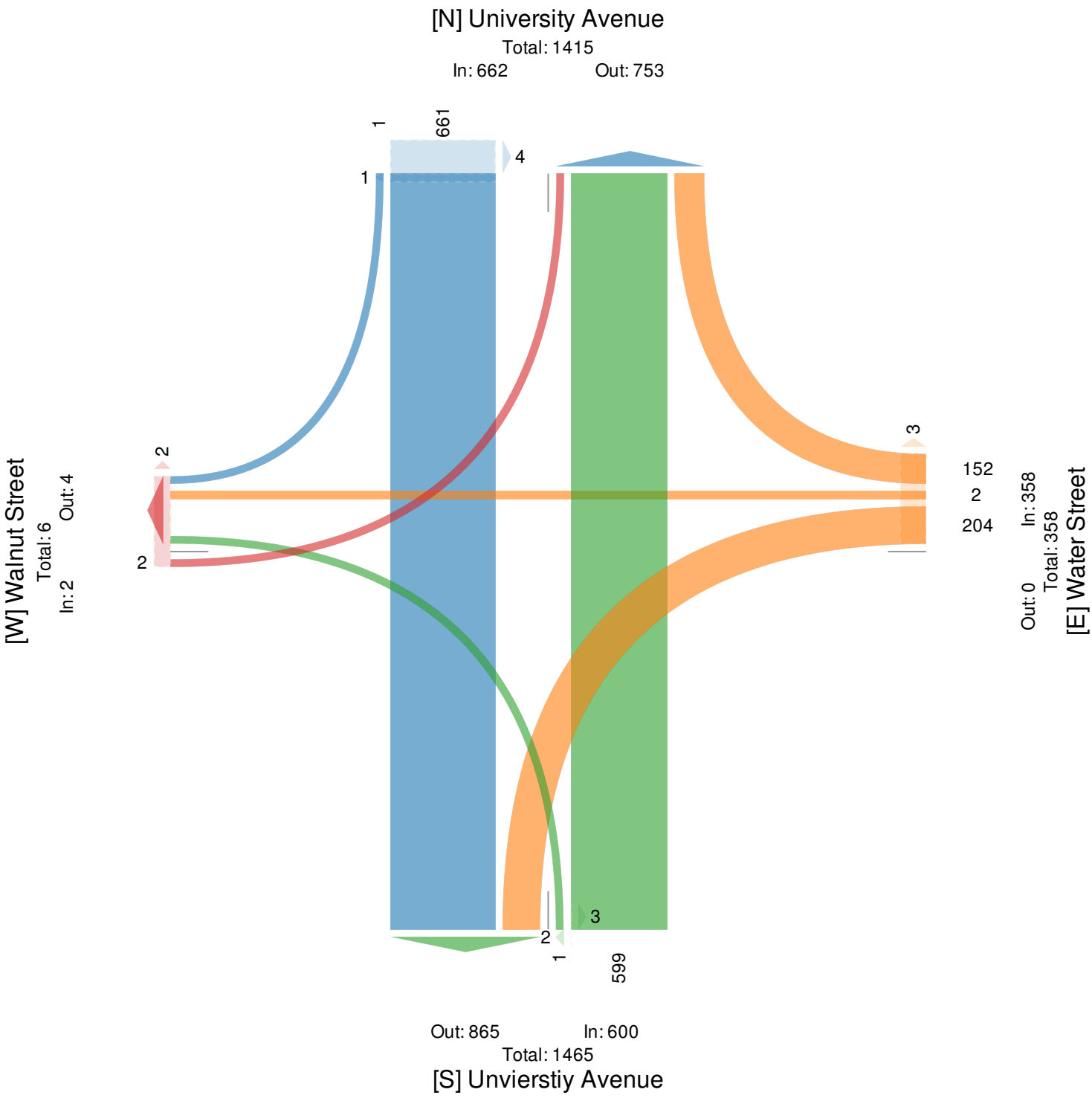
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg	University Avenue						Water Street						Unvierstiy Avenue						Walnut Street						
Direction	Southbound						Westbound						Northbound						Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2018-10-09 7:15AM	0	171	0	0	**171**	2	42	1	51	0	**94**	0	0	125	0	0	**125**	0	0	0	0	0	**0**	0	**390**
7:30AM	0	168	0	0	**168**	0	36	0	41	0	**77**	0	0	156	1	0	**157**	1	0	0	1	0	**1**	0	**403**
7:45AM	1	168	0	0	**169**	1	32	1	58	0	**91**	2	0	171	0	0	**171**	2	0	0	0	0	**0**	2	**431**
8:00AM	0	154	0	0	**154**	2	42	0	54	0	**96**	1	0	147	0	0	**147**	2	0	0	1	0	**1**	0	**398**
Total	1	661	0	0	**662**	5	152	2	204	0	**358**	3	0	599	1	0	**600**	5	0	0	2	0	**2**	2	**1622**
% Approach	0.2%	99.8%	0%	0%	**-**	-	42.5%	0.6%	57.0%	0%	**-**	-	0%	99.8%	0.2%	0%	**-**	-	0%	0%	100%	0%	**-**	-	-
% Total	0.1%	40.8%	0%	0%	**40.8%**	-	9.4%	0.1%	12.6%	0%	**22.1%**	-	0%	36.9%	0.1%	0%	**37.0%**	-	0%	0%	0.1%	0%	**0.1%**	-	-
PHF	0.250	0.966	-	-	**0.968**	-	0.905	0.500	0.879	-	**0.932**	-	-	0.876	0.250	-	**0.877**	-	-	-	0.500	-	**0.500**	-	0.941
Lights	1	634	0	0	**635**	-	135	2	178	0	**315**	-	0	584	1	0	**585**	-	0	0	2	0	**2**	-	1537
% Lights	100%	95.9%	0%	0%	**95.9%**	-	88.8%	100%	87.3%	0%	**88.0%**	-	0%	97.5%	100%	0%	**97.5%**	-	0%	0%	100%	0%	**100%**	-	94.8%
Articulated Trucks and Single-Unit Trucks	0	23	0	0	**23**	-	17	0	18	0	**35**	-	0	7	0	0	**7**	-	0	0	0	0	**0**	-	65
% Articulated Trucks and Single-Unit Trucks	0%	3.5%	0%	0%	**3.5%**	-	11.2%	0%	8.8%	0%	**9.8%**	-	0%	1.2%	0%	0%	**1.2%**	-	0%	0%	0%	0%	**0%**	-	4.0%
Buses	0	4	0	0	**4**	-	0	0	8	0	**8**	-	0	8	0	0	**8**	-	0	0	0	0	**0**	-	20
% Buses	0%	0.6%	0%	0%	**0.6%**	-	0%	0%	3.9%	0%	**2.2%**	-	0%	1.3%	0%	0%	**1.3%**	-	0%	0%	0%	0%	**0%**	-	1.2%
Pedestrians	-	-	-	-	-	5	-	-	-	-	-	3	-	-	-	-	-	5	-	-	-	-	-	2	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

University Avenue at Walnut Street - TMC
Tue Oct 9, 2018
AM Peak (7:15AM - 8:15AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574589, Location: 39.630643, -79.957643, Site Code: Site 10 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



University Avenue at Walnut Street - TMC

Tue Oct 9, 2018

PM Peak (4:30PM - 5:30PM) - Overall Peak Hour

All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)

All Movements

ID: 574589, Location: 39.630643, -79.957643, Site Code: Site 10 - Tuesday

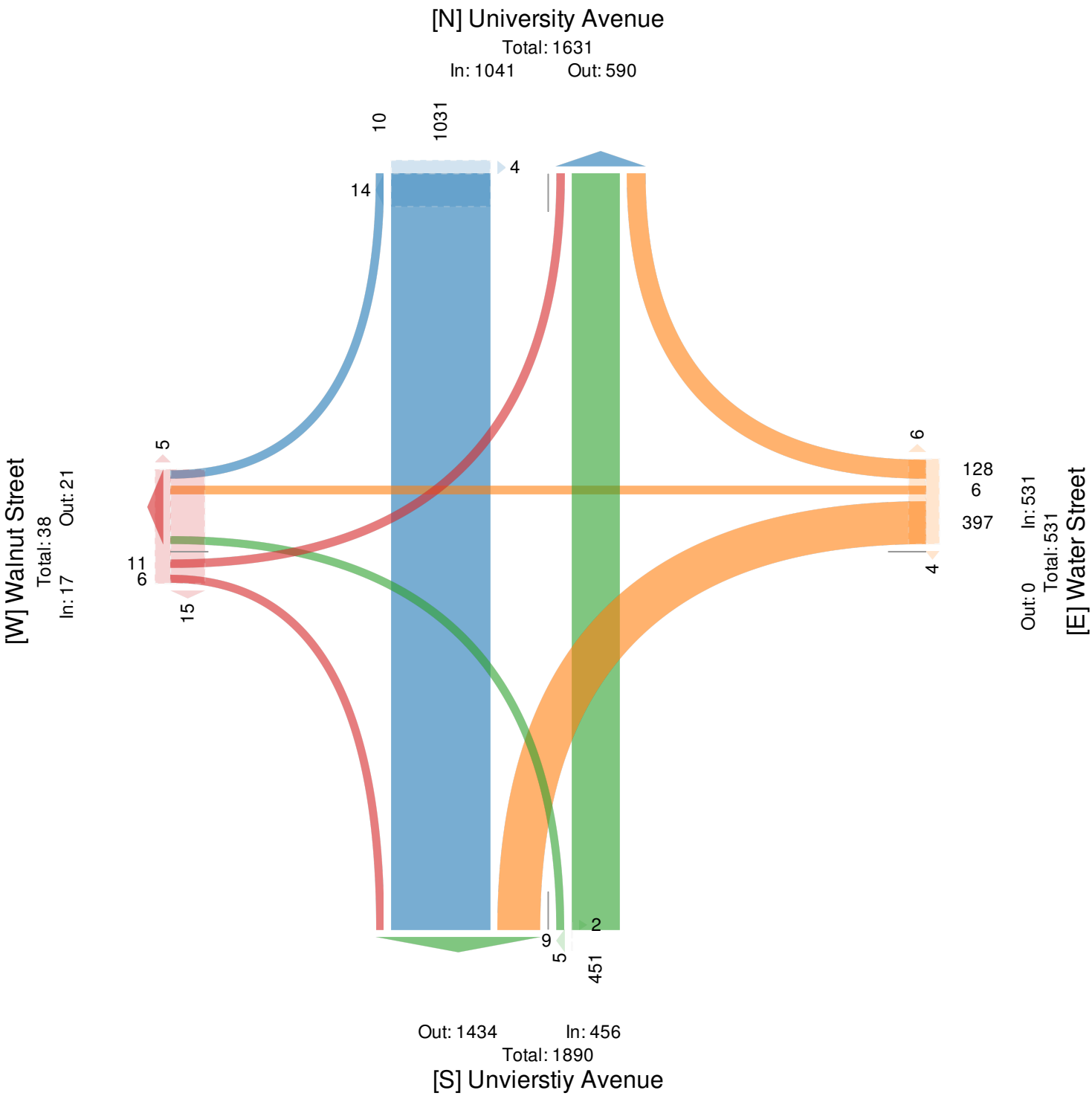
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	University Avenue Southbound						Water Street Westbound						Unvierstiy Avenue Northbound						Walnut Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 4:30PM	4	268	0	0	**272**	4	33	0	94	0	**127**	5	0	129	1	0	**130**	1	1	0	3	0	**4**	3	**533**
4:45PM	2	277	0	0	**279**	1	27	1	97	0	**125**	2	0	113	1	0	**114**	4	0	0	2	0	**2**	4	**520**
5:00PM	1	259	0	0	**260**	5	30	2	93	0	**125**	3	0	113	2	0	**115**	5	3	0	5	0	**8**	3	**508**
5:15PM	3	227	0	0	**230**	8	38	3	113	0	**154**	0	0	96	1	0	**97**	1	2	0	1	0	**3**	10	**484**
Total	10	1031	0	0	**1041**	18	128	6	397	0	**531**	10	0	451	5	0	**456**	11	6	0	11	0	**17**	20	**2045**
% Approach	1.0%	99.0%	0%	0%	-	-	24.1%	1.1%	74.8%	0%	-	-	0%	98.9%	1.1%	0%	-	-	35.3%	0%	64.7%	0%	-	-	-
% Total	0.5%	50.4%	0%	0%	**50.9%**	-	6.3%	0.3%	19.4%	0%	**26.0%**	-	0%	22.1%	0.2%	0%	**22.3%**	-	0.3%	0%	0.5%	0%	**0.8%**	-	-
PHF	0.625	0.931	-	-	**0.933**	-	0.842	0.500	0.878	-	**0.862**	-	-	0.874	0.625	-	**0.877**	-	0.500	-	0.550	-	**0.531**	-	0.959
Lights	10	1021	0	0	**1031**	-	128	5	389	0	**522**	-	0	444	5	0	**449**	-	6	0	11	0	**17**	-	2019
% Lights	100%	99.0%	0%	0%	**99.0%**	-	100%	83.3%	98.0%	0%	**98.3%**	-	0%	98.4%	100%	0%	**98.5%**	-	100%	0%	100%	0%	**100%**	-	98.7%
Articulated Trucks and Single-Unit Trucks	0	6	0	0	**6**	-	0	1	2	0	**3**	-	0	5	0	0	**5**	-	0	0	0	0	**0**	-	14
% Articulated Trucks and Single-Unit Trucks	0%	0.6%	0%	0%	**0.6%**	-	0%	16.7%	0.5%	0%	**0.6%**	-	0%	1.1%	0%	0%	**1.1%**	-	0%	0%	0%	0%	**0%**	-	0.7%
Buses	0	4	0	0	**4**	-	0	0	6	0	**6**	-	0	2	0	0	**2**	-	0	0	0	0	**0**	-	12
% Buses	0%	0.4%	0%	0%	**0.4%**	-	0%	0%	1.5%	0%	**1.1%**	-	0%	0.4%	0%	0%	**0.4%**	-	0%	0%	0%	0%	**0%**	-	0.6%
Pedestrians	-	-	-	-	-	18	-	-	-	-	-	9	-	-	-	-	-	11	-	-	-	-	-	20	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	90.0%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	1	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	10.0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

University Avenue at Walnut Street - TMC
Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574589, Location: 39.630643, -79.957643, Site Code: Site 10 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



University Avenue at Wendover Bridge - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574591, Location: 39.629691, -79.958484, Site Code: Site 11 - Tuesday

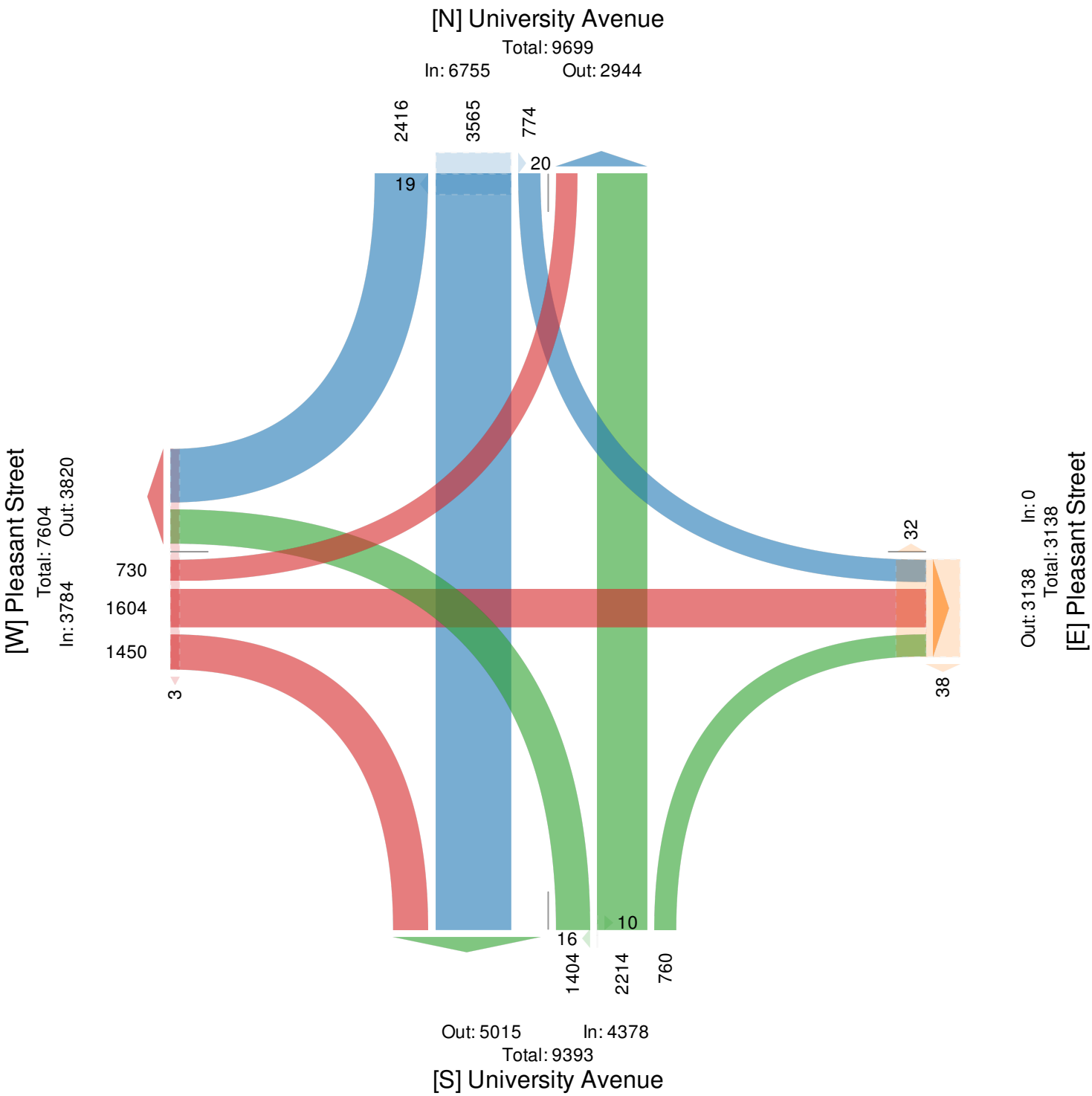
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	University Avenue Southbound						Pleasant Street Westbound						University Avenue Northbound						Pleasant Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:00AM	240	494	84	0	**818**	0	0	0	0	0	**0**	1	161	457	186	0	**804**	1	263	265	131	0	**659**	0	**2281**
8:00AM	247	489	101	0	**837**	4	0	0	0	0	**0**	5	141	419	171	0	**731**	3	248	250	143	0	**641**	1	**2209**
2:00PM	430	563	143	0	**1136**	5	0	0	0	0	**0**	9	101	331	234	0	**666**	2	213	249	110	0	**572**	2	**2374**
3:00PM	431	611	125	0	**1167**	4	0	0	0	0	**0**	14	100	318	239	0	**657**	6	226	256	125	0	**607**	0	**2431**
4:00PM	529	744	171	0	**1444**	15	0	0	0	0	**0**	18	114	351	295	0	**760**	5	232	288	117	0	**637**	0	**2841**
5:00PM	539	664	150	0	**1353**	11	0	0	0	0	**0**	23	143	338	279	0	**760**	9	268	296	104	0	**668**	0	**2781**
Total	2416	3565	774	0	**6755**	39	0	0	0	0	**0**	70	760	2214	1404	0	**4378**	26	1450	1604	730	0	**3784**	3	**14917**
% Approach	35.8%	52.8%	11.5%	0%	-	-	0%	0%	0%	0%	-	-	17.4%	50.6%	32.1%	0%	-	-	38.3%	42.4%	19.3%	0%	-	-	-
% Total	16.2%	23.9%	5.2%	0%	**45.3%**	-	0%	0%	0%	0%	**0%**	-	5.1%	14.8%	9.4%	0%	**29.3%**	-	9.7%	10.8%	4.9%	0%	**25.4%**	-	-
Lights	2298	3521	733	0	**6552**	-	0	0	0	0	**0**	-	746	2180	1374	0	**4300**	-	1427	1541	712	0	**3680**	-	14532
% Lights	95.1%	98.8%	94.7%	0%	**97.0%**	-	0%	0%	0%	0%	-	-	98.2%	98.5%	97.9%	0%	**98.2%**	-	98.4%	96.1%	97.5%	0%	**97.3%**	-	97.4%
Articulated Trucks and Single-Unit Trucks	60	34	37	0	**131**	-	0	0	0	0	**0**	-	10	23	18	0	**51**	-	20	29	13	0	**62**	-	244
% Articulated Trucks and Single-Unit Trucks	2.5%	1.0%	4.8%	0%	**1.9%**	-	0%	0%	0%	0%	-	-	1.3%	1.0%	1.3%	0%	**1.2%**	-	1.4%	1.8%	1.8%	0%	**1.6%**	-	1.6%
Buses	58	10	4	0	**72**	-	0	0	0	0	**0**	-	4	11	12	0	**27**	-	3	34	5	0	**42**	-	141
% Buses	2.4%	0.3%	0.5%	0%	**1.1%**	-	0%	0%	0%	0%	-	-	0.5%	0.5%	0.9%	0%	**0.6%**	-	0.2%	2.1%	0.7%	0%	**1.1%**	-	0.9%
Pedestrians	-	-	-	-	-	38	-	-	-	-	-	67	-	-	-	-	-	26	-	-	-	-	-	3	
% Pedestrians	-	-	-	-	-	97.4%	-	-	-	-	-	95.7%	-	-	-	-	-	100%	-	-	-	-	-	100%	-
Bicycles on Crosswalk	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	2.6%	-	-	-	-	-	4.3%	-	-	-	-	-	0%	-	-	-	-	-	0%	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

University Avenue at Wendover Bridge - TMC
Tue Oct 9, 2018
Full Length (7AM-9AM, 2PM-6PM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574591, Location: 39.629691, -79.958484, Site Code: Site 11 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



University Avenue at Wendover Bridge - TMC
Tue Oct 9, 2018
AM Peak (7:15AM - 8:15AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574591, Location: 39.629691, -79.958484, Site Code: Site 11 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	University Avenue Southbound						Pleasant Street Westbound						University Avenue Northbound						Pleasant Street Eastbound						
Time	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	R	T	L	U	App	Ped*	Int
2018-10-09 7:15AM	77	127	24	0	**228**	0	0	0	0	0	**0**	0	45	116	46	0	**207**	0	65	80	27	0	**172**	0	**607**
7:30AM	55	127	21	0	**203**	0	0	0	0	0	**0**	0	42	103	48	0	**193**	0	68	73	32	0	**173**	0	**569**
7:45AM	66	135	21	0	**222**	0	0	0	0	0	**0**	1	56	132	48	0	**236**	1	83	82	38	0	**203**	0	**661**
8:00AM	52	128	25	0	**205**	1	0	0	0	0	**0**	2	38	131	31	0	**200**	1	66	67	44	0	**177**	0	**582**
Total	250	517	91	0	**858**	1	0	0	0	0	**0**	3	181	482	173	0	**836**	2	282	302	141	0	**725**	0	**2419**
% Approach	29.1%	60.3%	10.6%	0%	-	-	0%	0%	0%	0%	-	-	21.7%	57.7%	20.7%	0%	-	-	38.9%	41.7%	19.4%	0%	-	-	-
% Total	10.3%	21.4%	3.8%	0%	**35.5%**	-	0%	0%	0%	0%	**0%**	-	7.5%	19.9%	7.2%	0%	**34.6%**	-	11.7%	12.5%	5.8%	0%	**30.0%**	-	-
PHF	0.812	0.957	0.910	-	**0.941**	-	-	-	-	-	-	-	0.808	0.913	0.901	-	**0.886**	-	0.849	0.921	0.801	-	**0.893**	-	0.915
Lights	227	507	75	0	**809**	-	0	0	0	0	**0**	-	179	472	168	0	**819**	-	278	288	136	0	**702**	-	2330
% Lights	90.8%	98.1%	82.4%	0%	**94.3%**	-	0%	0%	0%	0%	-	-	98.9%	97.9%	97.1%	0%	**98.0%**	-	98.6%	95.4%	96.5%	0%	**96.8%**	-	96.3%
Articulated Trucks and Single-Unit Trucks	11	8	16	0	**35**	-	0	0	0	0	**0**	-	2	5	2	0	**9**	-	4	6	2	0	**12**	-	56
% Articulated Trucks and Single-Unit Trucks	4.4%	1.5%	17.6%	0%	**4.1%**	-	0%	0%	0%	0%	-	-	1.1%	1.0%	1.2%	0%	**1.1%**	-	1.4%	2.0%	1.4%	0%	**1.7%**	-	2.3%
Buses	12	2	0	0	**14**	-	0	0	0	0	**0**	-	0	5	3	0	**8**	-	0	8	3	0	**11**	-	33
% Buses	4.8%	0.4%	0%	0%	**1.6%**	-	0%	0%	0%	0%	-	-	0%	1.0%	1.7%	0%	**1.0%**	-	0%	2.6%	2.1%	0%	**1.5%**	-	1.4%
Pedestrians	-	-	-	-	-	1	-	-	-	-	-	3	-	-	-	-	-	2	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

University Avenue at Wendover Bridge - TMC
Tue Oct 9, 2018
AM Peak (7:15AM - 8:15AM)
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574591, Location: 39.629691, -79.958484, Site Code: Site 11 - Tuesday

Provided by: Cummins Consulting Services, PLLC
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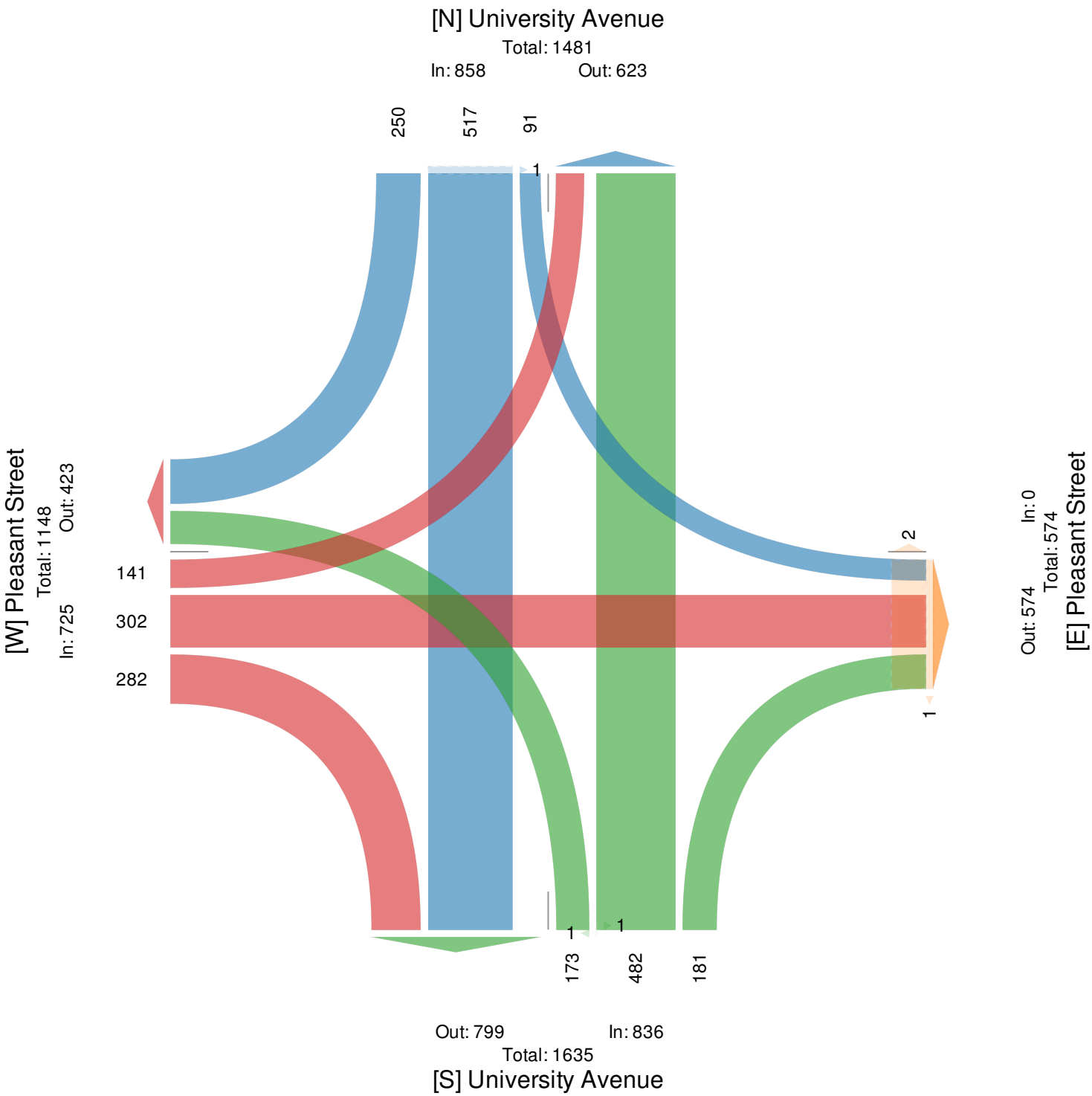


University Avenue at Wendover Bridge - TMC
Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574591, Location: 39.629691, -79.958484, Site Code: Site 11 - Tuesday

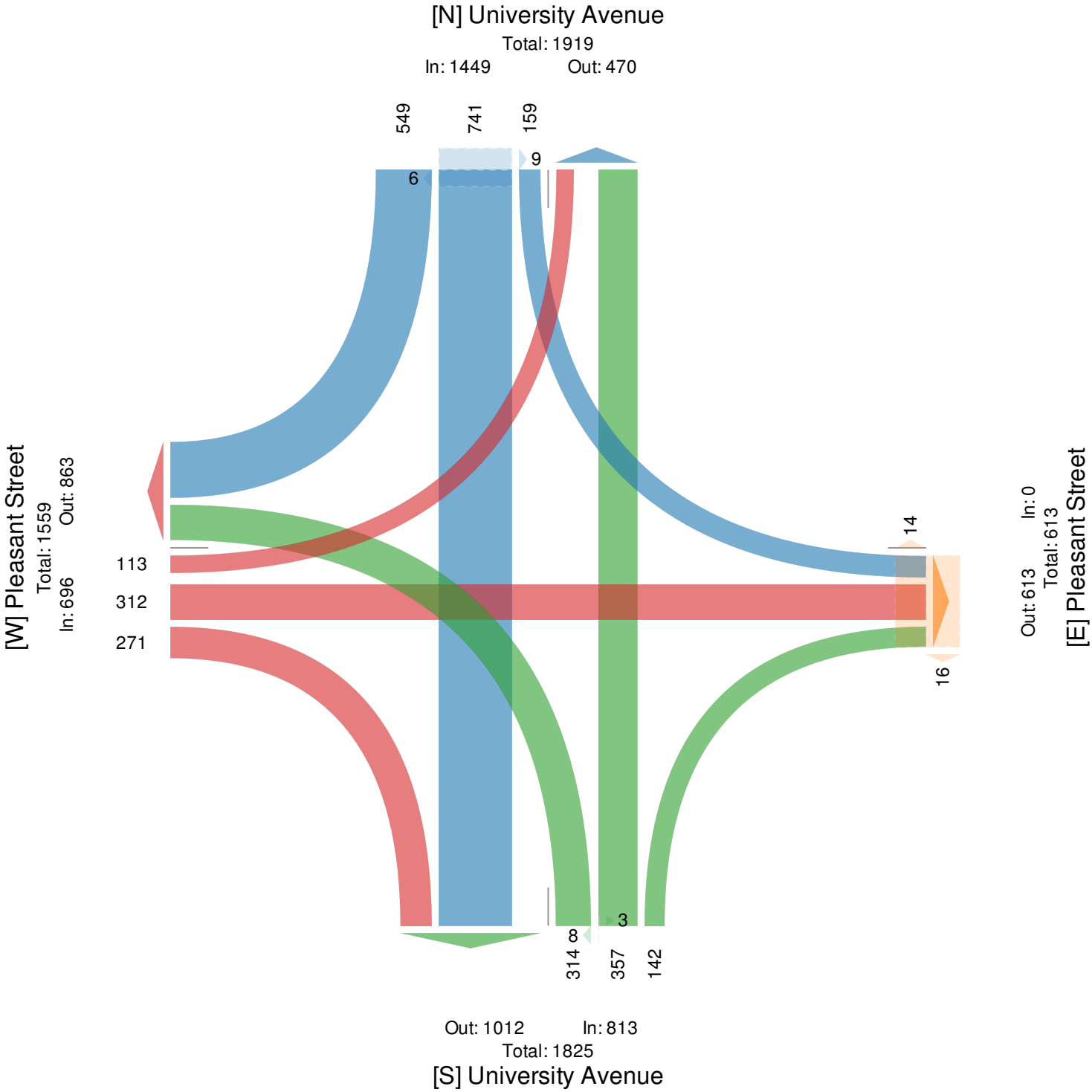
Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US

Leg / Direction	University Avenue Southbound						Pleasant Street Westbound						University Avenue Northbound						Pleasant Street Eastbound						
Time	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	R	T	L	U	**App**	Ped*	**Int**
2018-10-09 4:30PM	134	194	41	0	**369**	2	0	0	0	0	**0**	7	27	96	72	0	**195**	2	75	87	34	0	**196**	0	**760**
4:45PM	122	201	45	0	**368**	7	0	0	0	0	**0**	3	35	79	86	0	**200**	2	56	78	29	0	**163**	0	**731**
5:00PM	147	184	33	0	**364**	2	0	0	0	0	**0**	8	38	96	76	0	**210**	5	77	83	29	0	**189**	0	**763**
5:15PM	146	162	40	0	**348**	4	0	0	0	0	**0**	12	42	86	80	0	**208**	2	63	64	21	0	**148**	0	**704**
Total	549	741	159	0	**1449**	15	0	0	0	0	**0**	30	142	357	314	0	**813**	11	271	312	113	0	**696**	0	**2958**
% Approach	37.9%	51.1%	11.0%	0%	-	-	0%	0%	0%	0%	-	-	17.5%	43.9%	38.6%	0%	-	-	38.9%	44.8%	16.2%	0%	-	-	-
% Total	18.6%	25.1%	5.4%	0%	**49.0%**	-	0%	0%	0%	0%	**0%**	-	4.8%	12.1%	10.6%	0%	**27.5%**	-	9.2%	10.5%	3.8%	0%	**23.5%**	-	-
PHF	0.934	0.922	0.883	-	**0.982**	-	-	-	-	-	-	-	0.845	0.930	0.913	-	**0.968**	-	0.880	0.897	0.831	-	**0.888**	-	0.969
Lights	538	736	156	0	**1430**	-	0	0	0	0	**0**	-	142	354	312	0	**808**	-	270	304	113	0	**687**	-	2925
% Lights	98.0%	99.3%	98.1%	0%	**98.7%**	-	0%	0%	0%	0%	-	-	100%	99.2%	99.4%	0%	**99.4%**	-	99.6%	97.4%	100%	0%	**98.7%**	-	98.9%
Articulated Trucks and Single-Unit Trucks	3	4	1	0	**8**	-	0	0	0	0	**0**	-	0	2	1	0	**3**	-	1	6	0	0	**7**	-	18
% Articulated Trucks and Single-Unit Trucks	0.5%	0.5%	0.6%	0%	**0.6%**	-	0%	0%	0%	0%	-	-	0%	0.6%	0.3%	0%	**0.4%**	-	0.4%	1.9%	0%	0%	**1.0%**	-	0.6%
Buses	8	1	2	0	**11**	-	0	0	0	0	**0**	-	0	1	1	0	**2**	-	0	2	0	0	**2**	-	15
% Buses	1.5%	0.1%	1.3%	0%	**0.8%**	-	0%	0%	0%	0%	-	-	0%	0.3%	0.3%	0%	**0.2%**	-	0%	0.6%	0%	0%	**0.3%**	-	0.5%
Pedestrians	-	-	-	-	-	15	-	-	-	-	-	30	-	-	-	-	-	11	-	-	-	-	-	0	
% Pedestrians	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	100%	-	-	-	-	-	-	-
Bicycles on Crosswalk	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	-	-	-	-	-	0	
% Bicycles on Crosswalk	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	0%	-	-	-	-	-	-	-

*Pedestrians and Bicycles on Crosswalk. L: Left, R: Right, T: Thru, U: U-Turn

University Avenue at Wendover Bridge - TMC
Tue Oct 9, 2018
PM Peak (4:30PM - 5:30PM) - Overall Peak Hour
All Classes (Lights, Articulated Trucks and Single-Unit Trucks, Buses, Pedestrians, Bicycles on Crosswalk)
All Movements
ID: 574591, Location: 39.629691, -79.958484, Site Code: Site 11 - Tuesday

Provided by: Cummins Consulting Services, PLLC
4661 Marlberry Place,
Lexington, KY, 40509, US



Appendix C - Steering Committee Meeting Slides

1

Agenda

- Overall Study Approach and Study Area
- Outstanding Data Needs
- Preliminary Existing Conditions Analysis Results
  - Existing and Historic Traffic Volumes
  - Origin-Destination Analysis
  - Crash Analysis
- Preview of TransModeler Microsimulation
- Future Steering Committee Meetings and Next Steps

2

Attendees

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- Tim Padgett
- Kevin Baumann
- Colin Frosch
- Beverly Duran

WVU
- Jeremy Evans
- Ronald Justice

WVDOH
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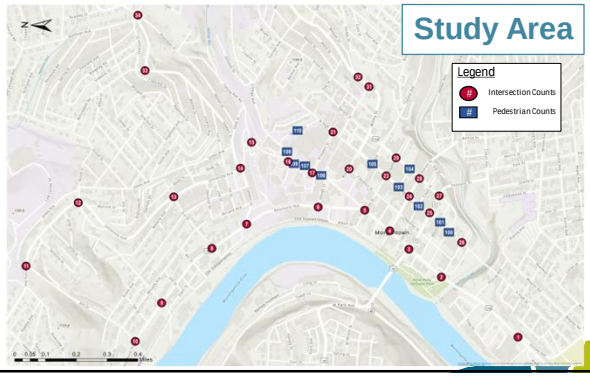
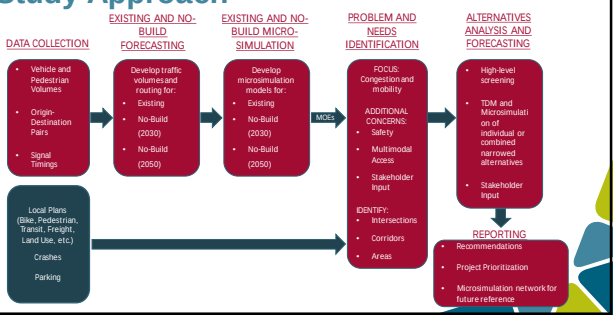
3

Study Area



4

Study Approach



5

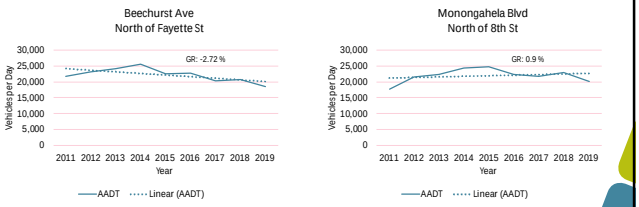
Outstanding Data Needs

City of Morgantown
- Parking Occupancy Data for on-street and off-street parking
- Construction Status of Ongoing Projects *(that may affect travel patterns during the week of October 22)*
- Confirm Start Date of Beechurst Avenue Project *(assumed end of 2022/early 2023)*
- Relevant traffic studies, private development plans, planning documents, pavement assessments, pedestrian safety studies, corridor studies, etc.

WVDOH Traffic Engineering
- Signal plans and coordination timing plans for study intersections

6

Historic AADT Volume Trends



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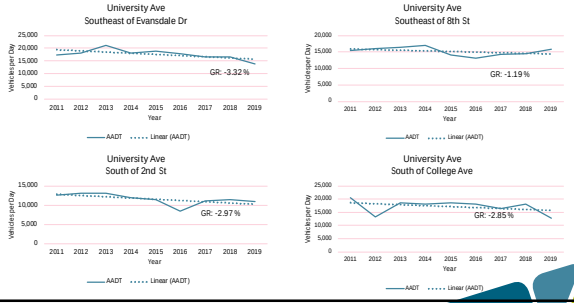

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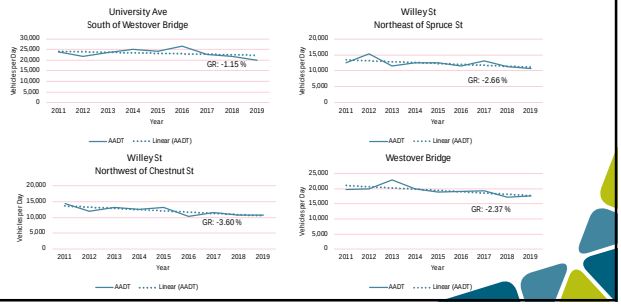
Historic AADT Volume Trends



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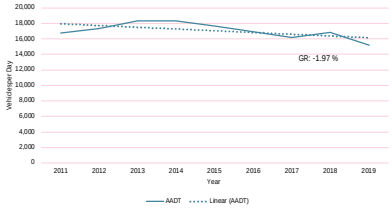
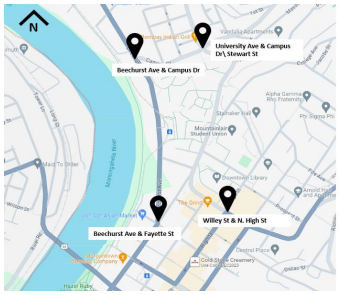
Historic AADT Volume Trends



Location	Regression GR
Beechurst Ave North of 8th St	0.90%
Beechurst Ave North of Fayette St	-2.72%
University Ave Southeast of Evansdale Dr	-3.32%
University Ave Southeast of 8th St	-1.19%
University Ave South of 2nd St	-2.97%
University Ave South of College Ave	-2.85%
University Ave South of Westover Bridge	-1.15%
Willey St Northeast of Spruce St	-2.66%
Willey St Northwest of Chestnut St	-3.60%
Westover Bridge	-2.37%
All Locations	-1.97%

10

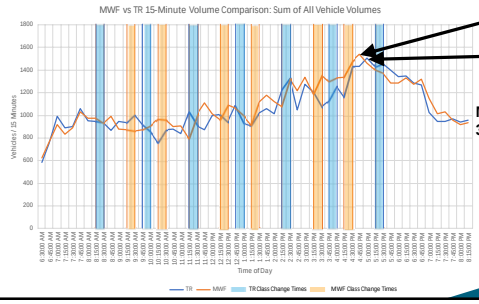
Weekday Vehicle Volume Comparison



Locations with both Monday/Wednesday/Friday (10/25) and Tuesday/Thursday (10/24) vehicular volume data

11

Weekday Vehicle Volume Comparison



MWF Peak 4:45

TR Peak 5:00

MWF daily volume 3% greater than TR

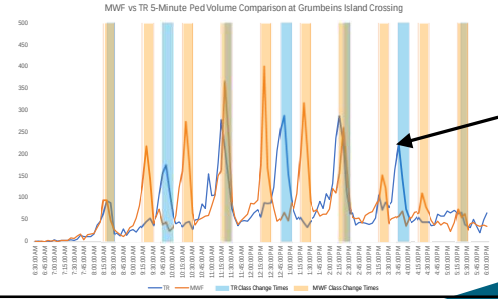
12

Weekday Pedestrian Volume Comparison

Comparison of Monday/Wednesday/Friday (10/25) and Tuesday/Thursday (10/24) pedestrian crossings

13

Weekday Pedestrian Volume Comparison



14

2018 – 2023 Comparison

Intersection	AM Peak Total Intersection Volumes (%Diff)	PM Peak Total Intersection Volumes (%Diff)
Beechurst Ave and 8th St	-23%	-5%
Beechurst Ave and 6th St	-34%	-15%
Beechurst Ave and 3rd St	-31%	-13%
Beechurst Ave and Campus Dr	-9%	-20%
Beechurst Ave and Hough St	-35%	-19%
Beechurst Ave and University Ave/Fayette St	-38%	-13%
University Ave and Walnut St	-29%	-10%
University Ave and Pleasant St	-26%	-7%
	9-38% Decrease	5-20% Decrease

Peak Hour Comparison

	2018	2023
AM Peak	7:30 – 8:30 AM	7:45 AM – 8:45 AM
Mid-Day Peak	*N/A*	12:15 – 1:15 PM
PM Peak	4:30 – 5:30 PM	4:30 – 5:30 PM

Notable Changes in Travel Patterns

AM
- Beechurst and 3rd: 8% from NBT to NBR
- University and Pleasant: 8% from EBL to EBT

PM
- Beechurst and 8th: 10% from WBL to WBR
- Beechurst and Campus: 7% from SBL to SBT
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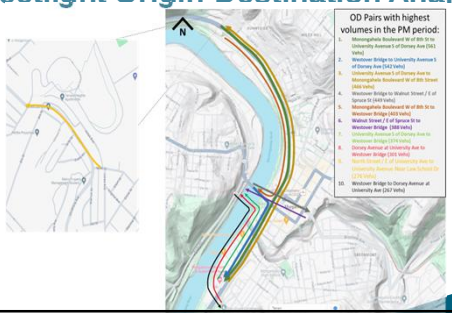
- University and Pleasant: 14% from EBT to EBR

15

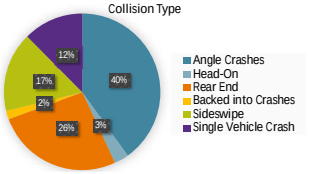
Streetlight Origin-Destination Analysis



16

Crash Analysis

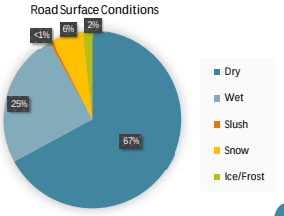
	Collision Type						
Year	Angle Crashes	Head-On	Rear End	Backed into Crashes	Sideswipe	Single Vehicle Crash	Total
2018	139	10	91	6	57	43	346
2019	124	8	86	4	46	40	308
2020	66	10	52	6	43	27	204
2021	110	7	46	3	41	55	262
2022	89	6	53	2	40	33	223
Total	528	41	328	21	227	198	1343



17

Crash Analysis

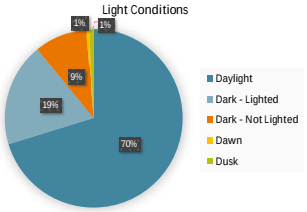
	Road Surface Conditions				
Year	Dry	Wet	Slush	Snow	Ice/Frost
2018	232	86	2	20	6
2019	242	54	1	9	1
2020	147	52	1	2	2
2021	193	57	3	5	4
2022	174	40	0	5	4
Total	988	289	7	41	17



18

Crash Analysis

Year	Light Conditions				
	Daylight	Dark - Lighted	Dark - Not Lighted	Dawn	Dusk
2018	243	65	33	2	3
2019	237	42	24	2	3
2020	130	55	18	0	1
2021	179	62	10	9	2
2022	152	56	11	0	4
Total	941	280	96	13	13

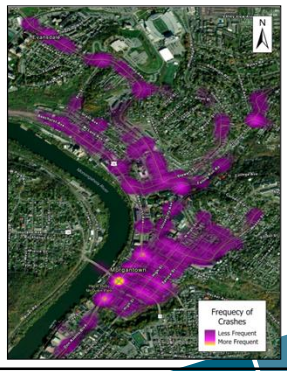


19

Crash Analysis

'More Frequent' Crash Locations:

- University Avenue and Pleasant Street
- University Avenue and Garrett Street/Foundry Street
- University Avenue and Beechurst Avenue and Fayette Street



20

Crash Analysis

$$Severity = (\#\ of\ Injury\ Crashes\ x\ 11.2) + \#\ of\ PDO\ Crashes$$

'More Severe' Crash Locations:

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- University Avenue/Don Knotts and Garrett Street/Foundry Street
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- High Street and Pleasant Street
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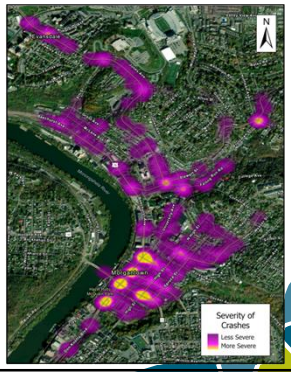


21

Review of Previous Studies

- University Avenue Complete Streets Study (2016)
- Beechurst Traffic Analysis (2019)
- Richwood-Willey Intersection Report (2019)
- 2020 Regional Bike and Pedestrian Plan (2020)
- Morgantown Pedestrian Safety Study (2022)
- WVU Vulnerable Road User Assessment (2023)

22

Preview of TransModeler Microsimulation

- Tool to simulate future conditions and better understand impacts of potential changes to network
- Models individual vehicles and pedestrians – simulates how they interact within the road network
- Required inputs:
  - o Traffic volumes
  - o Pedestrian crossings and activity
  - o Traffic signal timings
  - o Heavy vehicle data
  - o Existing O-D patterns
  - o Planned projects by others
  - o Road characteristics (speed, # of lanes, etc.)

23

Preview of TransModeler Microsimulation

24

Future Steering Committee Meetings

- **Winter 2024:** Existing conditions model results
- **Spring 2024:** Future no-build conditions model results
- **Summer 2024:** Develop alternatives to evaluate
- **Fall 2024:** Discuss future build alternatives results

25

Next Steps

- Calibrate and finalize existing conditions model
- Evaluate operations results
- Forecast future volumes
- Finalize analysis of existing crash, parking, and transportation planning documents

26

MMMPO Downtown Microsimulation Study Steering Committee Meeting #2

April 30, 2024

MMMPO Kimley»Horn

1

Agenda

- Recap of Steering Committee Meeting #1
- Developing the Routing and Future volumes
- TransModeler microsimulation components and calibration
- Problem identification workshop

2

Attendees

MMMPO
- Bill Austin

Kimley-Horn
- Tim Padgett
- Kevin Baumann
- Colin Frosch
- Carmine Parascandola
- Nathan Butler
- Ahmad Abdallah

FHWA
- Kara Greathouse

WVU
- Jeremy Evans
- Ronald Justice
- Ted Svehlik
- Christiaan Abildso

WVDOH
- Brian Carr
- Donna Hardy

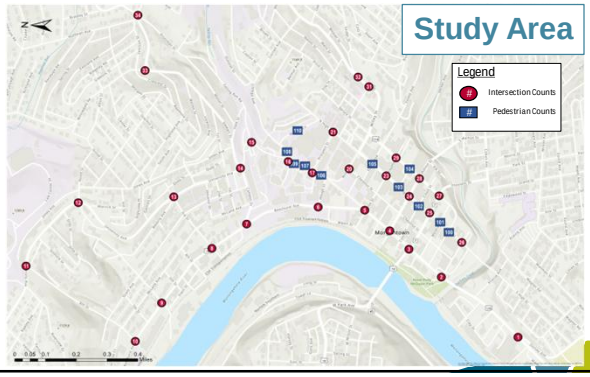
Morgantown Partnership
- Russ Rogerson

City of Morgantown
- Emily Muzzarelli
- Jenny Selin
- Bill Kawecki
- Damien Davis
- Matt Cross

Monongalia County
- Jeff Arnett

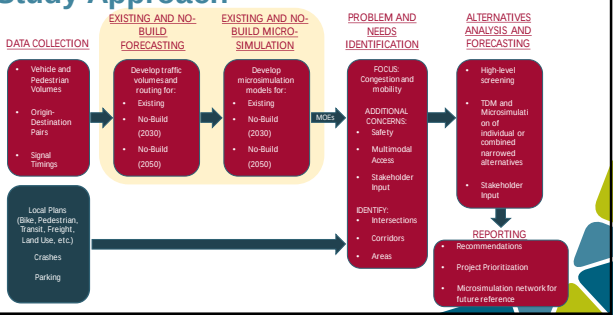
3

Study Area



4

Study Approach

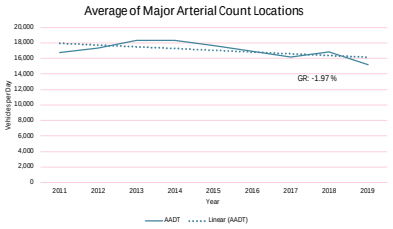


5

Existing Conditions

6

Historic AADT Volume Trends



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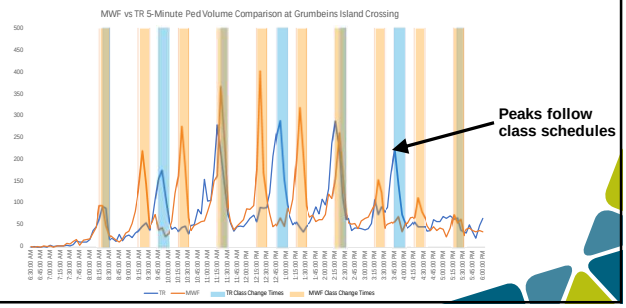
8

Weekday Pedestrian Volumes at Grumbein's Island



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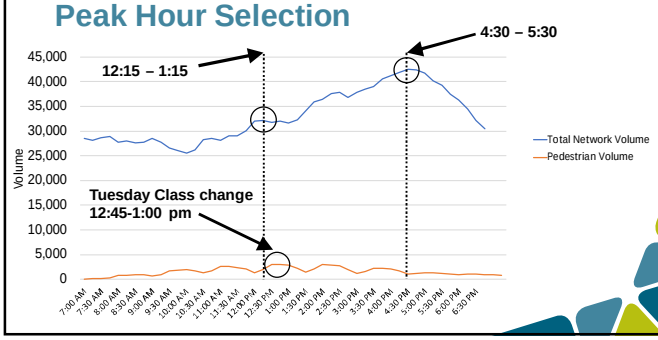
Peak Hour Selection



10

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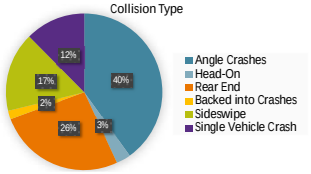

11

Crash Analysis

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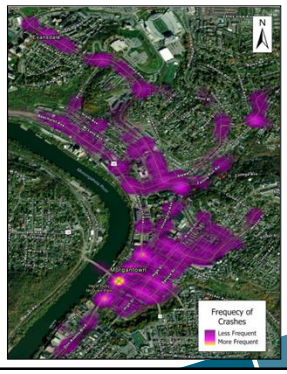

12

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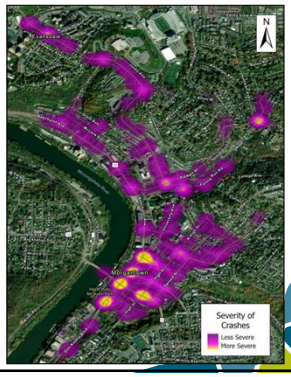


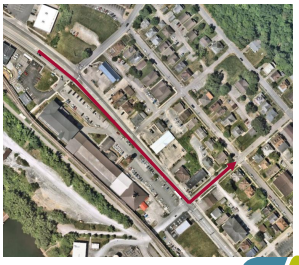
13

Development of Routing

14

Existing Routing Development

- **'Relay' Routing** - Vehicles make decision at each intersection, then reach new decision point
  - Pros – Simple to match to TMCs
  - Cons – Not as representative of field travel patterns
- **Origin-Destination Routing** – Vehicles take one route through entire network to destination
  - Pros – Accurate representation of field data
  - Cons – Requires more data input

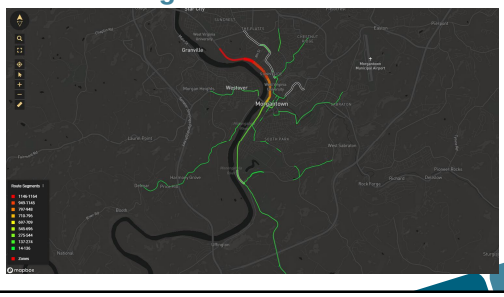


15

Streetlight – External Trips into Study Area
Monongahela Boulevard SB

16

Streetlight –Trips within Study Area
Monongahela Boulevard SB



17

Streetlight – External Trips into Study Area
University Avenue (Route 119) NB

18

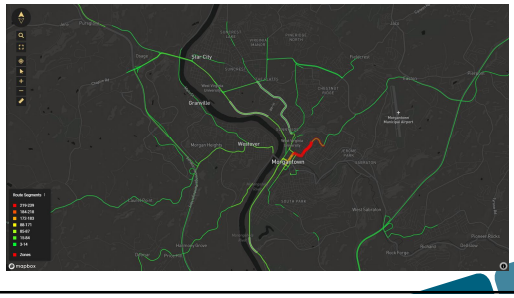
Streetlight – Trips within Study Area
University Avenue (Route 119) NB

19

Streetlight – External Trips into Study Area
Willey Street SB

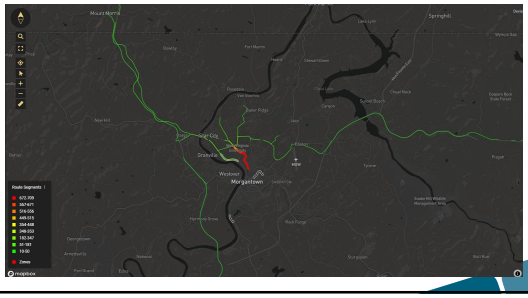
20

Streetlight – Trips within Study Area
Willey Street SB



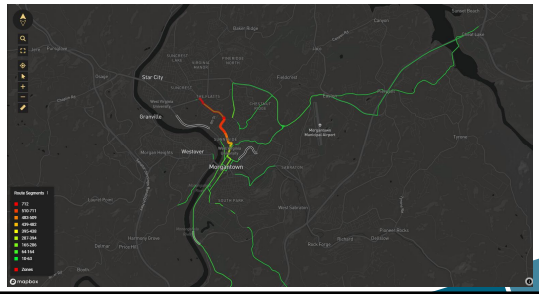
21

Streetlight – External Trips into Study Area
University Avenue SB



22

Streetlight – Trips within Study Area
University Avenue SB



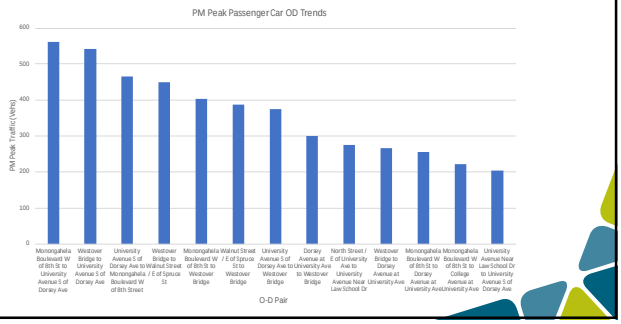
23

Origin-Destination Routing

- Routing Development
  - All entrances and exits to networks
  - ~30 origins and destinations
  - Develop trends of travel patterns to and through Morgantown

24

Streetlight- ODs



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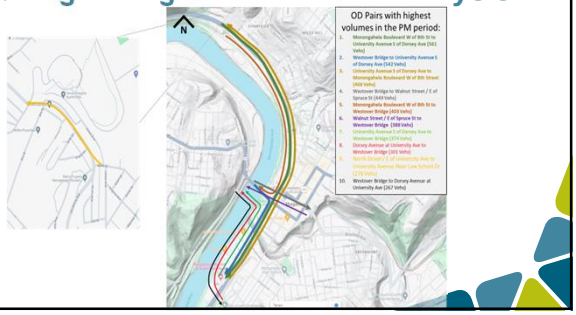
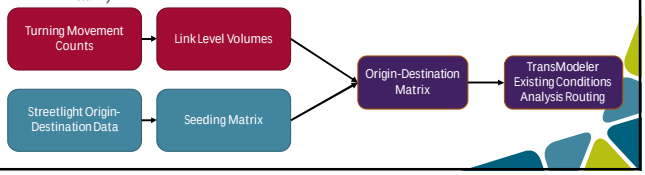
Streetlight Origin-Destination Analysis



26

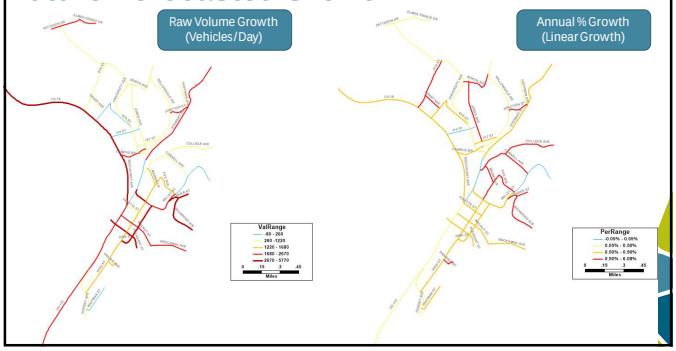
Origin-Destination Routing Development

- Collect turning movement counts
  - Calculate link level ADTs and link level hourly volumes (target matrix)
- Streetlight O-D Matrix
  - Typical distribution of traffic throughout downtown Morgantown (seeding matrix)



27

Future Forecasted Growth



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Development of Microsimulation Model

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Preview of TransModeler Microsimulation

- Tool to simulate future conditions and better understand impacts of potential changes to network
- Models individual vehicles and pedestrians – simulates how they interact within the road network
- Required inputs:
  - o Traffic volumes
  - o Pedestrian crossings and activity
  - o Traffic signal control (16 signalized, 18 unsignalized)
  - o Heavy vehicle data
  - o Existing O-D patterns
  - o Planned projects by others
  - o Road characteristics (speed, # of lanes, etc.)

30

Existing Simulation Calibration

- Need to verify existing conditions model reflects actual traffic conditions observed in the field before proceeding with future models
- Qualitative calibration parameters
  - Queueing
  - Travel time
  - Turning movement and throughput volumes
- Calibration is accomplished by adjusting:
  - Routing and volume matrix
  - Pedestrian crossing configuration
  - Global model characteristics such as driver behavior (if needed)

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Current Areas of Interest for Calibration

- Grumbein's island pedestrian crossing
- Falling Run Road queueing
- Beechurst Avenue travel time

32

Simulation Recording from the Model (1:00 pm)

33

Simulation Recording from the Model (5:10 pm)

34

Known Areas of Concern

35

Steering Committee Input

- Identify areas of known concern related to:
  - Congestion
  - Safety
  - Multimodal access and mobility
- Can compare congestion issues with model outputs
- Merge anecdotal and qualitative input with quantitative data outputs to define problem statement

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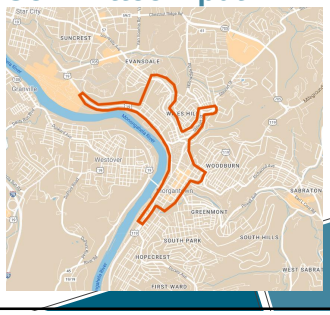
Steering Committee Input



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Next Steps

38

Next Steps

- Complete calibration and summarize operational measures of effectiveness (MOEs)
- Develop wide ranging alternatives to study with steering committee
  - Signal improvements (leading pedestrian intervals)
  - Alternative intersection configurations
  - Modifications to network
- Screen alternatives and identify recommendations

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MMMPO Downtown Microsimulation Study Steering Committee Meeting #3

June 25, 2024

MMMPO Kimley»Horn

1

Agenda

- Public survey feedback
- Microsimulation congestion results
- Definition of purpose and need/problem statement
- Alternatives brainstorming

2

Attendees

MMMPO
- Bill Austin

Kimley-Horn
- Tim Padgett
- Kevin Baumann
- Colin Frosch
- Carmine Parascandola
- Nathan Butler
- Ahmad Abdallah

FHWA
- Kara Greathouse

WVU
- Jeremy Evans
- Ronald Justice
- Ted Svehlik
- Christiaan Abildso

WVDOH
- Brian Carr
- Donna Hardy

Morgantown Partnership
- Russ Rogerson

City of Morgantown
- Emily Muzzarelli
- Jenny Selin
- Bill Kawecki
- Damien Davis
- Matt Cross

Monongalia County
- Jeff Arnett

3

Public Survey Feedback

4

Stakeholder Engagement

5

Survey Participation

- Survey ran May 29 – June 19
- 70 total participants

Category Name	Parent Comments	Replies	Total Input
Congestion Concern	35	43	78
Multimodal Concerns	52	29	81
Safety Concern	83	57	140
Total	170	129	299

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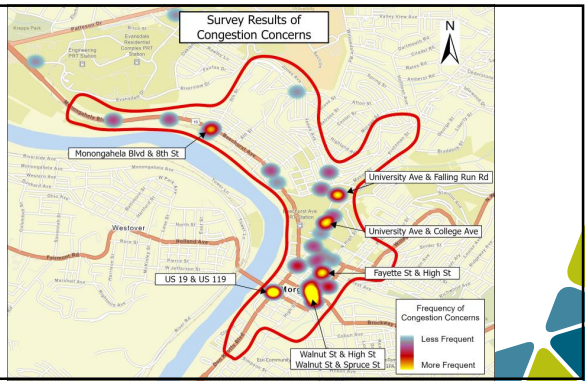

7

Congestion Concerns

- Near library (Spruce Street)
  - Consider adding a book drop off area
  - Make Spruce Street two-way
- 8th Street and Beechurst Avenue
  - Mixed responses
- Grumbein's island
  - Consider a pedestrian signal
  - Consider a pedestrian bridge or vehicle tunnel
- Walnut Street/High Street/Spruce Street
  - Consider two-way streets (x3)
  - Not a concern (x5)

8

Congestion Concerns

- US 19 and US 119 intersection (Westover Bridge and University Ave)
  - Synchronize signals for pedestrians and vehicles (x2)
  - Not a concern (x3)
- High Street
  - Eliminate parking and increase sidewalk width (x4)
  - Enforce parking
- Traffic signal timing and synchronization
  - Pedestrian flow must be considered (x3)
  - Prioritize traffic flow over pedestrians
- Falling Run Road and University Avenue
  - Consider left-turn lane, turn restriction, or roundabout
- Lane widths narrow – can't avoid potholes

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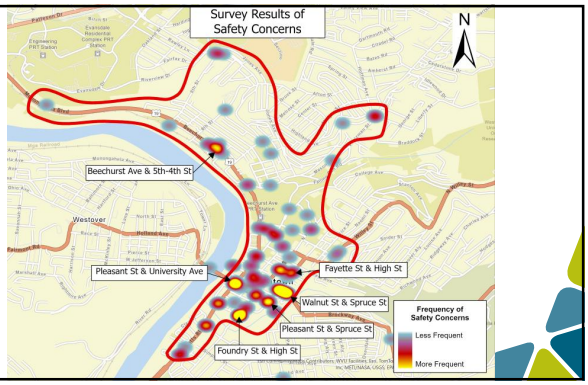

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Safety Concerns

- US 119
  - Increase speed limit to 55 mph
  - Speed is not an issue (x3)
- Truck traffic
  - Trucks turning left onto Walnut St are impeding traffic on Spruce St (x5)
  - Environmental impact (x8)
    - Ban/reroute trucks (x5)
    - Enforce covering loads (x3)
- Foundry Street bridge railings limit sight lines (x6)
- Walnut Street and Chestnut Street
  - Stripe lane lines through intersection
  - Add signing for lane configuration
- Don Knotts Boulevard and Dorsey Avenue
  - Consider a roundabout
  - Not a concern

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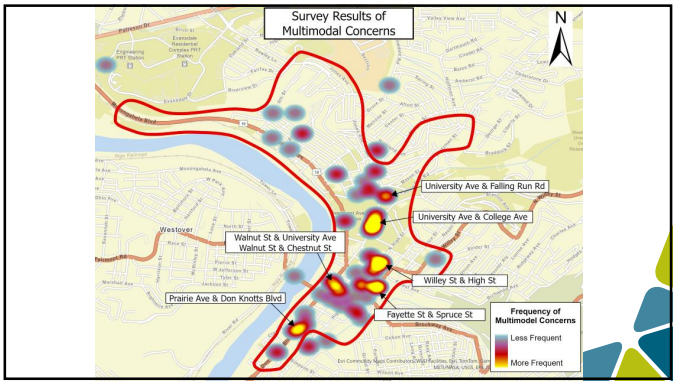
Safety Concerns

- Limited sight distance
  - Madison Avenue and Hite Street (x2)
  - West Virginia Avenue and Dorsey Avenue
  - Beechurst Avenue and 4th Street
- One-way streets downtown
  - Increase visibility and economic prosperity through lower vehicle LOS (x3)
  - Not a concern
- Prairie Avenue and Hurley Street realignment (x4)
- Farmers market pedestrian crossing (x3)
- Pleasant Street and Spruce Street pavement markings need to show left-turn lanes (x3)
- US 19 speed limit
  - Increase to 35-40 mph
  - Not a concern (x3)

12



13

Multimodal Concerns

- Intersections at US 119 need crosswalks with appropriate lighting (x2)
- Beechurst Avenue/PRT Station
  - Pedestrians cross street without using pedestrian bridge; add crosswalk (x2)
  - Enforce traffic yielding to pedestrians
- Establish a bike/pedestrian facility between the Life Sciences Building and 8th St
- High Street pedestrian traffic
  - Shut down High Street from Wiley to Kirk and create a pedestrian mall (x5)
  - Enforce traffic yielding to pedestrians (x3)
- Spruce Street width
  - Narrow to two lanes instead of three (x2)
  - Place a crosswalk in front of the library
  - This area is not a concern (x2)
- Traffic/pedestrian flow during the summer
  - Add sidewalks on both sides of the road at University Avenue and College Avenue
  - Focus on construction during summer months when traffic flow is down

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Microsimulation Results

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Level of Service

- Level of Service (LOS) is a qualitative description of the operational conditions of a roadway
- For intersections, LOS is function of control delay.
- For signalized intersections, LOS is reported based on the average control delay for the entire intersection
- For unsignalized intersections, LOS is reported separately for each stop controlled approach.

Level of Service (LOS)	Intersection Type (delay per vehicle)		Relative Delay
	Signalized	Stop Control	
A	≤ 10 seconds	≤ 10 seconds	Short Delays
B	> 10 and ≤ 20 seconds	> 10 and ≤ 15 seconds	
C	> 20 and ≤ 35 seconds	> 15 and ≤ 25 seconds	Moderate Delays
D	> 35 and ≤ 55 seconds	> 25 and ≤ 35 seconds	
E	> 55 and ≤ 80 seconds	> 35 and ≤ 50 seconds	Long Delays
F	> 80 seconds	> 50 seconds	Very Long Delays

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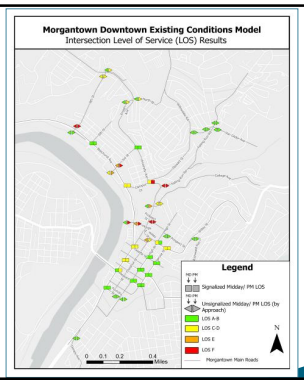
Congestion Model Results



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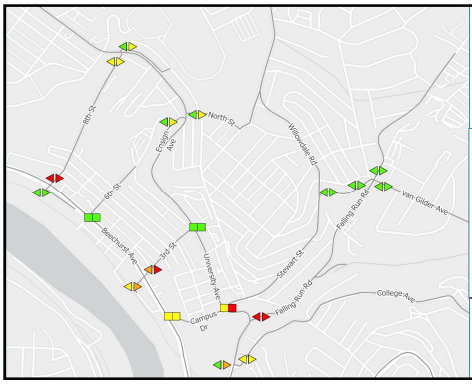
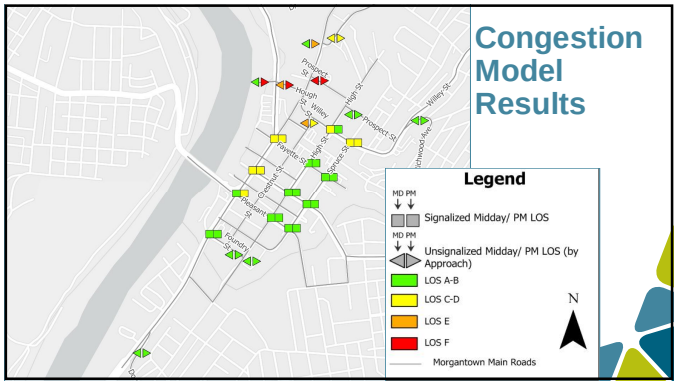
Congestion Model Results



18

Slide 16

CMF1 [@Abdallah, Ahmad]
[@Butler, Nathan]
[@Baumann, Kevin]
Can we use this slide to explain LOS and how we're reporting signalized and unsignalized intersection delay?
Frosch, Colin, 2024-06-24T13:52:18.108



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Purpose and Need Statement

20

Potential Needs to Address in Study

- Evaluate congestion improvements at hotspots
- Test impacts of safety and multimodal improvements on congestion

21

Alternatives Brainstorming

22

Scope limits

- Brainstorming today should discuss and consider all concepts.
- Next step is to "screen" alternatives to a smaller subset of options

- Up to four Travel Demand Model (TDM) scenarios
  - Options that would have the potential to change access and travel patterns
  - Examples: road closures, new road connections, road reconfigurations
  - Examples without TDM: multimodal, safety, or signal improvements without roadway capacity changes

- Up to seven TransModeler alternatives
  - Options that could have an effect on vehicular levels of service
  - Evaluate improvement to LOS for congestion hot spots
  - Verify multimodal or safety improvements doesn't create an unacceptable LOS
  - Examples: All TDM scenarios + intersection reconfigurations and signal improvements
  - Examples without TransModeler: New bicycle and pedestrian connections without roadway interaction, safety improvements that do not affect capacity

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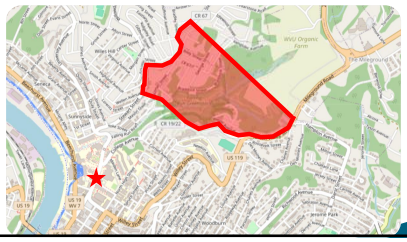
Signal Timing Improvements

- Coordination
- Optimization
- Leading pedestrian interval (or other pedestrian improvements)

24

Closure of Grumbein's Island

- With Willey Street to Stewart Street connection (tier 4 in MTP)
- Without new roadway connection



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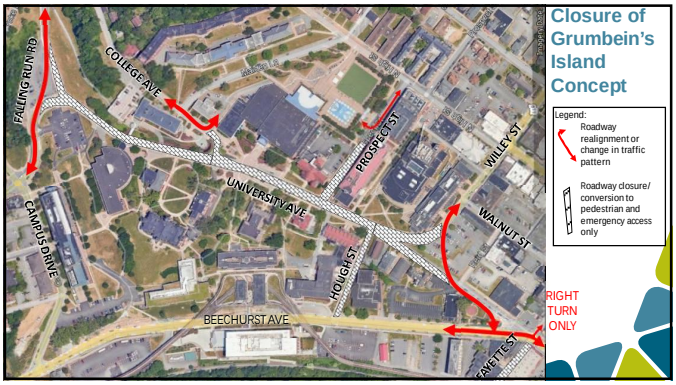

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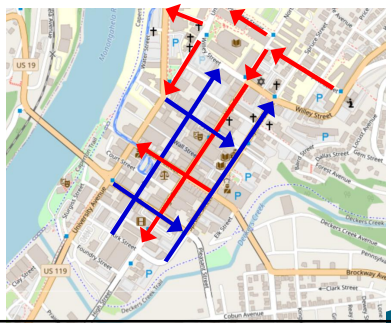
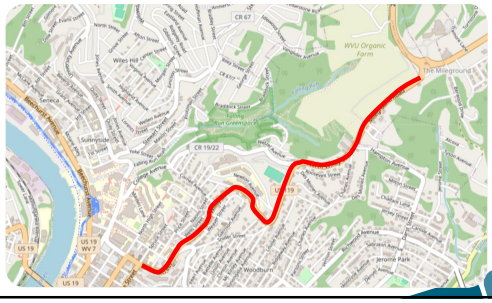
Conversion of One-way Streets to Two-way



27

Willey Street Improvements



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Next Steps

- No-Build volume forecasting and microsimulation underway
- Alternative concept screening
- Steering committee meeting to select alternatives to carry forward

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MMMPO Downtown Microsimulation Study Steering Committee Meeting #4

August 6, 2024

MMMPO Kimley»Horn

1

Agenda

- Existing Conditions Model Calibration Update
- Future No-Build Conditions Model Status
- Process to identify scenarios
- Recommended scenarios and discussion to finalize list

2

Attendees

MMMPO
- Bill Austin

Kimley-Horn
- Tim Padgett
- Kevin Baumann
- Colin Frosch
- Carmine Parascandola
- Nathan Butler
- Ahmad Abdallah
- Allison Fluitt

FHWA
- Kara Greathouse

WVU
- Jeremy Evans
- Ronald Justice
- Ted Svehlik
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- Russ Rogerson

City of Morgantown
- Emily Muzzarelli
- Jenny Selin
- Bill Kawecki
- Damien Davis
- Matt Cross

Monongalia County
- Jeff Arnett

3

Modeling Status Update

4

Existing Conditions Model

- The existing conditions model has been reviewed by a third-party engineering firm and has now been finalized
- No notable changes in operations metrics results

5

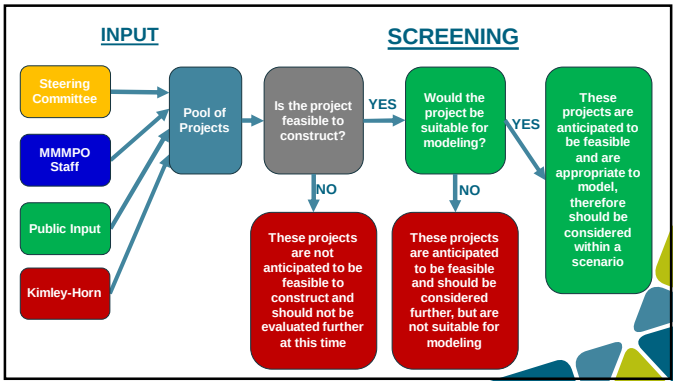
Future No-Build Conditions Model

- The future no-build conditions model has been prepared to include projected traffic growth plus the following committed improvements:
  - Widening of Beechurst Avenue from University Avenue to Campus Drive
  - Beechurst Avenue at Campus Drive intersection improvements
- With the projected future growth, simulations show heavier expected congestion during the PM peak hour – particularly at University Avenue/Campus Drive/Stewart Street

6

Development of Modeling Scenarios

7



8

Preliminary Feasibility Assessment

- Is the proposed geometry anticipated to be feasible?
- Would the intended benefit of the project be achievable?
- Is the project anticipated to be approved by the WVDOH or other relevant agencies which may have jurisdiction?
- Would the anticipated cost or level of impacts be considered prohibitive?

9

Preliminary Modeling Assessment

- Would the proposed project be anticipated to have an effect on
  - Vehicular travel patterns
  - Roadway capacity
  - Intersection or roadway geometry
  - Vehicular operations

10

Projects to Consider Outside of Model

Project Improvement	Reason to not be modeled
Additional signage on High Street	• No anticipated effect to the modeling parameters and operations results
Campus Connector Trail	• No anticipated effect to the modeling parameters and operations results • Outside the extents of the model
Signal timing along Route 705	• Outside the extents of the model
Grant Avenue and McLane Avenue conversion to two-way streets	• Outside the extents of the model
Crosswalks on Beechurst Avenue at Reynolds Hall and/or Hough Street	• Limited anticipated effect to the modeling parameters and operations results • Anticipated challenges with agency support and approval
Sidewalk on other side of Walnut Street Bridge	• Reconstruction of bridge anticipated to be required and may be cost prohibitive • Need for connections may be met through crossing improvements adjacent to bridge for less cost • No anticipated effect to the modeling parameters and operations results
Widening of Beechurst Avenue	• Anticipated to be prohibitive due to right-of-way and sidewalk impacts
Willey Street streetscape	• No anticipated effect to the modeling parameters and operations results

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Projects added from Public Input or Kimley-Horn operations assessment

Projects to Consider for Modeling Scenarios

1. Signal timing optimization and corridor coordination
2. Grumbein's island closure
3. Conversion of one-way streets to two-way downtown
4. Elimination of truck traffic
5. Re-allocation of laneage to improve lane continuity along University Avenue between Foundry Street and Fayette Street
6. Intersection Improvement Projects
   - Roundabout at Stewart St., Protzman St., Hoffman Ave., and VanGilder Ave.
   - University Ave. and Pleasant St./Westover Bridge
   - University Ave., Stewart St., and Campus Drive
   - Falling Run Road and University Ave.
   - Beechurst Avenue between Campus Drive and 8th Street (left-turn restrictions and signal modifications)
7. Willey Street Improvements
   - Capacity
   - Realignment
   - Capacity and realignment
8. Multimodal Safety and Access Improvements
   - 4th/5th Street Mid-block crosswalk
   - Farmer's market mid-block crosswalk
   - Restrict right turns on red
   - Pedestrian call every cycle and LPI in downtown (no all ped phase)
   - Road diet Mon Boulevard between Patteson Drive and 8th Street
   - Adding a pedestrian crosswalk on University Avenue/Don Knotts Boulevard at Hurley Street (Wharf District)

12

Recommended Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. "Wild Card" or "Ultimate Condition"

13

Recommended Modeling Scenario Options

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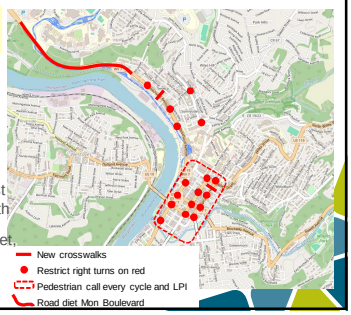

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Recommended Modeling Scenario Options

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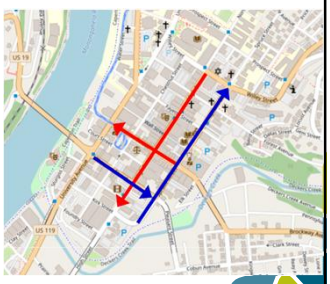

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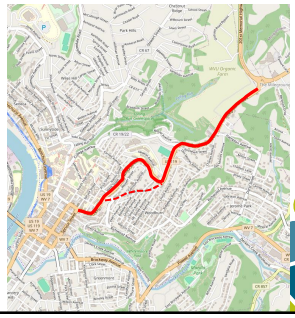

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Recommended Modeling Scenario Options

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Recommended Modeling Scenario Options

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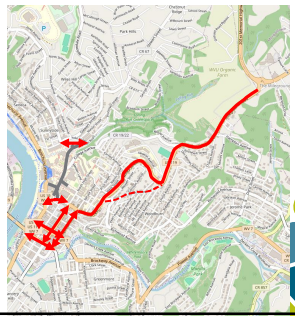

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Recommended Modeling Scenario Options

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6. Combined Grumbein's island, Willey Street, and one-way conversion
7. "Wild Card" or "Ultimate Condition"

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MMMPO Downtown Microsimulation Study Steering Committee Meeting #5

January 28, 2025

MMMPO Kimley»Horn

1

Meeting Purpose

- Summarize changes in forecasted volumes for build scenarios
  - Scenarios 2, 3, 4, and 6
- Summarize preliminary results of microsimulation build scenarios
- Discuss benefits and disadvantages of each scenario
- Discuss potential configurations for scenario #7
- No selection or recommendation of alternatives today

2

Build Scenario Results

3

References for Results

- **Benefits** and **Disadvantages** noted focus on **operations** results from model. Additional safety, multimodal, impact, and cost components to be discussed at next meeting
- **Delay:** difference in travel time between actual and free flow travel time

- Total signalized intersections: **16**
- Total signalized approaches: **91**
- Total unsignalized approaches: **63**

4

References for Results

No-Build Scenario Results

Build Scenario Results

Percent increase or decrease in number of acceptable LOS intersections or approaches

Percent increase or decrease in delay per vehicle miles traveled

	Mid-Day			PM		
	NB	#1	%	NB	#1	%
Signalized Intersections with LOS E or F	#	#	> -10%	#	#	<10%
Signalized Approaches with LOS E or F	#	#	-10% - -19%	#	#	10% - 19%
Unsignalized Approaches with LOS E or F	#	#	-10% - -19%	#	#	10% - 19%
Total delay (seconds) per Traveled	#	#	< -20%	#	#	>20%

5

Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
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6

Modeling Scenario Options

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2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. "Wild Card" or "Ultimate Condition"

7

Scenario 1 – Signal, Bike, and Ped. Improvements

Benefits

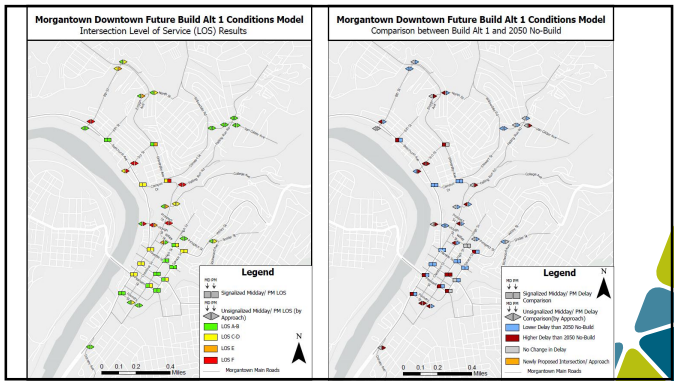
1. Problem intersections can be improved with timing changes and fixes to signal detection
2. Changes to pedestrian timings including leading pedestrian intervals not expected to have a substantial adverse effect on vehicular operations

Disadvantages

1. Improved signal timings may induce more vehicles to use the improved corridors
2. Modified signal timings may require longer cycle lengths – i.e. longer wait times for pedestrians to cross

	Mid-Day			PM		
	NB	#1	%	NB	#1	%
Signalized Intersections with LOS E or F	0	0	0%	4	2	13%
Signalized Approaches with LOS E or F	13	12	1%	20	16	14%
Unsignalized Approaches with LOS E or F	12	13	-2%	22	14	13%
Total delay (seconds) per Vehicle Miles Traveled	107	109	-2%	187	137	26%

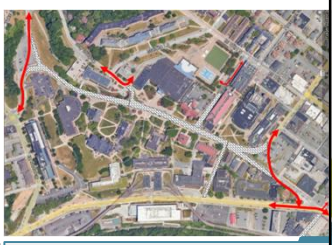
8



9

Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. "Wild Card" or "Ultimate Condition"



Volume Forecast Changes: Overall downtown network volumes anticipated to decrease by approximately 2% over the course of the day

10

Scenario 2 – Grumbein's Island Closure

Benefits

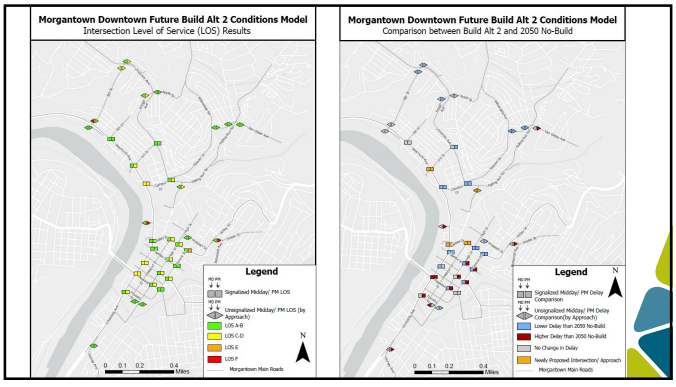
1. Traffic operations expected to operate acceptably on the key corridors – Willey, Beechurst, University north of Stewart
2. Less interaction between vehicles and pedestrians

Disadvantages

1. Some trip routes will be less direct
2. New connection from Willey Street to Beechurst Avenue will require a relatively large footprint (multiple turn lanes) to operate acceptably
3. Modified signal timings may require longer cycle lengths to flush heavier traffic – which means longer wait times for pedestrians to cross

	Mid-Day			PM		
	NB	#2	%	NB	#2	%
Signalized Intersections with LOS E or F	0	0	0%	4	1	20%
Signalized Approaches with LOS E or F	13	13	2%	20	26	-3%
Unsignalized Approaches with LOS E or F	12	1	17%	22	3	28%
Total delay (seconds) per Vehicle Miles Traveled	107	96	10%	187	145	23%

11



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Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. "Wild Card" or "Ultimate Condition"

Volume Forecast Changes: Overall downtown network volumes anticipated to remain the same over the course of the day

13

Scenario 3 – One-Way Street Conversion

Benefits

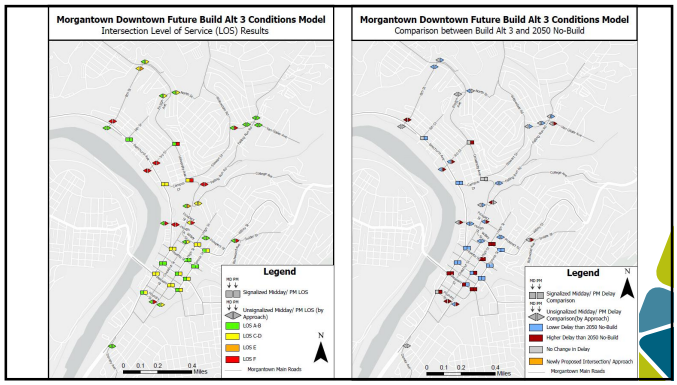
1. Some intersections downtown expected to operate with more congestion and lower speeds due to two-way traffic, but the network operates without an excessive impact to vehicular operations
2. May allow some vehicular trips to be more direct

Disadvantages

1. Increased congestion expected along Willey Street
2. Increased congestion expected at University/Park/Pleasant
3. Modified signal timings may require longer cycle lengths – which means longer wait times for pedestrians to cross
4. Truck routes may need to be modified, or intersection footprints widened, to accommodate truck turning radius

	Mid-Day			PM		
	NB	#3	%	NB	#3	%
Signalized Intersections with LOS E or F	0	0	0%	4	2	13%
Signalized Approaches with LOS E or F	13	15	-1%	20	27	-5%
Unsignalized Approaches with LOS E or F	12	11	2%	22	22	1%
Total delay (seconds) per Vehicle Miles Traveled	107	106	1%	187	174	7%

14



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Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
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6. Combined Grumbein's island, Willey Street, and one-way conversion
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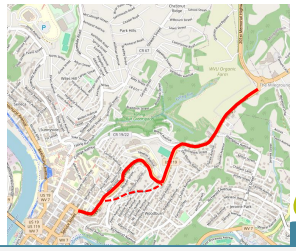


Volume Forecast Changes: Overall downtown network volumes anticipated to remain the same over the course of the day

16

Scenario 4: Interim and Long-Term

Scenario 4A – Interim Improvements

Scenario 4B – Long-Term Improvements

17

Scenario 4A – Interim Willey Street Improvements

Benefits

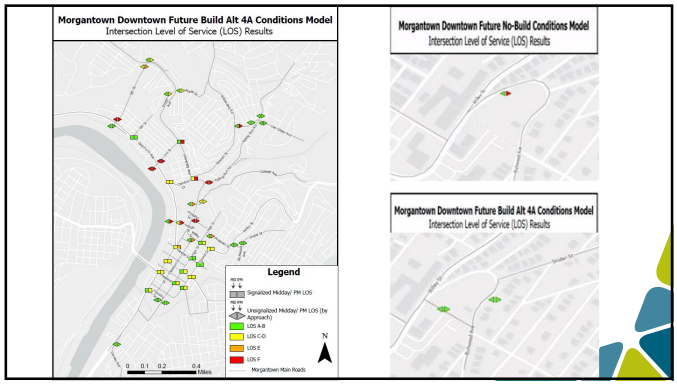
1. Proposed realignment of Richwood Avenue is expected to operate acceptably based on the projected traffic

Disadvantages

1. Other projected issues in the No-Build scenario are not addressed by these planned improvements

	Mid-Day			PM		
	NB	#4A	%	NB	#4A	%
Signalized Intersections with LOS E or F	0	0	0%	4	3	6%
Signalized Approaches with LOS E or F	13	15	-2%	20	21	-1%
Unsignalized Approaches with LOS E or F	12	12	1%	22	23	1%
Total delay (seconds) per Vehicle Miles Traveled	107	106	1%	187	179	4%

18



19

Scenario 4B – Willey Street Improvements

Benefits

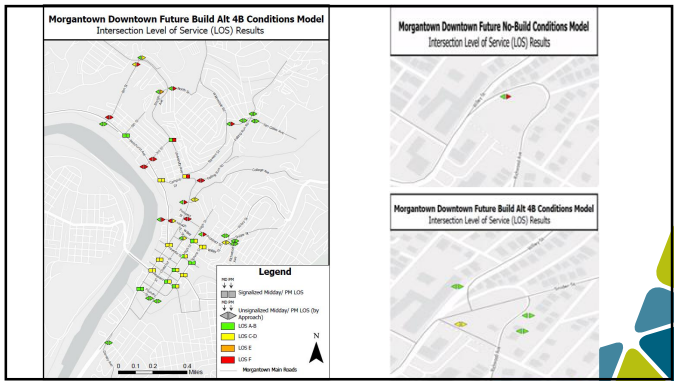
1. Proposed realignments of Richwood Avenue and Snider Street are expected to operate acceptably based on the projected traffic
2. Expected to improve safety and driver expectations entering Downtown from Mileground area

Disadvantages

1. Other projected issues in the No-Build scenario are not addressed by these planned improvements
2. Additional traffic flow expected on Willey through downtown due to the realignment and making this connection more direct, so some signal timing changes will be necessary in the downtown area.

	Mid-Day			PM		
	NB	#4B	%	NB	#4B	%
Signalized Intersections with LOS E or F	0	0	0%	4	2	13%
Signalized Approaches with LOS E or F	13	14	-1%	20	22	-2%
Unsignalized Approaches with LOS E or F	12	11	4%	22	26	0%
Total delay (seconds) per Vehicle Miles Traveled	107	107	0%	187	185	1%

20



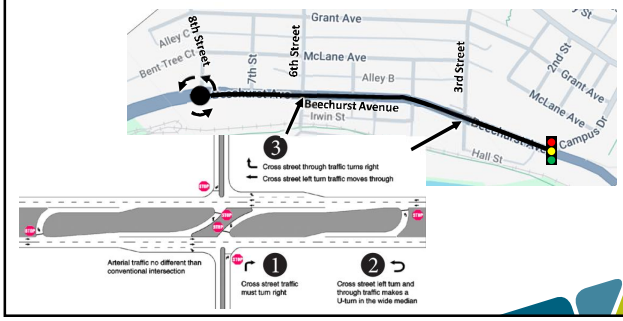
21

Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. "Wild Card" or "Ultimate Condition"

22

Scenario 5: Beechurst Corridor



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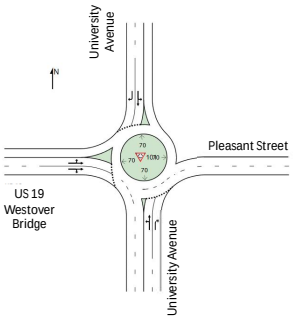
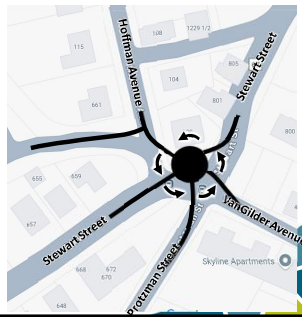
Scenario 5: Intersection Improvements





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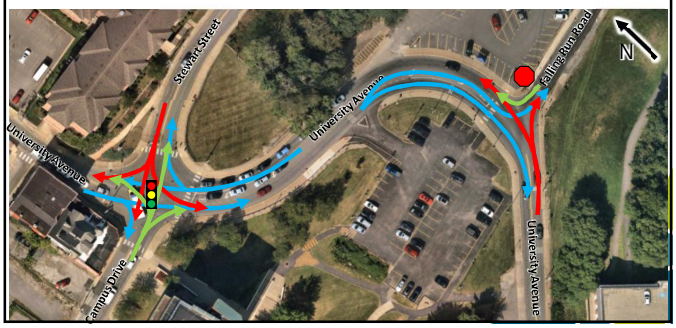
Scenario 5: Intersection Improvements



25

Scenario 5 – Corridor and Intersection Improvements

Benefits

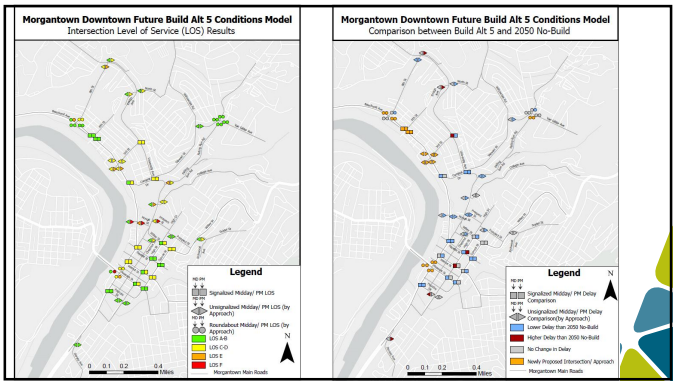
1. Improvements are expected to improve congestion at the target intersections, except at Westover Bridge
2. Reduced conflict intersections on Beechurst are expected to pair very well with a proposed RAB at 8th Street – to provide a natural U-turn location

Disadvantages

1. Some paths will be less direct
2. May induce more vehicles to use the improved corridors
3. Roundabout at Westover Bridge expected to operate with longer delays during peak times on Westover Bridge than as a signal (Alt 1 signal timing improvements resulted in less delay)

	Mid-Day			PM		
	NB	#5	%	NB	#5	%
Signalized Intersections with LOS E or F	0	0	0%	4	0	25%
Signalized Approaches with LOS E or F	13	10	2%	20	13	6%
Unsignalized Approaches with LOS E or F	12	7	8%	22	16	11%
Total delay (seconds) per Vehicle Miles Traveled	107	91	15%	187	137	27%

26



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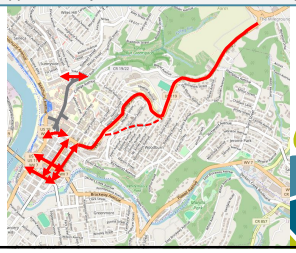
Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. "Wild Card" or "Ultimate Condition"

Volume Forecast Changes: Overall downtown network volumes anticipated to decrease by approximately 2% over the course of the day



28

Scenario 6 – Combined 2, 3, and 4 scenarios

Benefits

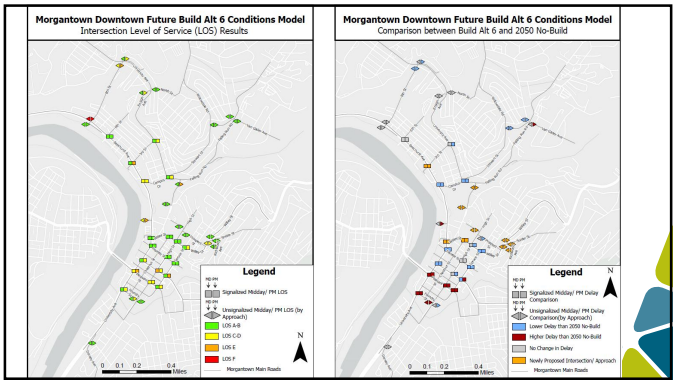
1. Overall, combining these three alternatives is expected to provide the desired benefits of each without an excessive impact to vehicular operations

Disadvantages

1. New connection from Willey Street to Beechurst Avenue will require a relatively large footprint (multiple turn lanes) to operate acceptably
2. Increased congestion expected along Willey Street
3. Increased congestion expected at University/Park/Pleasant
4. Modified signal timings may require longer cycle lengths to flush heavier traffic – which means longer wait times for pedestrians to cross

	Mid-Day			PM		
	NB	#6	%	NB	#6	%
Signalized Intersections with LOS E or F	0	1	-5%	4	3	9%
Signalized Approaches with LOS E or F	13	17	-1%	20	21	3%
Unsignalized Approaches with LOS E or F	12	1	18%	22	8	23%
Total delay (seconds) per Vehicle Miles Traveled	107	99	8%	187	142	24%

29



30

Modeling Scenario Options

	Mid-Day							PM						
	#1	#2	#3	#4A	#4B	#5	#6	#1	#2	#3	#4A	#4B	#5	#6
Signalized Intersections with LOS E or F	0%	0%	0%	0%	0%	0%	-5%	13%	20%	13%	6%	13%	25%	9%
Signalized Approaches with LOS E or F	1%	2%	-1%	-2%	-1%	2%	-1%	14%	-3%	-5%	-1%	-2%	6%	3%
Unsignalized Approaches with LOS E or F	-2%	17%	2%	1%	4%	8%	18%	13%	28%	1%	1%	0%	11%	23%
Total delay (seconds) per Vehicle Miles Traveled	-2%	10%	1%	1%	0%	15%	8%	26%	23%	7%	4%	1%	27%	24%

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Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. "Wild Card" or "Ultimate Condition"

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Next Steps

1. Finalize models based on comments from third party consultant review
2. Create and run model for scenario 7
3. Formally summarize all operations results
4. Draft scenario report cards with operations, safety, multimodal, and cost considerations
5. Final steering committee meeting to discuss report cards and determine

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MMMPO Downtown Microsimulation Study Steering Committee Meeting #6

April 3, 2025

MMMPO Kimley»Horn

1

Meeting Purpose

- Summarize microsimulation results for scenario #7
- Review operations, safety, and mobility scoring for all scenarios
- Discuss considerations for all scenarios
- Discuss recommendations

2

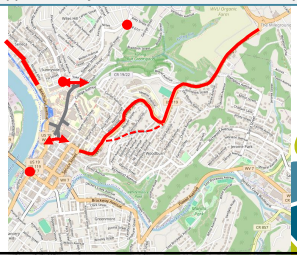
Scenario 7

3

Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. Combined Grumbein's island, Willey Street, Intersection Improvements, Signal Optimization

Volume Forecast Changes: Overall downtown network volumes anticipated to decrease by approximately 2% over the course of the day



4

Scenario 7 – Combined 2, 4B, and 5 scenarios

Benefits

1. Overall, combining these three alternatives is expected to provide the desired benefits of each without an excessive impact to vehicular operations

Disadvantages

1. New connection from Willey Street to Beechurst Avenue will require a relatively large footprint (multiple turn lanes) to operate acceptably
2. Increased congestion expected along Willey Street
3. Increased congestion expected at University/Park/Pleasant
4. Modified signal timings may require longer cycle lengths to flush heavier traffic – which means longer wait times for pedestrians to cross

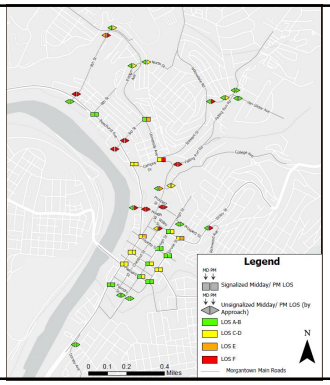
	Mid-Day			PM		
	NB	#7	%	NB	#7	%
Signalized Intersections with LOS E or F	0	0	0%	4	0	25%
Signalized Approaches with LOS E or F	13	11	1%	20	17	5%
Unsignalized Approaches with LOS E or F	12	2	16%	22	8	22%
Total delay (seconds) per Vehicle Miles Traveled	107	101	5%	187	126	33%

5

Scenario Scoring

6

2050 No-Build Operations



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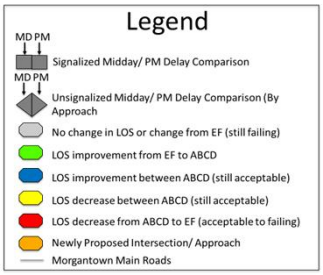
Operations Comparison to No-Build



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Scenario Scoring Rubric

Category	●○○○○	●●○○○	●●●○○	●●●●○	●●●●●	Notes
Traffic Operations (Individual Intersections)	< -7%	-7% to -1%	-1% to 1%	1% to 7%	> 7%	intersection approach movements with an acceptable LOS (D or greater) anticipated to increase or decrease?
Traffic Operations (Downtown Network)	> 20% increase	4 to 20% increase	4% to -4% change	4 to 20% decrease	> 20% decrease	Is the total delay per vehicle miles traveled anticipated to increase or decrease?
Bike & Pedestrian Mobility	Notable decrease in mobility	Some decrease in mobility	No change in mobility	Some increase in mobility	Notable increase in mobility	How is bike and pedestrian mobility affected, relative to other scenarios?
Bike & Pedestrian Safety	Notable decrease in safety	Some decrease in safety	No change in safety	Some increase in safety	Notable increase in safety	How is bike and pedestrian safety prioritized, relative to other scenarios?
Vehicular Safety	Notable decrease in safety	Some decrease in safety	No change in safety	Some increase in safety	Notable increase in safety	How would vehicular safety be addressed?

9

Additional Scenario Considerations

Anticipated Public Support	What is the anticipated public response to the proposed scenario?
Constructability	What level of complexity for design and construction would be entailed?
ROW Impacts	What level of right-of-way impacts are anticipated?
Impact to Business and Development	What impact to businesses and development is anticipated?
Cost	What is the anticipated relative cost of implementation?

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Modeling Scenario Options

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7. Combined Grumbein's island, Willey Street, and Intersection Improvements

11

Modeling Scenario Options

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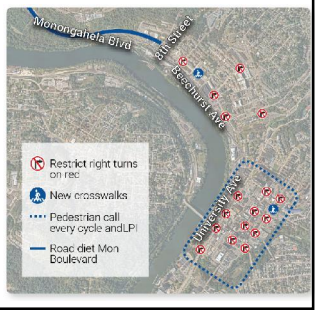

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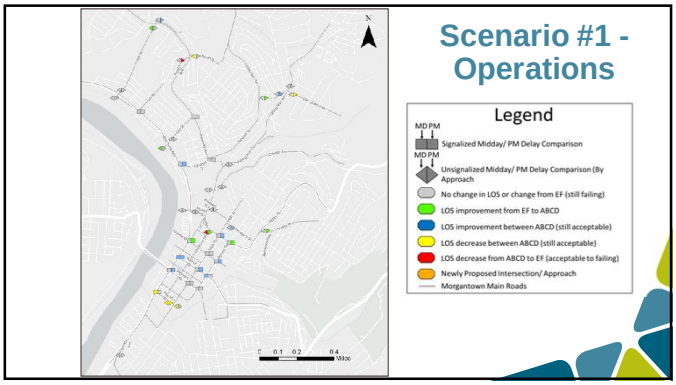

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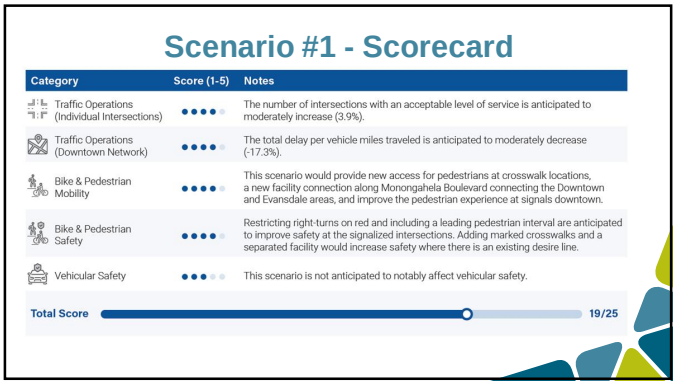

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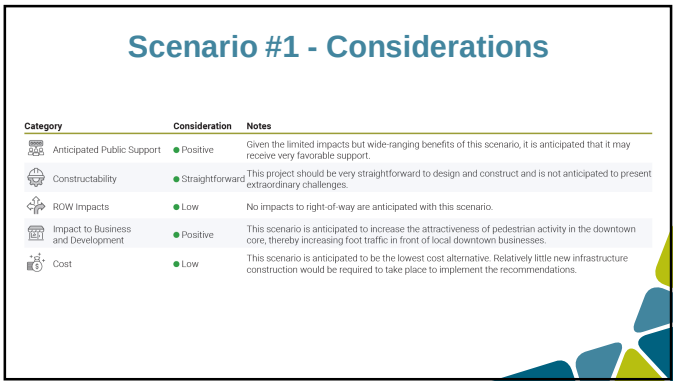

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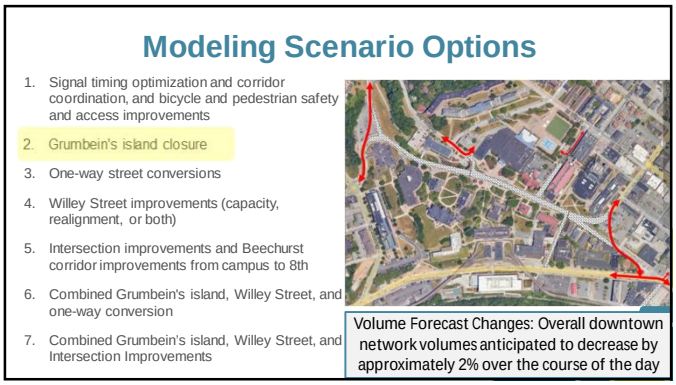

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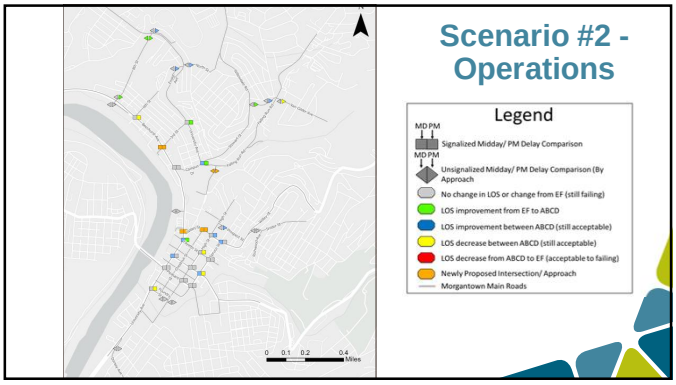

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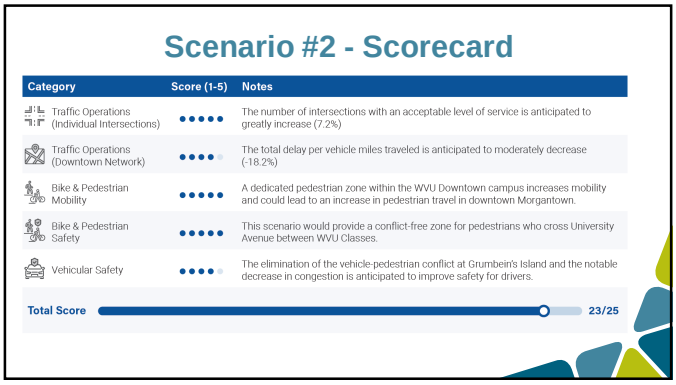

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Scenario #2 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Neutral	Given the significant change from the existing and long-standing configuration, balanced with a significant increase in pedestrian mobility and safety, it is anticipated that there may be both strong support and opposition of this scenario.
Constructability	Complex	As compared to other scenarios, this scenario scores relatively low based on the number of intersections that need to be re-aligned.
ROW Impacts	Medium	Right-of-way impacts are relatively limited as compared to other scenarios, with the only impacts occurring at the new re-alignment at Beechurst Avenue and the new alignment of Falling Run Road and generally limited to WVU owned properties.
Impact to Business and Development	Medium	It is not anticipated that there will be notable impact to business and development directly related to this scenario.
Cost	High	The cost of this scenario is anticipated to be relatively high as compared to other scenarios. This is due to the scale of the construction, potential for right-of-way impacts, and re-alignment and re-design of numerous intersections.

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Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
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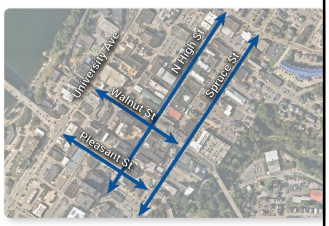
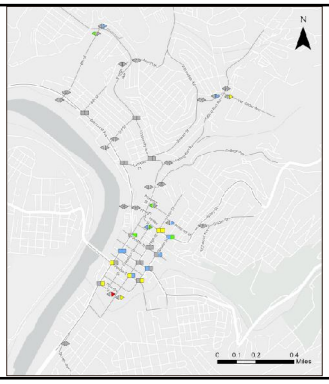
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. Combined Grumbein's island, Willey Street, and Intersection Improvements



Volume Forecast Changes: Overall downtown network volumes anticipated to remain the same over the course of the day

20



Scenario #3 - Operations

Legend

- MD PM — Signalized Midday/ PM Delay Comparison
- MD PM — Unsignalized Midday/ PM Delay Comparison (By Approach)
- No change in LOS or change from EF (still failing)
- LOS improvement from EF to ABCD
- LOS improvement between ABCD (still acceptable)
- LOS decrease between ABCD (still acceptable)
- LOS decrease from ABCD to EF (acceptable to failing)
- Newly Proposed Intersection/ Approach
- Morgantown Main Roads

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Scenario #3 - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●○○○	The number of intersections with an acceptable level of service is anticipated to moderately decrease (-1.1%)
Traffic Operations (Downtown Network)	●●●○○	The total delay per vehicle miles traveled is anticipated to only slightly decrease (-5.1%)
Bike & Pedestrian Mobility	●●○○○	Converting the one-way streets to two-way may restrict future development/use of the right-of-way for bicycle or pedestrian specific facilities like bike lanes.
Bike & Pedestrian Safety	●●●○○	Conversion to a two-way street is anticipated to have a net neutral change in pedestrian and bicycle safety. For example, pedestrians will now need to be aware of traffic approaching from two directions but may also have increased visibility at mid-block crosswalks.
Vehicular Safety	●●●●○	The two-way street configuration would increase the number of conflict points at intersections but is anticipated to have an overall positive impact to vehicular safety due to the anticipated decrease in vehicular speeds within the urban core.
Total Score		14/25

22

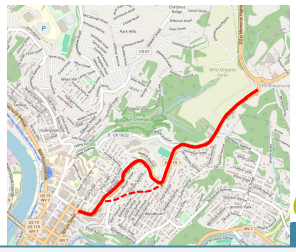
Scenario #3 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Negative	Some opposition to the project is anticipated to be presented from the driving public and business owners downtown.
Constructability	Complex	The complete replacement of signal control infrastructure and potential intersection modifications could present some challenges during the planning and design process.
ROW Impacts	Medium	Due to the potential modification of intersections, there is anticipated to be many instances of minor temporary or permanent right-of-way impacts without any relocations.
Impact to Business and Development	Neutral	There is anticipated to be mixed opinions from business owners on the impacts to business and development. The change in parking access or loading zones is anticipated to balance with the potential neutral change in pedestrian safety.
Cost	Medium	Relative to other scenarios considered, this project is anticipated to have a moderate cost. No new location roadway facilities would be required but the complete replacement of signal control infrastructure and potential intersection modifications could add sizable costs.

23

Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. Combined Grumbein's island, Willey Street, and Intersection Improvements



Volume Forecast Changes: Overall downtown network volumes anticipated to remain the same over the course of the day

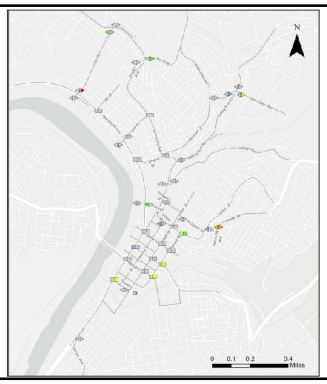
24

Scenario 4: Interim and Long-Term

Scenario 4A – Interim Improvements

Scenario 4B – Long-Term Improvements

25



Scenario #4A - Operations

Legend

- MD PM — Signalized Midday/ PM Delay Comparison
- MD PM — Unsignalized Midday/ PM Delay Comparison (By Approach)
- No change in LOS or change from EF (still failing)
- LOS improvement from EF to ABCD
- LOS improvement between ABCD (still acceptable)
- LOS decrease between ABCD (still acceptable)
- LOS decrease from ABCD to EF (acceptable to failing)
- Newly Proposed Intersection/ Approach
- Morgantown Main Roads

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Scenario #4A - Scorecard

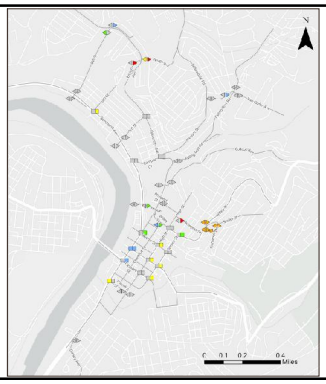
Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●○○	The number of intersections with an acceptable level of service is anticipated to narrowly decrease (-0.3%)
Traffic Operations (Downtown Network)	●●●○○	The total delay per vehicle miles traveled is anticipated to narrowly decrease (-3.1%)
Bike & Pedestrian Mobility	●●●○○	Bike and pedestrian mobility does not increase nor decrease with the configuration of this scenario.
Bike & Pedestrian Safety	●●●●○	Bike and pedestrian safety may slightly increase due to the realignment of the existing intersection.
Vehicular Safety	●●●●○	This scenario's configuration proposes the elimination of the existing intersection at Richwood Avenue and Willey Street which had poor sight distance, providing a potential increase in safety.
Total Score		**17/25**

27

Scenario #4A - Considerations

Category	Consideration	Notes
Anticipated Public Support	Neutral	It is anticipated that there will be balanced support, given the improvements, and opposition, given the potential impacts along Willey Street, for this scenario.
Constructability	Complex	The constructability of this project may be somewhat challenging due to the conflicts arising from the widening of Willey Street.
ROW Impacts	High	It is anticipated that the widening of Willey Street will impact several properties and homes, leading to multiple full relocation impacts in this scenario.
Impact to Business and Development	Positive	This scenario is consistent with development plans for the East End Village and promotes additional connectivity to Downtown Morgantown, which may lead to a positive impact for business owners.
Cost	High	The cost of this scenario is expected to be relatively expensive compared to other scenarios. Costs stem from the widening of Willey Street as well as the proposed intersection reconfigurations.

28



Scenario #4B - Operations

Legend

- MD PM — Signalized Midday/ PM Delay Comparison
- MD PM — Unsignalized Midday/ PM Delay Comparison (By Approach)
- No change in LOS or change from EF (still failing)
- LOS improvement from EF to ABCD
- LOS improvement between ABCD (still acceptable)
- LOS decrease between ABCD (still acceptable)
- LOS decrease from ABCD to EF (acceptable to failing)
- Newly Proposed Intersection/ Approach
- Morgantown Main Roads

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Scenario #4B - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●○○	The number of intersections with an acceptable level of service is not anticipated to noticeably change (-0.1%)
Traffic Operations (Downtown Network)	●●●○○	The total delay per vehicle miles traveled is anticipated to narrowly decrease (-0.9%)
Bike & Pedestrian Mobility	●●●●○	The bicycle and pedestrian facilities implemented along Snider Street may increase connectivity to the downtown Morgantown area from the neighborhoods northeast of downtown
Bike & Pedestrian Safety	●●●●●	The bicycle and pedestrian facilities along Snider Street and realignment of Willey Street are anticipated to provide a moderate increase in bike and pedestrian safety.
Vehicular Safety	●●●●●	This scenario may significantly improve vehicular safety due to the elimination of the misaligned intersection at Willey Street and Richwood Avenue and the shift of traffic from the windy portion of Willey Street to the relatively straight Snider Street alignment.
Total Score		**20/25**

30

Scenario #4B - Considerations

Category	Consideration	Notes
Anticipated Public Support	Negative	The acquisition of right-of-way from multiple property owners along Snider Street may present challenges in gaining public support. Travelers using Willey Street today to enter the downtown area from the Mileground are anticipated to support the project.
Constructability	Complex	The constructability is anticipated to be somewhat difficult, due to the challenges that may be presented along Snider Street when implementing widened lanes and multi-modal facilities.
ROW Impacts	High	It is anticipated that the upgrade of Snider Street will impact several properties requiring multiple full relocations.
Impact to Business and Development	Positive	This scenario is consistent with development plans for the East End Village and promotes additional connectivity to Downtown Morgantown, which may lead to positive impact for business owners.
Cost	High	This scenario is anticipated to be relatively expensive in comparison to other scenarios. The cost largely stems from the re-alignment of Willey Street and the upgrades to Snider Street.

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Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. Combined Grumbein's island, Willey Street, and Intersection Improvements

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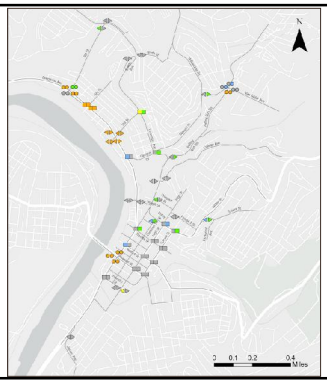
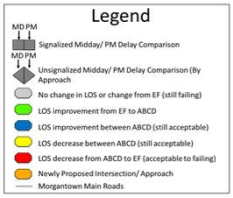


Scenario #5 - Operations



33

Scenario #5 - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●○	The number of intersections with an acceptable level of service is anticipated to moderately increase (6.3%)
Traffic Operations (Downtown Network)	●●●●●	The total delay per vehicle miles traveled is anticipated to greatly decrease (-22.6%)
Bike & Pedestrian Mobility	●●●●○	In general, the intersection improvements proposed will provide additional access for pedestrians and provide separated facilities.
Bike & Pedestrian Safety	●●●●○	By providing improved separated facilities, reducing conflict points with drivers, and improving crossings, safety for pedestrians and bicyclists is anticipated to improve.
Vehicular Safety	●●●●●	The intersection and corridor improvements proposed will greatly reduce the number of conflict points at intersections, reduce speeds, and improve congestion, all of which are anticipated to significantly increase vehicular safety.
Total Score		22/25

34

Scenario #5 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Neutral	There is anticipated to be mixed support for these proposed improvements due to the increase in safety and mobility for multimodal users but also the restrictions in access along Beechurst Avenue and potential for right-of-way impacts.
Constructability	Medium	The proposed improvements follow typical intersection configurations and would present neutral challenges.
ROW Impacts	Medium	Full relocations are anticipated at the two proposed roundabout locations due to the increased size of the intersections.
Impact to Business and Development	Negative	The access restrictions proposed for side street access to Beechurst Avenue may have a possible negative impact to existing businesses, especially freight access.
Cost	Medium	Relative to other scenarios considered, this project is anticipated to have a moderate cost. No new location roadway facilities would be required but the complete reconfiguration of multiple intersections and improvements along Beechurst Avenue is anticipated to present sizable costs.

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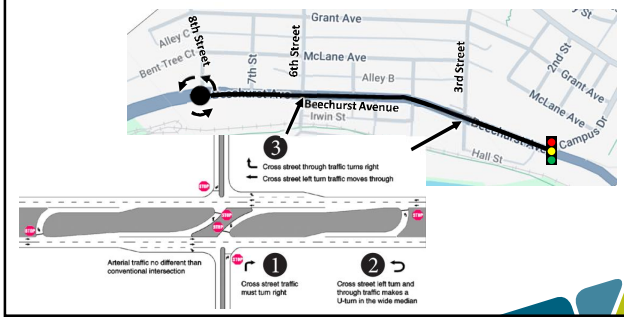
Scenario 5: Beechurst Corridor



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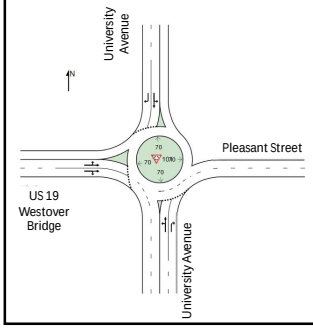
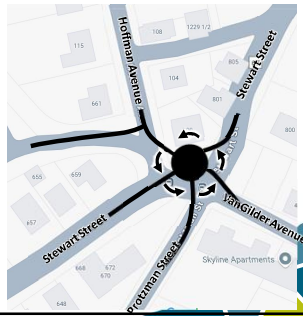
Scenario 5: Intersection Improvements





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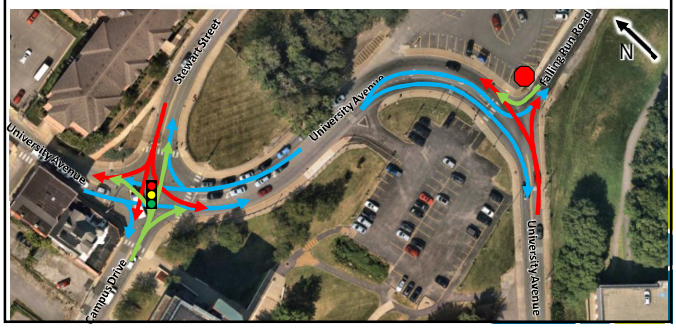
Scenario 5: Intersection Improvements



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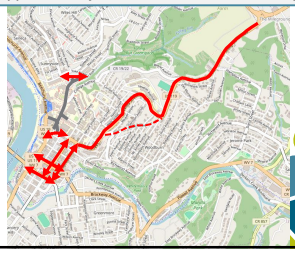
Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. Combined Grumbein's island, Willey Street, and Intersection Improvements

Volume Forecast Changes: Overall downtown network volumes anticipated to decrease by approximately 2% over the course of the day



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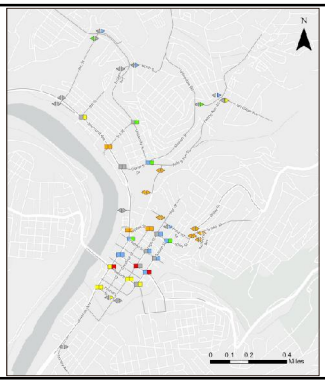
Scenario #6 - Operations



Legend

- MD PM — Signalized Midday/ PM Delay Comparison
- MD PM — Unsignalized Midday/ PM Delay Comparison (By Approach)
- No change in LOS or change from EF (still failing)
- LOS improvement from EF to ABCD
- LOS improvement between ABCD (still acceptable)
- LOS decrease between ABCD (still acceptable)
- LOS decrease from ABCD to EF (acceptable to failing)
- Newly Proposed Intersection/ Approach
- Morgantown Main Roads

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Scenario #6 - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●●	The number of intersections with an acceptable level of service is anticipated to greatly increase (8.7%)
Traffic Operations (Downtown Network)	●●●●○	The total delay per vehicle miles traveled is anticipated to moderately decrease (-18.4%)
Bike & Pedestrian Mobility	●●●●●	Due to the combination of bike and pedestrian mobility improvements associated with the closure of Grumbein's Island and the Snider Street conversion, this scenario provides for significant improvements in bike and pedestrian mobility.
Bike & Pedestrian Safety	●●●●●	Due to the combination of bike and pedestrian safety improvements associated with the closure of Grumbein's Island and the Snider Street Conversion, this scenario provides for significant improvement in bike and pedestrian safety.
Vehicular Safety	●●●●○	The elimination of the vehicle-pedestrian conflict at Grumbein's Island combined with the reconfiguration of the misaligned intersection at Willey Street and Richwood Avenue provide for a potential moderate increase in vehicle safety.

Total Score 23/25

41

Scenario #6 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Negative	The acquisition right-of-way from property owners along Snider Street as well as the conversion of one-way street to two-way may present challenges for public support.
Constructability	Complex	The constructability is anticipated to be somewhat difficult, between the reconfiguration of intersections surrounding Grumbein's Island and the challenges that may be presented along Snider Street when implementing widened lanes and multimodal facilities.
ROW Impacts	High	It is anticipated that there will be multiple right-of-way impacts, largely stemming from the updated configuration of Snider Street.
Impact to Business and Development	Positive	This scenario provides improved access to businesses, largely stemming from the Snider Street conversion providing additional connectivity to Downtown Morgantown and its consistency with development plans for the East End Village.
Cost	High	This scenario is anticipated to be the most expensive due to costs stemming from the closure of Grumbein's Island and the upgrades to Snider Street.

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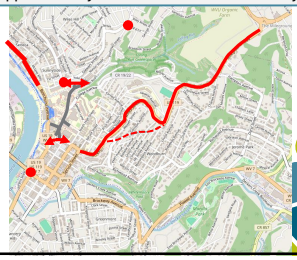
Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. Combined Grumbein's island, Willey Street, and Intersection Improvements

Volume Forecast Changes: Overall downtown network volumes anticipated to decrease by approximately 2% over the course of the day



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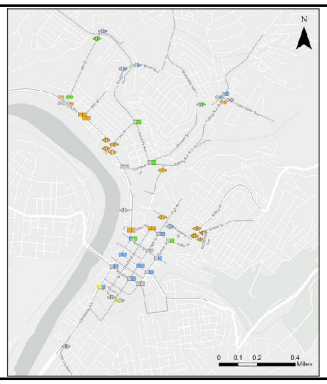

Scenario #7 - Operations

Legend

- MD PM — Signalized Midday/ PM Delay Comparison
- MD PM — Unsignalized Midday/ PM Delay Comparison (By Approach)
- No change in LOS or change from EF (still failing)
- LOS improvement from EF to ABCD
- LOS improvement between ABCD (still acceptable)
- LOS decrease between ABCD (still acceptable)
- LOS decrease from ABCD to EF (acceptable to failing)
- Newly Proposed Intersection/ Approach
- Morgantown Main Roads

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Scenario #7 - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●●	The number of intersections with an acceptable level of service is anticipated to greatly increase (10.2%)
Traffic Operations (Downtown Network)	●●●●●	The total delay per vehicle miles traveled is anticipated to greatly decrease (-23.6%)
Bike & Pedestrian Mobility	●●●●●	Due to the combination of bike and pedestrian mobility improvements associated with the closure of Grumbein's Island, the Snider Street conversion, and intersection improvements, this scenario provides for significant improvements in bike and pedestrian mobility.
Bike & Pedestrian Safety	●●●●●	Due to the combination of bike and pedestrian safety improvements associated with the closure of Grumbein's Island, the Snider Street Conversion, and the intersection improvements, this scenario provides for significant improvement in bike and pedestrian safety.
Vehicular Safety	●●●●●	The reduction of the conflict points and severity of potential crashes with the intersection improvements plus the elimination of the vehicle-pedestrian conflict at Grumbein's Island combined with the reconfiguration of the misaligned intersection at Willey Street and Richwood Avenue provide for a potential notable increase in vehicle safety.
Total Score		**25/25**

45

Scenario #7 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Negative	The acquisition right-of-way from property owners along Snider Street and at the intersection improvements and the access restrictions along Beechurst may present some public support challenges.
Constructability	Complex	The constructability is anticipated to be somewhat difficult, between the reconfiguration of intersections surrounding Grumbein's Island and the challenges that may be presented along Snider Street when implementing widened lanes and multimodal facilities.
ROW Impacts	High	It is anticipated that there will be multiple right-of-way impacts, largely stemming from the updated configuration of Snider Street and the proposed roundabouts at Pleasant Street and Stewart Street intersections.
Impact to Business and Development	Medium	This scenario provides improved access to businesses, largely stemming from the Snider Street conversion providing additional connectivity to Downtown Morgantown and its consistency with development plans for the East End Village.
Cost	High	This scenario is anticipated to be the most expensive due to costs stemming from the closure of Grumbein's Island and the upgrades to Snider Street.

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Categories	Scenario 1	Scenario 2	Scenario 3	Scenario 4A	Scenario 4B	Scenario 5	Scenario 6	Scenario 7
	Scores							
Traffic Operations (Individual Intersections)	4	5	2	3	3	4	5	5
Traffic Operations (Downtown Network)	4	4	3	3	3	5	4	5
Bike & Pedestrian Mobility	4	5	2	3	4	4	5	5
Bike & Pedestrian Safety	4	5	3	4	5	4	5	5
Vehicular Safety	3	4	4	4	5	5	4	5
Total	**19**	**23**	**14**	**17**	**20**	**22**	**23**	**25**

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Recommendations

- Include Scenario 7 in long range planning for Morgantown
  - Scenario 1 – Signal optimization and multimodal improvements
  - Scenario 2 – Grumbein's Island closure
  - Scenario 4B – Realignment of US 119 to Snider Street
  - Scenario 5 – Intersection Improvements
- Scenario 7 can be phased as standalone projects
- Not recommended to be carried forward
  - Scenario 3 – one-way street conversions

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Downtown Morgantown Microsimulation Study

May 15, 2025

MMMPO Kimley»Horn

1

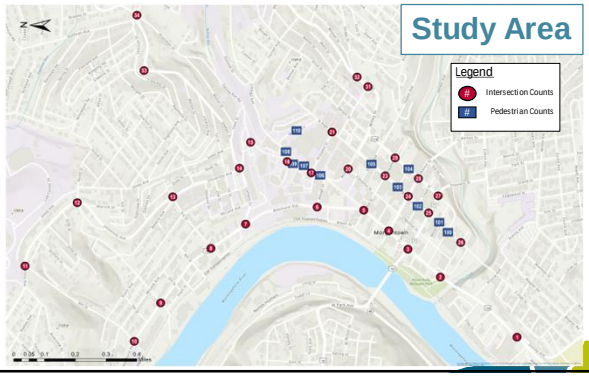
Project Purpose

To recommend potential future reconfigurations of the downtown Morgantown transportation network based on:

- Assessment of existing safety, parking, and congestion
- Input from the community and stakeholders
- A robust microsimulation model of the network

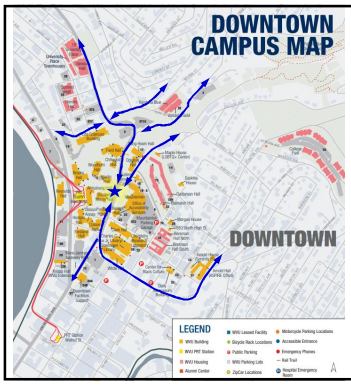
2

Study Area



3

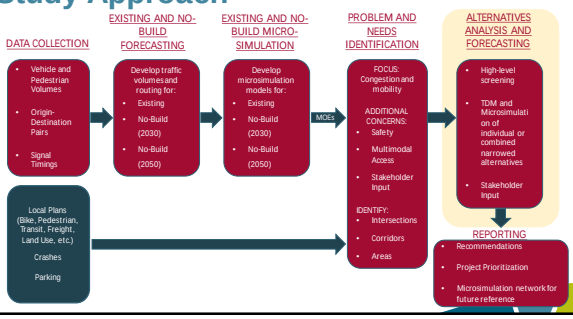
Grumbein's Island



- Centrally located on WVU's Downtown campus
- High pedestrian volumes create a "choke point" for north-south vehicular traffic
- Potential closure of island will need to answer the question – "where will drivers go, and what effect will that have on the network"?
- This study will use TransCAD and TransModeler to address this question

4

Study Approach

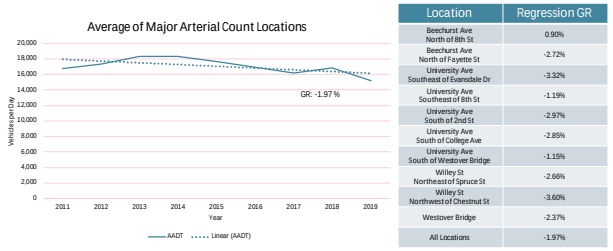


5

Existing Conditions

6

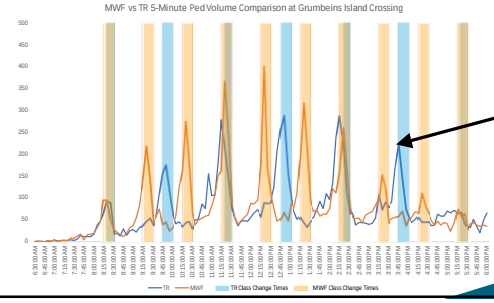
Historic AADT Volume Trends



Location	Regression GR
Beechurst Ave North of 8th St	0.90%
Beechurst Ave North of Fayette St	-2.72%
University Ave Southeast of Evansdale Dr	-3.32%
University Ave Southeast of 8th St	-1.19%
University Ave South of 2nd St	-2.97%
University Ave South of College Ave	-2.85%
University Ave South of Westover Bridge	-1.15%
Willey St Northeast of Spruce St	-2.66%
Willey St Northwest of Chestnut St	-3.60%
Westover Bridge	-2.37%
All Locations	-1.97%

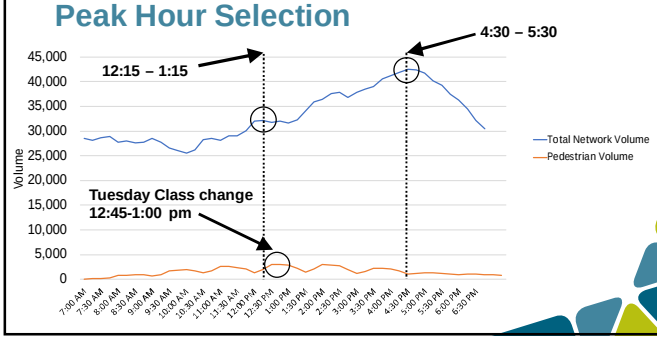
7

Weekday Pedestrian Volumes at Grumbein's Island



8

Peak Hour Selection

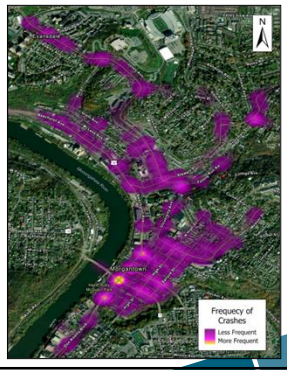


9

Crash Analysis

'More Frequent' Crash Locations:

- University Avenue and Pleasant Street
- University Avenue and Garrett Street/Foundry Street
- University Avenue and Beechurst Avenue and Fayette Street



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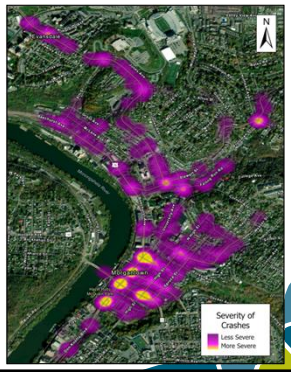
Crash Analysis

$$Severity = (\#\ of\ Injury\ Crashes\ x\ 11.2) + \#\ of\ PDO\ Crashes$$

'More Severe' Crash Locations:

- University Avenue and Pleasant Street
- University Avenue/Don Knotts and Garrett Street/Foundry Street
- University Avenue and Beechurst Avenue and Fayette Street
- High Street and Pleasant Street
- University Avenue and Walnut Street/Water Street
- University Avenue and Campus Drive/Stewart Street
- University Avenue and Falling Run Road
- Stewart Street and Van Gilder Avenue



11

Development of Routing

12

Existing Routing Development

- **'Relay' Routing** - Vehicles make decision at each intersection, then reach new decision point
  - Pros – Simple to match to TMCs
  - Cons – Not as representative of field travel patterns
- **Origin-Destination Routing** – Vehicles take one route through entire network to destination
  - Pros – Accurate representation of field data
  - Cons – Requires more data input

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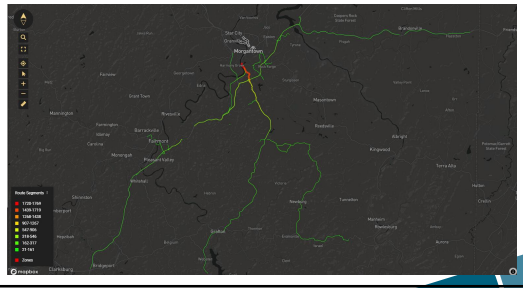
Origin-Destination Routing

- Routing Development
  - All entrances and exits to networks
  - ~30 origins and destinations
  - Develop trends of travel patterns to and through Morgantown

14

Streetlight – External Trips into Study Area
University Avenue (Route 119) NB



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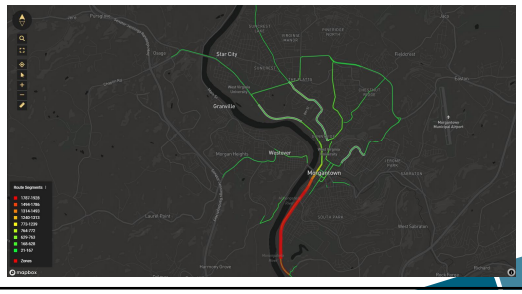
Streetlight – Trips within Study Area
University Avenue (Route 119) NB



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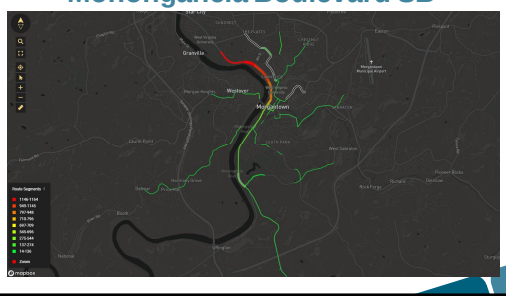
Streetlight – External Trips into Study Area
Monongahela Boulevard SB

17

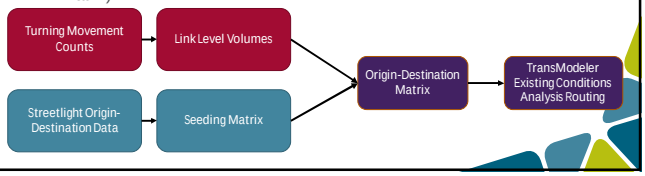
Streetlight –Trips within Study Area
Monongahela Boulevard SB



18

Origin-Destination Routing Development

- Collect turning movement counts
  - Calculate link level ADTs and link level hourly volumes (target matrix)
- Streetlight O-D Matrix
  - Typical distribution of traffic throughout downtown Morgantown (seeding matrix)



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Development of Microsimulation Model

20

Preview of TransModeler Microsimulation

- Tool to simulate future conditions and better understand impacts of potential changes to network
- Models individual vehicles and pedestrians – simulates how they interact within the road network
- Required inputs:
  - Traffic volumes
  - Pedestrian crossings and activity
  - Traffic signal control (16 signalized, 18 unsignalized)
  - Heavy vehicle data
  - Existing O-D patterns
  - Planned projects by others
  - Road characteristics (speed, # of lanes, etc.)

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Existing Simulation Calibration

- Need to verify existing conditions model reflects actual traffic conditions observed in the field before proceeding with future models
- Calibration parameters
  - Queueing
  - Travel time
  - Turning movement and throughput volumes
- Calibration is accomplished by adjusting:
  - Routing and volume matrix
  - Pedestrian crossing configuration
  - Global model characteristics such as driver behavior (if needed)

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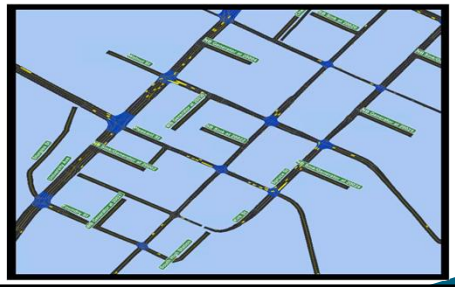
Simulation Recording from the Model



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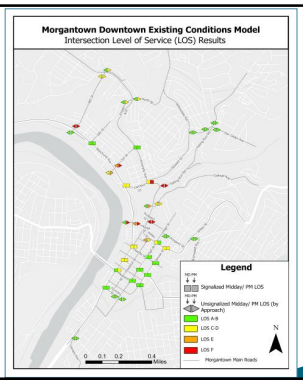
Congestion Model Results



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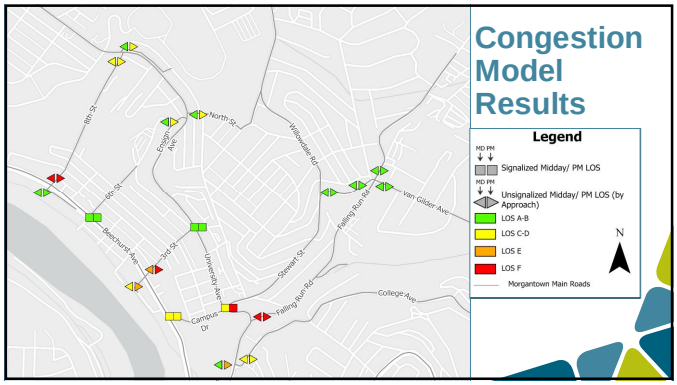

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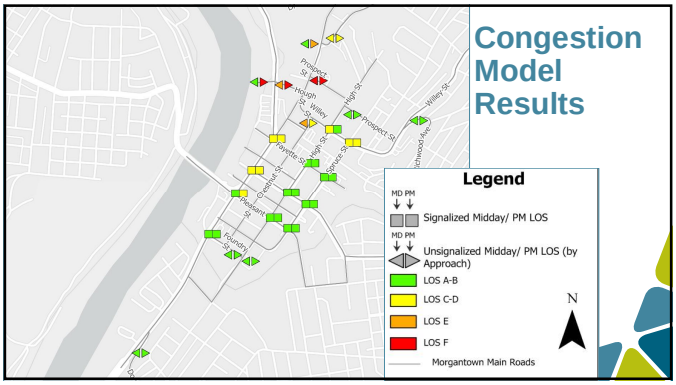

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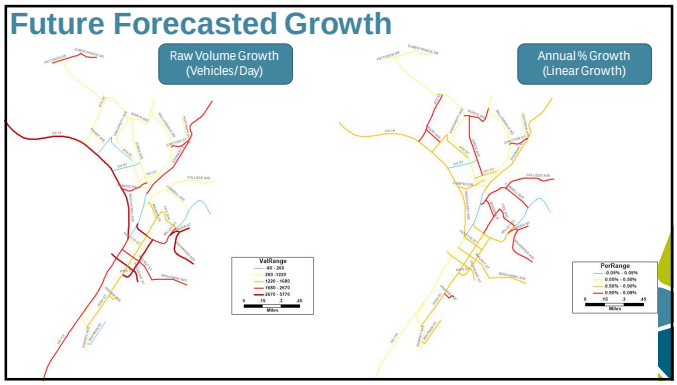

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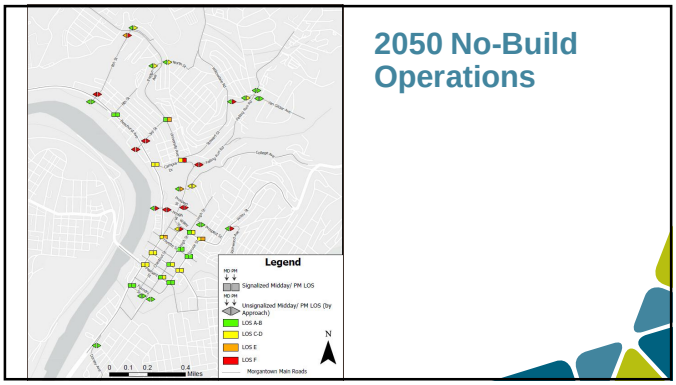

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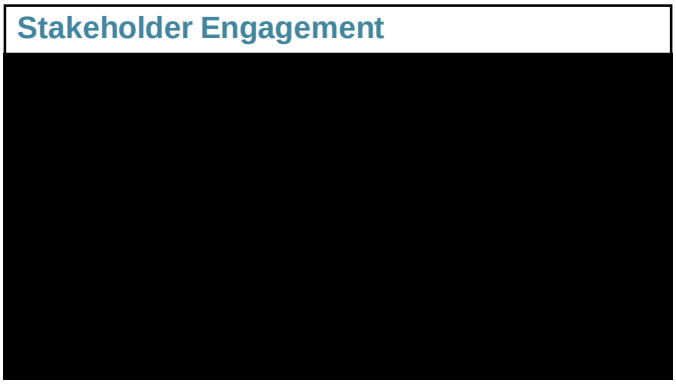

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Survey Participation

- Survey ran May 29 – June 19
- 70 total participants

Category Name	Parent Comments	Replies	Total Input
Congestion Concern	35	43	78
Multimodal Concerns	52	29	81
Safety Concern	83	57	140
Total	170	129	299

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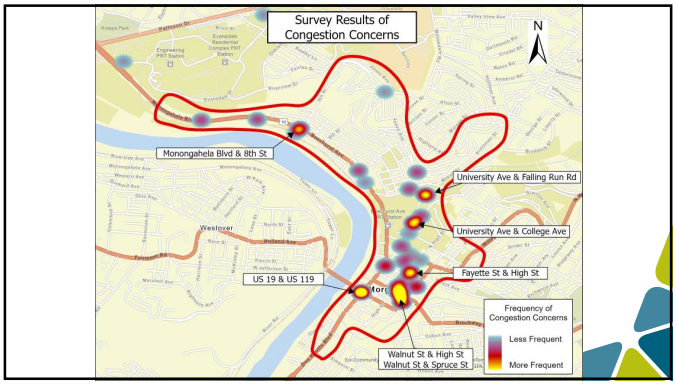

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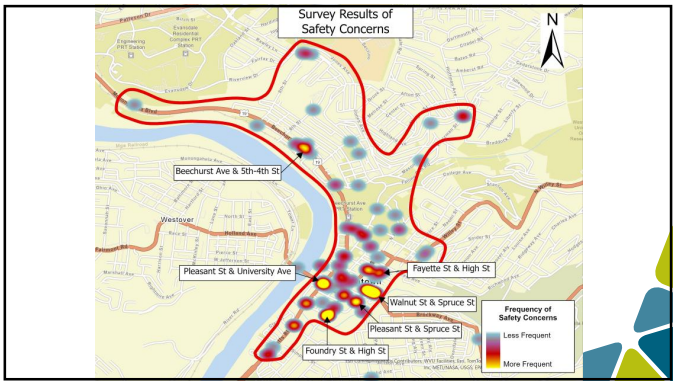

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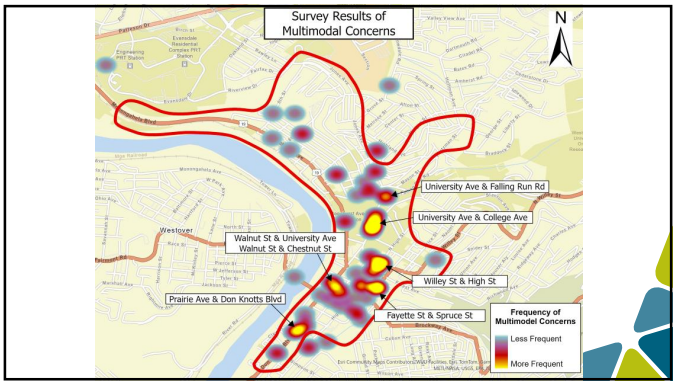

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Purpose and Need Statement

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Potential Needs to Address in Study

- Evaluate congestion improvements at hotspots
- Test impacts of safety and multimodal improvements on congestion

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Scenario Scoring

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Scenario Scoring Rubric

Category	●○○○○	●●○○○	●●●○○	●●●●○	●●●●●	Notes
Traffic Operations (Individual Intersections)	< -7%	-7% to -1%	-1% to 1%	1% to 7%	> 7%	intersection approach movements with an acceptable LOS (D or greater) anticipated to increase or decrease?
Traffic Operations (Downtown Network)	> 20% increase	4 to 20% increase	4% to -4% change	4 to 20% decrease	> 20% decrease	Is the total delay per vehicle miles traveled anticipated to increase or decrease?
Bike & Pedestrian Mobility	Notable decrease in mobility	Some decrease in mobility	No change in mobility	Some increase in mobility	Notable increase in mobility	How is bike and pedestrian mobility affected, relative to other scenarios?
Bike & Pedestrian Safety	Notable decrease in safety	Some decrease in safety	No change in safety	Some increase in safety	Notable increase in safety	How is bike and pedestrian safety prioritized, relative to other scenarios?
Vehicular Safety	Notable decrease in safety	Some decrease in safety	No change in safety	Some increase in safety	Notable increase in safety	How would vehicular safety be addressed?

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Additional Scenario Considerations

Anticipated Public Support	What is the anticipated public response to the proposed scenario?
Constructability	What level of complexity for design and construction would be entailed?
ROW Impacts	What level of right-of-way impacts are anticipated?
Impact to Business and Development	What impact to businesses and development is anticipated?
Cost	What is the anticipated relative cost of implementation?

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Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. Combined Grumbein's island, Willey Street, and Intersection Improvements

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Modeling Scenario Options

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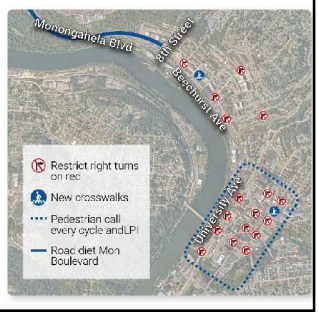

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Scenario #1 - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●○	The number of intersections with an acceptable level of service is anticipated to moderately increase (3.9%).
Traffic Operations (Downtown Network)	●●●●○	The total delay per vehicle miles traveled is anticipated to moderately decrease (-17.3%).
Bike & Pedestrian Mobility	●●●●○	This scenario would provide new access for pedestrians at crosswalk locations, a new facility connection along Monongahela Boulevard connecting the Downtown and Evansdale areas, and improve the pedestrian experience at signals downtown.
Bike & Pedestrian Safety	●●●●○	Restricting right-turns on red and including a leading pedestrian interval are anticipated to improve safety at the signalized intersections. Adding marked crosswalks and a separated facility would increase safety where there is an existing desire line.
Vehicular Safety	●●●○○	This scenario is not anticipated to notably affect vehicular safety.
Total Score		19/25

42

Scenario #1 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Positive	Given the limited impacts but wide-ranging benefits of this scenario, it is anticipated that it may receive very favorable support.
Constructability	Straightforward	This project should be very straightforward to design and construct and is not anticipated to present extraordinary challenges.
ROW Impacts	Low	No impacts to right-of-way are anticipated with this scenario.
Impact to Business and Development	Positive	This scenario is anticipated to increase the attractiveness of pedestrian activity in the downtown core, thereby increasing foot traffic in front of local downtown businesses.
Cost	Low	This scenario is anticipated to be the lowest cost alternative. Relatively little new infrastructure construction would be required to take place to implement the recommendations.

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Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
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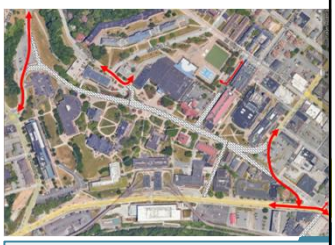

Volume Forecast Changes: Overall downtown network volumes anticipated to decrease by approximately 2% over the course of the day

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Scenario #2 - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●●	The number of intersections with an acceptable level of service is anticipated to greatly increase (7.2%)
Traffic Operations (Downtown Network)	●●●●○	The total delay per vehicle miles traveled is anticipated to moderately decrease (-18.2%)
Bike & Pedestrian Mobility	●●●●●	A dedicated pedestrian zone within the WVU Downtown campus increases mobility and could lead to an increase in pedestrian travel in downtown Morgantown
Bike & Pedestrian Safety	●●●●●	This scenario would provide a conflict-free zone for pedestrians who cross University Avenue between WVU Classes.
Vehicular Safety	●●●●○	The elimination of the vehicle-pedestrian conflict at Grumbein's Island and the notable decrease in congestion is anticipated to improve safety for drivers.
Total Score		23/25

45

Scenario #2 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Neutral	Given the significant change from the existing and long-standing configuration, balanced with a significant increase in pedestrian mobility and safety, it is anticipated that there may be both strong support and opposition of this scenario.
Constructability	Complex	As compared to other scenarios, this scenario scores relatively low based on the number of intersections that need to be re-aligned.
ROW Impacts	Medium	Right-of-way impacts are relatively limited as compared to other scenarios, with the only impacts occurring at the new re-alignment at Beechurst Avenue and the new alignment of Falling Run Road and generally limited to WVU owned properties.
Impact to Business and Development	Medium	It is not anticipated that there will be notable impact to business and development directly related to this scenario.
Cost	High	The cost of this scenario is anticipated to be relatively high as compared to other scenarios. This is due to the scale of the construction, potential for right-of-way impacts, and re-alignment and re-design of numerous intersections.

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Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
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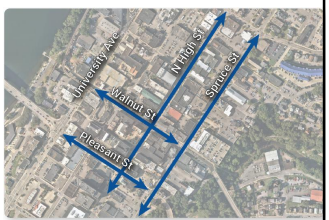

Volume Forecast Changes: Overall downtown network volumes anticipated to remain the same over the course of the day

47

Scenario #3 - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●○○○	The number of intersections with an acceptable level of service is anticipated to moderately decrease (-1.1%)
Traffic Operations (Downtown Network)	●●●○○	The total delay per vehicle miles traveled is anticipated to only slightly decrease (-5.1%)
Bike & Pedestrian Mobility	●●○○○	Converting the one-way streets to two-way may restrict future development/use of the right-of-way for bicycle or pedestrian specific facilities like bike lanes.
Bike & Pedestrian Safety	●●●○○	Conversion to a two-way street is anticipated to have a net neutral change in pedestrian and bicycle safety. For example, pedestrians will now need to be aware of traffic approaching from two directions but may also have increased visibility at mid-block crosswalks.
Vehicular Safety	●●●●○	The two-way street configuration would increase the number of conflict points at intersections but is anticipated to have an overall positive impact to vehicular safety due to the anticipated decrease in vehicular speeds within the urban core.
Total Score		14/25

48

Scenario #3 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Negative	Some opposition to the project is anticipated to be presented from the driving public and business owners downtown.
Constructability	Complex	The complete replacement of signal control infrastructure and potential intersection modifications could present some challenges during the planning and design process.
ROW Impacts	Medium	Due to the potential modification of intersections, there is anticipated to be many instances of minor temporary or permanent right-of-way impacts without any relocations.
Impact to Business and Development	Neutral	There is anticipated to be mixed opinions from business owners on the impacts to business and development. The change in parking access or loading zones is anticipated to balance with the potential neutral change in pedestrian safety.
Cost	Medium	Relative to other scenarios considered, this project is anticipated to have a moderate cost. No new location roadway facilities would be required but the complete replacement of signal control infrastructure and potential intersection modifications could add sizable costs.

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Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
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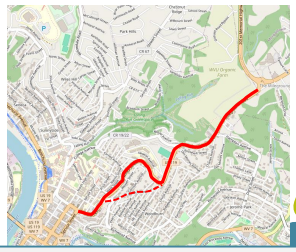

Volume Forecast Changes: Overall downtown network volumes anticipated to remain the same over the course of the day

50

Scenario 4: Interim and Long-Term

Scenario 4A – Interim Improvements

Scenario 4B – Long-Term Improvements

51

Scenario #4A - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●○○	The number of intersections with an acceptable level of service is anticipated to narrowly decrease (-0.3%)
Traffic Operations (Downtown Network)	●●●○○	The total delay per vehicle miles traveled is anticipated to narrowly decrease (-3.1%)
Bike & Pedestrian Mobility	●●●○○	Bike and pedestrian mobility does not increase nor decrease with the configuration of this scenario.
Bike & Pedestrian Safety	●●●●○	Bike and pedestrian safety may slightly increase due to the realignment of the existing intersection.
Vehicular Safety	●●●●○	This scenario's configuration proposes the elimination of the existing intersection at Richwood Avenue and Willey Street which had poor sight distance, providing a potential increase in safety.
Total Score		17/25

52

Scenario #4A - Considerations

Category	Consideration	Notes
Anticipated Public Support	Neutral	It is anticipated that there will be balanced support, given the improvements, and opposition, given the potential impacts along Willey Street, for this scenario.
Constructability	Complex	The constructability of this project may be somewhat challenging due to the conflicts arising from the widening of Willey Street.
ROW Impacts	High	It is anticipated that the widening of Willey Street will impact several properties and homes, leading to multiple full relocation impacts in this scenario.
Impact to Business and Development	Positive	This scenario is consistent with development plans for the East End Village and promotes additional connectivity to Downtown Morgantown, which may lead to a positive impact for business owners.
Cost	High	The cost of this scenario is expected to be relatively expensive compared to other scenarios. Costs stem from the widening of Willey Street as well as the proposed intersection reconfigurations.

53

Scenario #4B - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●○○	The number of intersections with an acceptable level of service is not anticipated to noticeably change (-0.1%)
Traffic Operations (Downtown Network)	●●●○○	The total delay per vehicle miles traveled is anticipated to narrowly decrease (-0.9%)
Bike & Pedestrian Mobility	●●●●○	The bicycle and pedestrian facilities implemented along Snider Street may increase connectivity to the downtown Morgantown area from the neighborhoods northeast of downtown
Bike & Pedestrian Safety	●●●●●	The bicycle and pedestrian facilities along Snider Street and realignment of Willey Street are anticipated to provide a moderate increase in bike and pedestrian safety.
Vehicular Safety	●●●●●	This scenario may significantly improve vehicular safety due to the elimination of the misaligned intersection at Willey Street and Richwood Avenue and the shift of traffic from the windy portion of Willey Street to the relatively straight Snider Street alignment.
Total Score		20/25

54

Scenario #4B - Considerations

Category	Consideration	Notes
Anticipated Public Support	Negative	The acquisition of right-of-way from multiple property owners along Snider Street may present challenges in gaining public support. Travelers using Willey Street today to enter the downtown area from the Mileground are anticipated to support the project.
Constructability	Complex	The constructability is anticipated to be somewhat difficult, due to the challenges that may be presented along Snider Street when implementing widened lanes and multi-modal facilities.
ROW Impacts	High	It is anticipated that the upgrade of Snider Street will impact several properties requiring multiple full relocations.
Impact to Business and Development	Positive	This scenario is consistent with development plans for the East End Village and promotes additional connectivity to Downtown Morgantown, which may lead to positive impact for business owners.
Cost	High	This scenario is anticipated to be relatively expensive in comparison to other scenarios. The cost largely stems from the re-alignment of Willey Street and the upgrades to Snider Street.

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Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
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6. Combined Grumbein's island, Willey Street, and one-way conversion
7. Combined Grumbein's island, Willey Street, and Intersection Improvements

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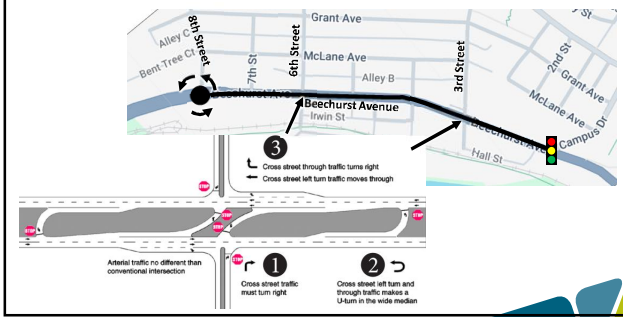
Scenario 5: Beechurst Corridor



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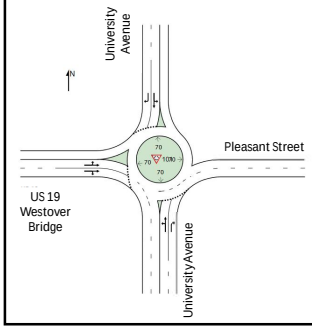
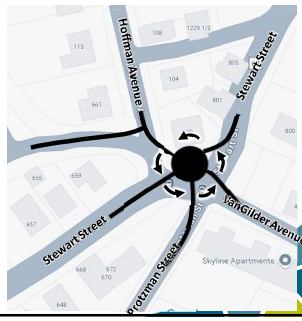
Scenario 5: Intersection Improvements





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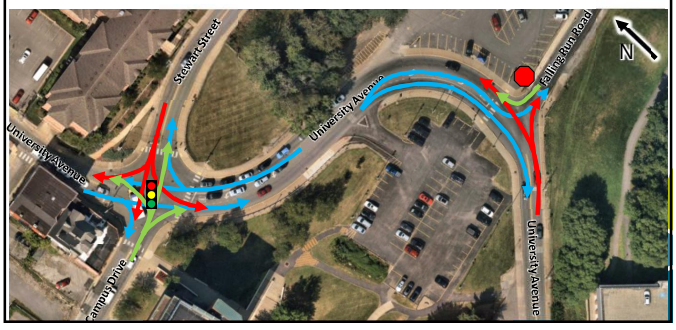
Scenario 5: Intersection Improvements



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Scenario #5 - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●○	The number of intersections with an acceptable level of service is anticipated to moderately increase (6.3%)
Traffic Operations (Downtown Network)	●●●●●	The total delay per vehicle miles traveled is anticipated to greatly decrease (-22.6%)
Bike & Pedestrian Mobility	●●●●○	In general, the intersection improvements proposed will provide additional access for pedestrians and provide separated facilities.
Bike & Pedestrian Safety	●●●●○	By providing improved separated facilities, reducing conflict points with drivers, and improving crossings, safety for pedestrians and bicyclists is anticipated to improve.
Vehicular Safety	●●●●●	The intersection and corridor improvements proposed will greatly reduce the number of conflict points at intersections, reduce speeds, and improve congestion, all of which are anticipated to significantly increase vehicular safety.
Total Score		22/25

60

Scenario #5 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Neutral	There is anticipated to be mixed support for these proposed improvements due to the increase in safety and mobility for multimodal users but also the restrictions in access along Beechurst Avenue and potential for right-of-way impacts.
Constructability	Medium	The proposed improvements follow typical intersection configurations and would present neutral challenges.
ROW Impacts	Medium	Full relocations are anticipated at the two proposed roundabout locations due to the increased size of the intersections.
Impact to Business and Development	Negative	The access restrictions proposed for side street access to Beechurst Avenue may have a possible negative impact to existing businesses, especially freight access.
Cost	Medium	Relative to other scenarios considered, this project is anticipated to have a moderate cost. No new location roadway facilities would be required but the complete reconfiguration of multiple intersections and improvements along Beechurst Avenue is anticipated to present sizable costs.

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Modeling Scenario Options

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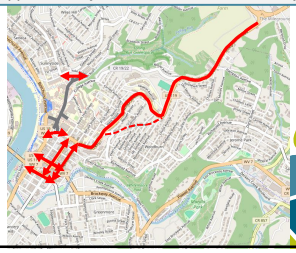
Volume Forecast Changes: Overall downtown network volumes anticipated to decrease by approximately 2% over the course of the day



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Scenario #6 - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●●	The number of intersections with an acceptable level of service is anticipated to greatly increase (8.7%)
Traffic Operations (Downtown Network)	●●●●○	The total delay per vehicle miles traveled is anticipated to moderately decrease (-18.4%)
Bike & Pedestrian Mobility	●●●●●	Due to the combination of bike and pedestrian mobility improvements associated with the closure of Grumbein's Island and the Snider Street conversion, this scenario provides for significant improvements in bike and pedestrian mobility.
Bike & Pedestrian Safety	●●●●●	Due to the combination of bike and pedestrian safety improvements associated with the closure of Grumbein's Island and the Snider Street Conversion, this scenario provides for significant improvement in bike and pedestrian safety.
Vehicular Safety	●●●●○	The elimination of the vehicle-pedestrian conflict at Grumbein's Island combined with the reconfiguration of the misaligned intersection at Willey Street and Richwood Avenue provide for a potential moderate increase in vehicle safety.
Total Score		23/25

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Scenario #6 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Negative	The acquisition right-of-way from property owners along Snider Street as well as the conversion of one-way street to two-way may present challenges for public support.
Constructability	Complex	The constructability is anticipated to be somewhat difficult, between the reconfiguration of intersections surrounding Grumbein's Island and the challenges that may be presented along Snider Street when implementing widened lanes and multimodal facilities.
ROW Impacts	High	It is anticipated that there will be multiple right-of-way impacts, largely stemming from the updated configuration of Snider Street.
Impact to Business and Development	Positive	This scenario provides improved access to businesses, largely stemming from the Snider Street conversion providing additional connectivity to Downtown Morgantown and its consistency with development plans for the East End Village.
Cost	High	This scenario is anticipated to be the most expensive due to costs stemming from the closure of Grumbein's Island and the upgrades to Snider Street.

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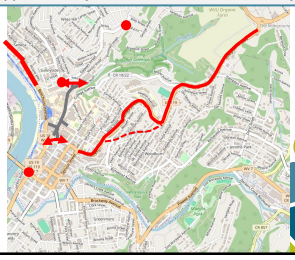
Modeling Scenario Options

1. Signal timing optimization and corridor coordination, and bicycle and pedestrian safety and access improvements
2. Grumbein's island closure
3. One-way street conversions
4. Willey Street improvements (capacity, realignment, or both)
5. Intersection improvements and Beechurst corridor improvements from campus to 8th
6. Combined Grumbein's island, Willey Street, and one-way conversion
7. Combined Grumbein's island, Willey Street, and Intersection Improvements

Volume Forecast Changes: Overall downtown network volumes anticipated to decrease by approximately 2% over the course of the day



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Scenario #7 - Scorecard

Category	Score (1-5)	Notes
Traffic Operations (Individual Intersections)	●●●●●	The number of intersections with an acceptable level of service is anticipated to greatly increase (10.2%)
Traffic Operations (Downtown Network)	●●●●●	The total delay per vehicle miles traveled is anticipated to greatly decrease (-23.6%)
Bike & Pedestrian Mobility	●●●●●	Due to the combination of bike and pedestrian mobility improvements associated with the closure of Grumbein's Island, the Snider Street conversion, and intersection improvements, this scenario provides for significant improvements in bike and pedestrian mobility.
Bike & Pedestrian Safety	●●●●●	Due to the combination of bike and pedestrian safety improvements associated with the closure of Grumbein's Island, the Snider Street Conversion, and the intersection improvements, this scenario provides for significant improvement in bike and pedestrian safety.
Vehicular Safety	●●●●●	The reduction of the conflict points and severity of potential crashes with the intersection improvements plus the elimination of the vehicle-pedestrian conflict at Grumbein's Island combined with the reconfiguration of the misaligned intersection at Willey Street and Richwood Avenue provide for a potential notable increase in vehicle safety.
Total Score		25/25

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Scenario #7 - Considerations

Category	Consideration	Notes
Anticipated Public Support	Negative	The acquisition right-of-way from property owners along Snider Street and at the intersection improvements and the access restrictions along Beechurst may present some public support challenges.
Constructability	Complex	The constructability is anticipated to be somewhat difficult, between the reconfiguration of intersections surrounding Grumbein's Island and the challenges that may be presented along Snider Street when implementing widened lanes and multimodal facilities.
ROW Impacts	High	It is anticipated that there will be multiple right-of-way impacts, largely stemming from the updated configuration of Snider Street and the proposed roundabouts at Pleasant Street and Stewart Street intersections.
Impact to Business and Development	Medium	This scenario provides improved access to businesses, largely stemming from the Snider Street conversion providing additional connectivity to Downtown Morgantown and its consistency with development plans for the East End Village.
Cost	High	This scenario is anticipated to be the most expensive due to costs stemming from the closure of Grumbein's Island and the upgrades to Snider Street.

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Categories	Scenario 1	Scenario 2	Scenario 3	Scenario 4A	Scenario 4B	Scenario 5	Scenario 6	Scenario 7
	Scores							
Traffic Operations (Individual Intersections)	4	5	2	3	3	4	5	5
Traffic Operations (Downtown Network)	4	4	3	3	3	5	4	5
Bike & Pedestrian Mobility	4	5	2	3	4	4	5	5
Bike & Pedestrian Safety	4	5	3	4	5	4	5	5
Vehicular Safety	3	4	4	4	5	5	4	5
Total	**19**	**23**	**14**	**17**	**20**	**22**	**23**	**25**

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Recommendations

- Include Scenario 7 in long range planning for Morgantown
  - Scenario 1 – Signal optimization and multimodal improvements
  - Scenario 2 – Grumbein's Island closure
  - Scenario 4B – Realignment of US 119 to Snider Street
  - Scenario 5 – Intersection Improvements
- Scenario 7 can be phased as standalone projects
- Not recommended to be carried forward
  - Scenario 3 – one-way street conversions

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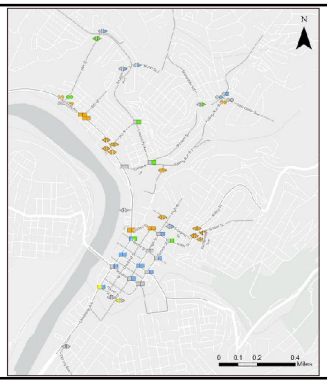

Scenario #7 - Operations

Legend

- MD PM — Signalized Midday/ PM Delay Comparison
- MD PM — Unsignalized Midday/ PM Delay Comparison (By Approach)
- No change in LOS or change from EF (still failing)
- LOS improvement from EF to ABCD
- LOS improvement between ABCD (still acceptable)
- LOS decrease between ABCD (still acceptable)
- LOS decrease from ABCD to EF (acceptable to failing)
- Newly Proposed Intersection/ Approach
- Morgantown Main Roads

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Estimated Costs for Planning

Alternative	Planning Level Cost
Alt 1-Signal Timing and Multimodal Improvements	$1M—$5M
Alt 2-Grumbein's Island Closure	$6M—$12M
Alt 4B-Realignment of US 119 to Snider Street	$10M—$20M
Alt 5-Intersection/Beechurst Corridor Improvements	$12M—$24M

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Appendix D - LOS/Delay TransModeler Output Tables

Signalized Intersections

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
2	Don Knotts Blvd/University Ave & Sturgiss St/Foundry St	*Overall*		*7.5*	*8.3*	*A*	*A*						
		University Ave SWB	L	6.9	13.9	A	B	1.1	0%	1.2	0%	79.1	171.0
		University Ave SWB	T	1.6	3.3	A	A	1.5	0%	9.4	0%	79.1	171.0
		University Ave SWB	TR	1.3	3.1	A	A	1.4	0%	11.3	0%	79.1	171.0
		Foundry St NWB	LT	66.0	44.2	E	D	33.7	0%	53.0	0%	169.3	213.3
		Foundry St NWB	R	12.4	15.0	B	B	2.0	0%	1.5	0%	169.3	213.3
		Don Knotts Blvd NEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	127.2	177.6
		Don Knotts Blvd NEB	T	3.6	6.8	A	A	6.8	0%	15.7	0%	127.2	177.6
		Don Knotts Blvd NEB	TR	3.0	5.0	A	A	1.4	0%	4.4	0%	127.2	177.6
		Sturgiss St SEB	LTR	78.9	80.5	E	F	2.0	0%	0.8	0%	19.6	16.6
3	University Ave & W Park Ave/Pleasant St	*Overall*		*16.0*	*21.8*	*B*	*C*						
		University Ave SWB	L	14.9	36.2	B	D	12.2	0%	13.7	0%	138.2	516.1
		University Ave SWB	T	11.7	33.8	B	C	15.7	0%	84.4	12%	138.2	516.1
		University Ave SWB	R	2.5	10.3	A	B	2.5	0%	26.8	0%	138.2	516.1
		University Ave NEB	L	22.3	22.5	C	C	36.0	0%	29.7	0%	171.8	124.2
		University Ave NEB	T	11.8	13.4	B	B	15.9	0%	20.9	0%	171.8	124.2
		University Ave NEB	R	3.6	2.9	A	A	2.8	0%	1.6	0%	171.8	124.2
		W Park Ave SEB	L	46.6	39.0	D	D	27.4	0%	37.2	0%	307.6	268.4
		W Park Ave SEB	T	48.3	42.6	D	D	67.9	0%	63.7	0%	307.6	268.4
		W Park Ave SEB	R	9.0	14.2	A	B	5.1	0%	14.2	0%	307.6	268.4
4	University Ave & Walnut St	*Overall*		*25.5*	*25.9*	*C*	*C*						
		University Ave SWB	T	19.1	22.7	B	C	31.8	0%	44.8	0%	196.2	244.4
		University Ave SWB	TR	14.4	16.0	B	B	13.2	0%	18.9	0%	196.2	244.4
		Walnut St NWB	L	70.2	41.6	E	D	10.8	0%	34.8	0%	200.0	237.7
		Walnut St NWB	LT	69.5	47.1	E	D	80.3	0%	76.5	0%	200.0	237.7
		Walnut St NWB	R	64.5	39.7	E	D	28.0	0%	13.2	0%	200.0	237.7
		University Ave NEB	LT	15.6	24.9	B	C	18.5	1%	67.1	8%	275.5	466.7
		University Ave NEB	T	17.4	25.8	B	C	3.6	0%	9.1	0%	275.5	466.7
		Walnut St SEB	LR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
5	University Ave/Beechurst Ave & Fayette St	*Overall*		*20.0*	*41.9*	*C*	*D*						
		Beechurst Ave SB	L	71.7	112.2	E	F	63.4	0%	217.6	3%	334.8	729.2
		Beechurst Ave SB	T	12.0	41.9	B	D	47.9	0%	21.5	0%	334.8	729.2
		University Ave SWB	L	98.1	63.7	F	E	1.0	0%	1.5	0%	87.8	174.4
		University Ave SWB	T	66.4	48.6	E	D	18.4	0%	31.1	0%	87.8	174.4
		University Ave SWB	TR	68.7	49.2	E	D	18.4	0%	39.7	0%	87.8	174.4
		University Ave NEB	T	8.6	23.2	A	C	13.5	0%	60.2	0%	138.5	219.6
		University Ave NEB	R	3.7	1.8	A	A	1.7	0%	1.1	0%	138.5	219.6
		Fayette St SEB	LTR	73.0	43.5	E	D	2.0	0%	1.2	0%	23.4	19.0
7	Beechurst Ave & Campus Dr	*Overall*		*33.9*	*45.0*	*C*	*D*						
		Campus Dr WB	LR	44.9	79.5	D	E	70.9	0%	151.2	0%	274.6	403.7
		Beechurst Ave NWB	TR	40.8	35.7	D	D	106.4	0%	135.6	0%	560.1	520.7
		Beechurst Ave SEB	L	42.8	72.7	D	E	19.3	0%	50.5	0%	363.4	511.6
		Beechurst Ave SEB	T	25.7	36.8	C	D	114.2	2%	145.3	4%	363.4	511.6
9	Beechurst Ave & 6th St	*Overall*		*4.6*	*4.4*	*A*	*A*						
		6th St SWB	LTR	21.0	36.9	C	D	2.1	0%	7.9	0%	22.1	71.7
		US 19/Beechurst Ave NWB	L	10.1	7.7	B	A	0.6	0%	0.1	0%	110.4	90.3
		US 19/Beechurst Ave NWB	TR	2.3	1.9	A	A	4.0	0%	5.4	0%	110.4	90.3
		6th St NEB	LTR	72.9	62.9	E	E	15.6	0%	9.1	0%	107.2	49.0
		US 19/Beechurst Ave SEB	L	12.0	21.2	B	C	0.2	0%	0.5	0%	197.8	189.5
		US 19/Beechurst Ave SEB	TR	4.0	2.7	A	A	9.0	0%	10.6	0%	197.8	189.5
15	University Ave & Campus Dr/Stewart St	*Overall*		*30.7*	*84.6*	*C*	*F*						
		Stewart St SWB	LTR	36.6	209.7	D	F	26.7	0%	449.6	0%	157.4	1027.0
		University Ave NWB	L	33.4	40.1	C	D	21.9	0%	22.1	0%	216.4	245.9
		University Ave NWB	TR	24.5	22.8	C	C	38.7	0%	45.8	0%	216.4	245.9
		Campus Dr NEB	LTR	21.5	34.0	C	C	29.3	0%	62.7	0%	239.6	316.8
		University Ave SEB	TR	48.6	110.0	D	F	85.4	0%	227.1	0%	355.3	734.3
16	University Ave & Beverly Ave/3rd St/University Place Gara	*Overall*		*17.7*	*19.1*	*B*	*B*						
		University Place Garage SWB	LTR	39.2	24.8	D	C	0.5	0%	0.9	0%	14.7	15.8
		University Ave NWB	LT	32.4	35.9	C	D	3.8	0%	2.4	0%	175.9	236.0
		University Ave NWB	TR	18.3	16.6	B	B	22.1	0%	30.2	0%	175.9	236.0
		3rd St NEB	LTR	20.9	22.8	C	C	8.7	0%	13.5	0%	109.9	137.3
		Beverly Ave EB	LTR	24.0	34.6	C	C	1.7	0%	2.0	0%	22.6	25.0
		University Ave SEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	199.6	308.9
		University Ave SEB	TR	18.1	21.4	B	C	29.6	0%	44.0	0%	199.6	308.9
20	Willey St & High St	*Overall*		*15.0*	*21.5*	*B*	*C*						
		High St SWB	LT	33.0	33.1	C	C	13.8	0%	17.2	0%	78.3	107.4
		High St SWB	R	6.3	18.9	A	B	0.9	0%	5.1	0%	78.3	107.4
		Willey St NWB	L	13.2	23.9	B	C	17.4	0%	43.1	2%	163.9	278.1
		Willey St NWB	T	15.3	23.6	B	C	18.3	0%	35.1	2%	163.9	278.1
		Willey St SEB	TR	17.9	19.7	B	B	18.5	0%	32.2	1%	149.0	173.0
21	High St & Fayette St	*Overall*		*4.7*	*7.1*	*A*	*A*						
		High St SWB	LT	1.7	1.7	A	A	1.0	0%	1.1	0%	100.4	126.8
		High St SWB	T	2.9	3.5	A	A	5.2	0%	9.8	0%	100.4	126.8
		Fayette St SEB	T	33.5	33.6	C	C	6.9	0%	21.8	0%	97.3	137.9
		Fayette St SEB	R	53.4	48.1	D	D	0.4	0%	0.9	0%	97.3	137.9
22	High St & Walnut St	*Overall*		*13.5*	*13.4*	*B*	*B*						
		High St SWB	T	10.5	11.2	B	B	14.7	0%	23.1	0%	115.2	193.1
		High St SWB	R	7.4	12.9	A	B	4.4	0%	13.7	0%	115.2	193.1
		Walnut St NWB	L	25.9	24.9	C	C	10.9	0%	7.6	0%	121.7	149.8
		Walnut St NWB	T	23.2	19.9	C	B	12.7	0%	17.6	0%	121.7	149.8
23	High St & Pleasant St	*Overall*		*15.7*	*17.2*	*B*	*B*						
		High St SWB	LT	15.0	18.5	B	B	13.6	0%	20.5	0%	136.3	174.6
		High St SWB	T	15.0	20.9	B	C	12.2	0%	34.2	0%	136.3	174.6
		Pleasant St SEB	T	18.2	16.7	B	B	16.3	0%	18.7	0%	240.4	212.0
		Pleasant St SEB	TR	16.5	15.3	B	B	27.3	0%	26.9	0%	240.4	212.0
25	Kirk St/Spruce St & Pleasant St	*Overall*		*14.3*	*13.5*	*B*	*B*						
		Pleasant St NWB	R	7.5	7.4	A	A	2.2	0%	2.6	0%	33.0	38.0
		Kirk St NEB	T	23.7	23.9	C	C	20.1	0%	26.8	0%	119.3	137.2
		Kirk St NEB	TR	20.5	16.6	C	B	3.1	0%	1.6	0%	119.3	137.2
		Pleasant St SEB	L	11.4	9.5	B	A	11.9	0%	10.8	0%	206.2	228.1
		Pleasant St SEB	LT	11.0	9.3	B	A	21.8	1%	18.8	1%	206.2	228.1
26	Spruce St & Walnut St	*Overall*		*18.7*	*19.6*	*B*	*B*						
		Walnut St NWB	T	40.4	37.3	D	D	44.1	0%	39.3	0%	207.3	189.6
		Walnut St NWB	R	6.5	6.4	A	A	3.8	0%	2.9	0%	207.3	189.6
		Spruce St NEB	LT	23.0	24.0	C	C	36.1	0%	42.9	0%	218.3	253.5
		Spruce St NEB	T	21.4	24.1	C	C	37.0	0%	47.0	0%	218.3	253.5
		Spruce St NEB	R	7.0	5.7	A	A	8.1	0%	5.8	0%	218.3	253.5
27	Spruce St & Fayette St	*Overall*		*5.8*	*9.1*	*A*	*A*						
		Spruce St NEB	T	3.1	6.9	A	A	2.7	0%	8.1	0%	145.3	148.6
		Spruce St NEB	TR	4.9	4.0	A	A	3.2	0%	5.2	0%	145.3	148.6
		Fayette St SEB	LT	31.5	40.8	C	D	8.1	0%	30.1	0%	88.0	179.8
28	Willey St & Spruce St	*Overall*		*20.8*	*29.7*	*C*	*C*						
		Willey St WB	TR	13.1	24.3	B	C	22.0	0%	48.5	0%	166.9	201.7
		Spruce St NEB	L	25.5	50.3	C	D	27.6	0%	70.3	0%	291.3	396.6
		Spruce St NEB	T	24.5	27.9	C	C	7.0	0%	10.3	0%	291.3	396.6
		Spruce St NEB	R	32.2	33.7	C	C	56.8	0%	69.7	0%	291.3	396.6
		Willey St SEB	LT	10.4	13.5	B	B	8.9	0%	11.5	0%	74.6	109.0

Unsignalized Intersections[3]

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
1	Don Knotts Blvd & Dorsey Ave	Don Knotts Blvd SWB	L	5.4	12.5	A	B	1.3	0%	11.5	0%	24.2	108.2
		Don Knotts Blvd SWB	T	0.1	0.4	A	A	0.0	0%	0.0	0%	24.2	108.2
		Dorsey Ave NB	R	6.3	6.8	A	A	1.7	0%	2.4	0%	18.6	40.3
		Don Knotts Blvd NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Don Knotts Blvd NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
6	Beechurst Ave & Stansbury Hall Parking Lot/Hough St	Beechurst Ave SB	TR	2.3	80.8	A	F	19.4	0%	248.7	1%	448.3	1190.5
		Hough St WB	LTR	49.1	78.7	E	F	70.8	1%	87.6	0%	267.8	267.1
		Beechurst Ave NB	LT	6.2	0.0	A	A	15.1	0%	7.2	0%	208.2	172.1
		Stansbury Hall Parking Lot EB	LR	0.0	53.8	A	F	0.0	0%	0.9	0%	0.0	18.2
8	Beechurst Ave & 3rd St	3rd St SWB	LTR	42.5	180.0	E	F	12.9	0%	153.3	0%	97.0	416.1
		Beechurst Ave NWB	L	6.6	14.1	A	B	0.0	0%	0.6	0%	39.3	43.9
		Beechurst Ave NWB	TR	0.0	0.1	A	A	1.2	0%	1.4	0%	39.3	43.9
		3rd St NEB	LTR	30.4	56.8	D	F	1.0	0%	4.3	0%	19.8	32.3
		US 19/Beechurst Ave SEB	L	13.7	22.0	B	C	0.3	0%	0.2	0%	154.3	435.0
		US 19/Beechurst Ave SEB	TR	15.1	29.7	C	D	2.9	0%	78.5	0%	154.3	435.0
10	Beechurst Ave & 8th St	8th St SWB	LTR	94.5	380.8	F	F	79.0	0%	302.1	0%	233.8	550.6
		US 19/Beechurst Ave NWB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave NWB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		8th St NEB	LTR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave SEB	L	9.1	9.3	A	A	3.8	0%	5.1	0%	40.8	45.6
		US 19/Beechurst Ave SEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	40.8	45.6
12	University Ave & Prospect St	University Ave SB	T	78.9	33.0	F	D	1.2	0%	7.1	0%	44.5	105.7
		Prospect St NWB	L	437.7	120.5	F	F	0.6	0%	2.9	0%	642.8	620.3
		Prospect St NWB	R	413.3	172.2	F	F	393.3	33%	205.7	14%	642.8	620.3
		University Ave NB	T	155.5	72.1	F	F	108.5	31%	117.3	31%	445.1	434.4
13	University Ave & Woodburn Circle/College Ave	University Ave SB	L	65.1	21.3	F	C	16.1	0%	4.5	0%	543.6	452.2
		University Ave SB	TR	159.6	53.8	F	F	195.2	4%	94.0	1%	543.6	452.2
		College Ave WB	TR	18.8	17.7	C	C	8.5	0%	20.0	0%	152.9	138.7
		University Ave NB	LT	170.8	79.4	F	F	49.2	6%	6.2	0%	210.7	21.3
		University Ave NB	R	254.2	82.4	F	F	1.2	0%	0.0	0%	210.7	21.3
		Woodburn Circle EB	LTR	0.0	40.7	A	E	0.0	0%	0.3	0%	0.0	7.0
14	University Ave & Falling Run Rd	University Ave SB	L	31.8	41.9	D	E	11.0	0%	36.9	1%	160.2	241.9
		University Ave SB	T	14.7	11.3	B	B	31.6	1%	23.8	1%	160.2	241.9
		Falling Run Rd/Protzman St WB	LR	148.8	760.6	F	F	115.2	0%	485.3	0%	351.7	899.4
		University Ave NB	TR	5.3	6.1	A	A	18.4	0%	23.2	0%	211.7	267.4
17	University Ave & Ensign Ave/North St	University Ave SB	LTR	2.2	4.9	A	A	5.5	0%	13.7	0%	116.4	218.7
		North St WB	LTR	8.1	20.6	A	C	6.9	0%	17.4	0%	73.4	121.4
		University Ave NB	LTR	0.3	0.4	A	A	0.8	0%	1.0	0%	0.0	25.9
		Ensign Ave EB	LTR	0.0	37.7	A	E	0.0	0%	0.5	0%	0.0	11.0
18	University Ave & 8th St/Terrace Heights Dwy	Terrace Heights Dwy SB	LTR	0.0	25.4	A	D	0.0	0%	0.3	0%	0.0	7.1
		University Ave WB	LTR	1.3	3.1	A	A	3.6	0%	7.4	0%	92.2	173.7
		8th St NB	LTR	21.0	28.4	C	D	16.7	0%	31.2	0%	117.3	166.6
		University Ave EB	LTR	0.0	0.0	A	A	1.8	0%	1.6	0%	35.0	46.1
19	High St & Prospect St	High St SWB	T	0.0	0.1	A	A	1.2	0%	0.7	0%	38.7	11.1
		Prospect St NWB	LR	6.5	6.1	A	A	3.5	0%	5.7	0%	63.0	62.9
24	High St & Foundry St/South High Station	High St SWB	LTR	0.2	0.5	A	A	1.2	0%	1.7	0%	24.9	75.0
		South High Station NWB	LTR	9.4	10.9	A	B	1.9	0%	2.4	0%	27.2	31.0
		High St NEB	LTR	1.6	2.2	A	A	1.7	0%	2.2	0%	55.5	48.1
		Foundry St SEB	LTR	5.8	9.0	A	A	3.1	0%	4.5	0%	35.5	55.9
30	Willey St & Richwood Ave	Willey St SB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave SWB	T	9.3	13.5	A	B	2.1	0%	4.0	0%	45.2	43.2
		Willey St NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
31	Willey St & Chestnut St	Willey St NWB	T	11.2	18.7	B	C	18.1	1%	40.9	4%	85.5	189.4
		Chestnut St NEB	L	14.2	25.6	B	D	5.2	0%	18.3	0%	54.8	103.8
		Chestnut St NEB	R	8.9	10.9	A	B	2.0	0%	4.8	0%	54.8	103.8
		Willey St SEB	T	0.5	7.2	A	A	0.6	0%	0.3	0%	15.2	4.4
32	Stewart St/Willowdale Rd & Stewart St	Willowdale Rd SB	LT	0.4	0.5	A	A	0.7	0%	0.4	0%	6.3	13.4
		Stewart St WB	LR	4.8	8.5	A	A	1.6	0%	8.0	0%	30.5	62.4
		Stewart St NB	TR	0.0	0.0	A	A	0.2	0%	0.1	0%	0.0	2.4
33	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	LTR	7.0	8.2	A	A	5.5	0%	8.9	0%	86.8	110.8
		Van Gilder Ave NWB	LTR	8.3	7.2	A	A	0.4	0%	0.7	0%	12.0	13.6
		Falling Run Rd/Protzman St NEB	LTR	0.0	0.0	A	A	0.3	0%	0.6	0%	10.3	9.4
		Stewart St EB	LTR	7.5	9.0	A	A	2.5	0%	4.8	0%	46.1	67.7

Notes:

1 Delay shown is the 95th percentile worst case control delay for the full 60-minute simulation period as derived from the 10 random seed simulations

2 Level of Service shown is Simulation based and calculated in a manner that is consistent with the HCM Methodologies

3 Results for unsignalized intersections include only the movements that have conflicting flow and thus have the potential to incur control delay

Signalized Intersections

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
2	Don Knotts Blvd/University Ave & Sturgiss St/Foundry St	***Overall***		***7.2***	***19.7***	***A***	***B***						
		University Ave SWB	L	9.8	22.8	A	C	2.5	0%	0.5	0%	123.7	157.8
		University Ave SWB	T	2.8	3.5	A	A	3.1	0%	12.4	0%	123.7	157.8
		University Ave SWB	TR	2.7	3.4	A	A	3.6	0%	14.3	0%	123.7	157.8
		Foundry St NWB	LT	58.6	45.9	E	D	27.8	0%	67.0	0%	126.8	256.2
		Foundry St NWB	R	10.8	48.9	B	D	2.4	0%	23.0	0%	126.8	256.2
		Don Knotts Blvd NEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	177.4	480.1
		Don Knotts Blvd NEB	T	5.1	46.8	A	D	11.8	0%	110.3	0%	177.4	480.1
		Don Knotts Blvd NEB	TR	4.0	9.9	A	A	2.3	0%	10.7	0%	177.4	480.1
		Sturgiss St SEB	LTR	105.2	139.6	F	F	3.3	0%	1.3	0%	30.5	16.6
3	University Ave & W Park Ave/Pleasant St	***Overall***		***22.9***	***36.8***	***C***	***D***						
		University Ave SWB	L	25.5	42.8	C	D	17.3	0%	20.7	1%	174.6	640.5
		University Ave SWB	T	19.0	38.1	B	D	31.5	0%	101.1	22%	174.6	640.5
		University Ave SWB	R	7.1	12.8	A	B	15.4	0%	30.7	0%	174.6	640.5
		University Ave NEB	L	39.6	71.4	D	E	57.2	0%	53.9	0%	235.8	542.1
		University Ave NEB	T	19.0	77.6	B	E	20.8	0%	57.9	0%	235.8	542.1
		University Ave NEB	R	5.1	12.2	A	B	3.6	0%	7.6	0%	235.8	542.1
		W Park Ave SEB	L	50.8	37.4	D	D	43.1	0%	50.0	0%	434.8	366.2
		W Park Ave SEB	T	58.4	41.4	E	D	110.4	0%	92.7	0%	434.8	366.2
		W Park Ave SEB	R	10.4	17.2	B	B	8.0	0%	26.5	0%	434.8	366.2
4	University Ave & Walnut St	***Overall***		***36.6***	***46.2***	***D***	***D***						
		University Ave SWB	T	28.3	49.8	C	D	51.4	0%	96.8	1%	450.7	1072.5
		University Ave SWB	TR	30.8	51.9	C	D	78.1	1%	152.6	11%	450.7	1072.5
		Walnut St NWB	L	56.0	44.6	E	D	14.8	0%	53.2	0%	266.1	276.3
		Walnut St NWB	LT	68.6	82.4	E	F	106.1	0%	144.8	2%	266.1	276.3
		Walnut St NWB	R	56.3	35.7	E	D	54.9	0%	34.1	0%	266.1	276.3
		University Ave NEB	LT	25.2	30.9	C	C	30.4	1%	46.0	5%	359.6	667.9
		University Ave NEB	T	24.3	28.9	C	C	41.8	2%	71.6	11%	359.6	667.9
		Walnut St SEB	LR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
5	University Ave/Beechurst Ave & Fayette St	***Overall***		***33.2***	***72.2***	***C***	***E***						
		Beechurst Ave SB	L	124.8	277.4	F	F	173.7	0%	346.2	4%	503.9	880.6
		Beechurst Ave SB	T	15.9	87.3	B	F	44.3	0%	174.4	0%	503.9	880.6
		University Ave SWB	L	119.2	80.5	F	F	0.9	0%	3.3	0%	123.2	147.4
		University Ave SWB	T	63.8	43.7	E	D	23.9	0%	22.8	0%	123.2	147.4
		University Ave SWB	TR	71.0	48.2	E	D	25.6	0%	33.3	0%	123.2	147.4
		University Ave NEB	T	12.2	17.0	B	B	25.3	0%	32.7	0%	167.4	171.3
		University Ave NEB	R	3.6	1.0	A	A	3.3	0%	0.5	0%	167.4	171.3
		Fayette St SEB	LTR	70.7	58.8	E	E	2.7	0%	1.5	0%	29.5	19.1
7	Beechurst Ave & Campus Dr	***Overall***		***31.1***	***47.7***	***C***	***D***						
		Campus Dr WB	L	59.6	147.3	E	F	53.4	0%	219.3	0%	198.8	614.8
		Campus Dr WB	R	22.6	47.0	C	D	18.8	0%	22.2	0%	198.8	614.8
		Beechurst Ave NWB	T	43.7	46.0	D	D	122.8	0%	148.9	0%	531.9	498.7
		Beechurst Ave NWB	R	6.1	6.9	A	A	4.0	0%	10.4	0%	531.9	498.7
9	Beechurst Ave & 6th St	***Overall***		***4.9***	***6.5***	***A***	***A***						
		6th St SWB	LTR	26.6	38.7	C	D	3.7	0%	10.8	0%	33.1	77.1
		US 19/Beechurst Ave NWB	L	12.2	19.9	B	B	1.0	0%	0.1	0%	94.2	72.3
		US 19/Beechurst Ave NWB	TR	1.2	1.5	A	A	3.2	0%	4.2	0%	94.2	72.3
		6th St NEB	LTR	76.1	55.5	E	E	20.3	0%	8.8	0%	132.6	50.8
		US 19/Beechurst Ave SEB	L	25.6	27.2	C	C	0.6	0%	0.7	0%	219.6	277.0
		US 19/Beechurst Ave SEB	TR	5.2	7.8	A	A	15.0	0%	30.8	0%	219.6	277.0
15	University Ave & Campus Dr/Stewart St	***Overall***		***33.3***	***164.5***	***C***	***F***						
		Stewart St SWB	LTR	38.9	473.6	D	F	50.9	0%	865.0	42%	236.0	2424.4
		University Ave NWB	L	32.3	44.8	C	D	24.3	0%	47.7	0%	136.8	217.5
		University Ave NWB	TR	22.2	23.0	C	C	19.3	0%	31.6	0%	136.8	217.5
		Campus Dr NEB	LTR	26.8	63.7	C	E	45.9	0%	160.3	0%	293.3	509.0
		University Ave SEB	TR	49.3	226.1	D	F	86.9	0%	426.5	4%	371.3	1237.2
16	University Ave & Beverly Ave/3rd St/University Place Gara	***Overall***		***18.3***	***66.6***	***B***	***E***						
		University Place Garage SWB	LTR	29.7	102.8	C	F	0.5	0%	4.4	0%	8.2	36.3
		University Ave NWB	LT	36.1	43.9	D	D	2.7	0%	1.6	0%	135.8	157.4
		University Ave NWB	TR	16.5	15.5	B	B	20.0	0%	24.4	0%	135.8	157.4
		3rd St NEB	LTR	23.2	37.4	C	D	18.8	0%	29.3	0%	195.3	191.4
		Beverly Ave EB	LTR	24.4	48.9	C	D	1.7	0%	2.4	0%	30.4	21.7
		University Ave SEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	217.2	1044.8
		University Ave SEB	TR	18.7	115.3	B	F	40.7	0%	322.4	0%	217.2	1044.8
20	Willey St & High St	***Overall***		***16.9***	***37.5***	***B***	***D***						
		High St SWB	LT	33.7	43.3	C	D	12.4	0%	53.1	1%	107.5	312.8
		High St SWB	R	4.1	88.0	A	F	0.5	0%	39.6	1%	107.5	312.8
		Willey St NWB	L	19.6	44.9	B	D	41.9	2%	116.3	30%	202.8	749.5
		Willey St NWB	T	9.7	40.8	A	D	6.9	0%	63.0	6%	202.8	749.5
		Willey St SEB	TR	18.5	34.1	B	C	20.0	0%	80.2	13%	136.2	305.9
21	High St & Fayette St	***Overall***		***7.8***	***10.3***	***A***	***B***						
		High St SWB	LT	2.7	4.4	A	A	1.4	0%	3.3	0%	119.9	202.0
		High St SWB	T	4.3	9.6	A	A	11.5	0%	25.2	0%	119.9	202.0
		Fayette St SEB	T	30.8	31.9	C	C	21.0	0%	18.0	0%	150.2	84.8
		Fayette St SEB	R	36.9	54.2	D	D	0.3	0%	2.1	0%	150.2	84.8
22	High St & Walnut St	***Overall***		***15.4***	***27.5***	***B***	***C***						
		High St SWB	T	18.2	19.3	B	B	26.8	0%	39.7	0%	184.5	420.9
		High St SWB	R	14.0	45.4	B	D	14.9	0%	93.9	2%	184.5	420.9
		Walnut St NWB	L	18.0	26.3	B	C	11.1	0%	12.3	0%	177.0	471.1
		Walnut St NWB	T	19.4	31.0	B	C	22.0	0%	55.2	5%	177.0	471.1
23	High St & Pleasant St	***Overall***		***18.2***	***20.8***	***B***	***C***						
		High St SWB	LT	19.8	23.2	B	C	25.4	0%	35.8	0%	149.1	260.5
		High St SWB	T	16.4	25.8	B	C	13.0	0%	48.3	0%	149.1	260.5
		Pleasant St SEB	T	17.5	19.6	B	B	20.1	0%	37.5	0%	255.3	268.2
		Pleasant St SEB	TR	20.4	17.9	C	B	40.9	0%	35.3	0%	255.3	268.2
25	Kirk St/Spruce St & Pleasant St	***Overall***		***15.1***	***15.9***	***B***	***B***						
		Pleasant St NWB	R	8.4	8.2	A	A	2.6	0%	2.8	0%	34.7	48.4
		Kirk St NEB	T	25.0	25.2	C	C	27.6	0%	37.5	0%	135.2	167.5
		Kirk St NEB	TR	23.2	12.7	C	B	3.3	0%	2.1	0%	135.2	167.5
		Pleasant St SEB	L	10.8	15.6	B	B	10.5	0%	32.0	4%	259.6	263.3
		Pleasant St SEB	LT	13.1	10.8	B	B	31.7	4%	23.1	2%	259.6	263.3
26	Spruce St & Walnut St	***Overall***		***20.6***	***33.7***	***C***	***C***						
		Walnut St NWB	T	38.9	79.3	D	E	75.5	0%	175.3	0%	321.0	611.3
		Walnut St NWB	R	9.6	29.5	A	C	3.7	0%	2.9	0%	321.0	611.3
		Spruce St NEB	LT	24.4	30.1	C	C	41.3	0%	56.4	0%	216.9	347.8
		Spruce St NEB	T	21.3	27.5	C	C	41.2	0%	49.8	0%	216.9	347.8
		Spruce St NEB	R	8.1	5.9	A	A	9.3	0%	8.0	0%	216.9	347.8
27	Spruce St & Fayette St	***Overall***		***9.5***	***15.1***	***A***	***B***						
		Spruce St NEB	T	4.7	18.4	A	B	5.0	0%	40.0	0%	173.4	218.2
		Spruce St NEB	TR	10.6	11.7	B	B	11.9	0%	16.9	0%	173.4	218.2
		Fayette St SEB	LT	22.4	36.1	C	D	18.8	0%	23.3	0%	163.0	118.1
28	Willey St & Spruce St	***Overall***		***23.9***	***67.6***	***C***	***E***						
		Willey St WB	TR	17.8	111.9	B	F	37.5	0%	175.0	3%	186.7	516.9
		Spruce St NEB	L	23.0	116.6	C	F	29.1	0%	185.4	4%	370.5	572.0
		Spruce St NEB	T	24.1	77.9	C	E	12.3	0%	40.7	0%	370.5	572.0
		Spruce St NEB	R	37.9	36.9	D	D	80.8	0%	77.3	1%	370.5	572.0
		Willey St SEB	LT	13.0	38.9	B	D	9.3	0%	60.0	3%	90.4	224.3

Unsignalized Intersections[3]

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
1	Don Knotts Blvd & Dorsey Ave	Don Knotts Blvd SWB	L	7.9	27.2	A	D	3.5	0%	40.7	0%	41.3	181.3
		Don Knotts Blvd SWB	T	0.1	1.4	A	A	0.0	0%	0.0	0%	41.3	181.3
		Dorsey Ave NB	R	6.7	7.8	A	A	1.8	0%	3.8	0%	24.1	53.9
		Don Knotts Blvd NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	1.9
		Don Knotts Blvd NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	1.9
6	Beechurst Ave & Stansbury Hall Parking Lot/Hough St	Beechurst Ave SB	T	3.3	90.4	A	F	23.2	0%	214.8	0%	308.3	707.1
		Beechurst Ave SB	TR	0.9	42.0	A	E	13.9	0%	99.7	0%	308.3	707.1
		Hough St WB	LTR	77.8	109.7	F	F	168.0	9%	162.6	16%	526.4	599.9
		Beechurst Ave NB	LT	0.0	0.0	A	A	13.0	0%	10.6	0%	211.5	177.5
		Beechurst Ave NB	T	0.0	0.0	A	A	9.6	0%	7.2	0%	211.5	177.5
		Stansbury Hall Parking Lot EB	LR	0.0	66.8	A	F	0.0	0%	0.9	0%	0.0	17.2
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8	Beechurst Ave & 3rd St	3rd St SWB	LTR	163.3	366.5	F	F	82.6	0%	148.3	0%	288.0	375.9
		Beechurst Ave NWB	L	18.9	13.3	C	B	0.3	0%	0.4	0%	118.6	111.4
		Beechurst Ave NWB	TR	0.1	0.1	A	A	4.3	0%	0.4	0%	118.6	111.4
		3rd St NEB	LTR	82.2	100.6	F	F	3.9	0%	11.5	0%	30.1	64.5
		US 19/Beechurst Ave SEB	L	21.6	96.9	C	F	0.6	0%	0.4	0%	211.2	725.4
		US 19/Beechurst Ave SEB	TR	5.3	33.3	A	D	10.2	0%	112.2	1%	211.2	725.4
10	Beechurst Ave & 8th St	8th St SWB	LTR	125.9	724.2	F	F	77.7	0%	588.3	0%	236.1	1378.6
		US 19/Beechurst Ave NWB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave NWB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		8th St NEB	LTR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave SEB	L	15.8	12.8	C	B	5.2	0%	7.5	0%	53.5	123.4
		US 19/Beechurst Ave SEB	TR	0.0	0.9	A	A	0.0	0%	8.2	0%	53.5	123.4
12	University Ave & Prospect St	University Ave SB	T	63.6	54.5	F	F	6.3	0%	58.2	3%	76.0	275.8
		Prospect St NWB	L	71.7	122.3	F	F	65.2	0%	107.0	2%	324.4	375.5
		Prospect St NWB	R	18.7	69.1	C	F	2.4	0%	31.6	0%	324.4	375.5
		University Ave NB	T	1.8	22.9	A	C	3.1	0%	33.1	6%	35.4	185.1
13	University Ave & Woodburn Circle/College Ave	University Ave SB	L	68.9	32.9	F	D	134.6	0%	3.1	0%	328.6	1011.9
		University Ave SB	TR	42.4	66.1	E	F	7.1	0%	157.0	3%	328.6	1011.9
		College Ave WB	TR	22.5	19.6	C	C	8.9	0%	22.1	0%	188.2	153.2
		University Ave NB	LT	83.0	58.1	F	F	41.1	0%	10.1	0%	69.8	46.4
		University Ave NB	R	257.2	61.8	F	F	9.9	0%	0.2	0%	69.8	46.4
		Woodburn Circle EB	LTR	0.0	43.2	A	E	0.0	0%	0.3	0%	0.0	6.5
14	University Ave & Falling Run Rd	University Ave SB	L	34.9	39.1	D	E	16.3	0%	22.7	1%	144.3	225.4
		University Ave SB	T	5.0	14.2	A	B	6.5	0%	43.1	1%	144.3	225.4
		Falling Run Rd/Protzman St WB	LR	92.4	1309.8	F	F	40.6	0%	1297.1	0%	165.0	2290.1
		University Ave NB	TR	4.3	2.9	A	A	8.5	0%	13.3	0%	186.8	225.6
17	University Ave & Ensign Ave/North St	University Ave SB	LTR	3.0	3.9	A	A	7.2	0%	12.5	0%	149.3	236.5
		North St WB	LTR	9.9	20.7	A	C	8.9	0%	20.6	0%	82.7	122.7
		University Ave NB	LTR	0.2	0.5	A	A	0.4	0%	0.7	0%	19.4	40.3
		Ensign Ave EB	LTR	0.0	28.2	A	D	0.0	0%	0.5	0%	0.0	12.2
18	University Ave & 8th St/Terrace Heights Dwy	Terrace Heights Dwy SB	LTR	0.0	27.8	A	D	0.0	0%	0.2	0%	0.0	6.8
		University Ave WB	LTR	1.6	2.3	A	A	2.9	0%	4.6	0%	128.3	116.3
		8th St NB	LTR	43.2	66.6	E	F	49.7	0%	91.6	0%	239.0	281.9
		University Ave EB	LTR	0.0	0.0	A	A	2.5	0%	1.4	0%	67.1	79.3
19	High St & Prospect St	High St SWB	T	0.1	3.8	A	A	1.2	0%	4.7	0%	27.2	37.4
		Prospect St NWB	LR	7.6	11.3	A	B	3.3	0%	21.0	0%	70.3	190.2
24	High St & Foundry St/South High Station	High St SWB	LTR	0.5	1.0	A	A	1.6	0%	3.3	0%	46.2	131.5
		South High Station NWB	LTR	9.7	14.9	A	B	2.9	0%	4.9	0%	42.0	46.3
		High St NEB	LTR	0.9	3.7	A	A	1.8	0%	5.7	0%	27.4	79.2
		Foundry St SEB	LTR	7.0	13.5	A	B	3.2	0%	8.0	0%	64.5	67.1
30	Willey St & Richwood Ave	Willey St SB	T	0.0	33.7	A	D	0.0	0%	84.3	0%	0.0	290.6
		Richwood Ave SWB	T	11.5	60.1	B	F	4.8	0%	35.3	0%	65.6	129.9
		Willey St NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
31	Willey St & Chestnut St	Willey St NWB	T	13.5	34.1	B	D	14.8	0%	71.4	8%	67.1	244.0
		Chestnut St NEB	L	15.5	91.3	C	F	6.6	0%	67.5	1%	62.9	375.6
		Chestnut St NEB	R	9.7	74.9	A	F	2.6	0%	113.4	2%	62.9	375.6
		Willey St SEB	T	27.8	17.1	D	C	0.5	0%	18.3	0%	20.8	140.9
32	Stewart St/Willowdale Rd & Stewart St	Willowdale Rd SB	LT	1.4	118.4	A	F	1.6	0%	269.7	2%	37.2	827.2
		Stewart St WB	LR	8.1	142.2	A	F	8.3	0%	197.0	0%	61.1	343.5
		Stewart St NB	TR	0.0	0.0	A	A	0.4	0%	1.0	0%	0.6	8.4
33	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	LTR	8.2	12.0	A	B	8.9	0%	19.1	0%	115.1	175.2
		Van Gilder Ave NWB	LTR	7.3	9.9	A	A	0.7	0%	0.5	0%	10.9	13.9
		Falling Run Rd/Protzman St NEB	LTR	0.0	0.0	A	A	0.6	0%	1.2	0%	26.4	17.2
		Stewart St EB	LTR	9.4	16.0	A	C	8.4	0%	16.5	0%	114.1	141.7

Notes:

1 Delay shown is the 95th percentile worst case control delay for the full 60-minute simulation period as derived from the 10 random seed simulations

2 Level of Service shown is Simulation based and calculated in a manner that is consistent with the HCM Methodologies

3 Results for unsignalized intersections include only the movements that have conflicting flow and thus have the potential to incur control delay

Signalized Intersections

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
2	Don Knotts Blvd/University Ave & Sturgiss St/Foundry St	***Overall***		***10.4***	***12.1***	***B***	***B***						
		University Ave SWB	L	10.0	20.1	A	C	1.3	0%	2.7	0%	79.3	135.5
		University Ave SWB	T	2.5	4.2	A	A	5.0	0%	17.8	0%	79.3	135.5
		University Ave SWB	TR	1.9	3.4	A	A	4.1	0%	15.9	0%	79.3	135.5
		Foundry St NWB	LT	43.0	46.2	D	D	40.8	0%	74.8	0%	200.3	236.2
		Foundry St NWB	R	50.5	51.1	D	D	17.2	0%	12.5	0%	200.3	236.2
		Don Knotts Blvd NEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	184.4	247.5
		Don Knotts Blvd NEB	T	9.2	14.0	A	B	23.2	0%	43.0	0%	184.4	247.5
		Don Knotts Blvd NEB	TR	10.2	13.0	B	B	6.4	0%	14.8	0%	184.4	247.5
		Sturgiss St SEB	LTR	59.4	104.0	E	F	2.0	0%	1.0	0%	24.4	14.5
3	University Ave & W Park Ave/Pleasant St	***Overall***		***31.4***	***28.6***	***C***	***C***						
		University Ave SWB	L	39.3	49.3	D	D	25.0	0%	21.0	0%	184.2	397.4
		University Ave SWB	T	34.4	21.5	C	C	57.9	0%	80.5	2%	184.2	397.4
		University Ave SWB	R	4.8	6.9	A	A	7.4	0%	24.8	0%	184.2	397.4
		University Ave NEB	L	15.7	29.3	B	C	23.3	0%	36.5	0%	156.5	267.5
		University Ave NEB	T	30.3	38.5	C	D	48.2	0%	61.2	0%	156.5	267.5
		University Ave NEB	R	29.7	30.5	C	C	21.6	0%	21.0	0%	156.5	267.5
		W Park Ave SEB	L	46.6	55.3	D	E	29.3	0%	81.3	0%	551.6	411.1
		W Park Ave SEB	T	79.7	66.5	E	E	197.4	0%	145.3	0%	551.6	411.1
		W Park Ave SEB	R	23.9	25.9	C	C	31.0	0%	46.5	0%	551.6	411.1
4	University Ave & Walnut St	***Overall***		***27.7***	***31.1***	***C***	***C***						
		University Ave SWB	T	18.1	29.3	B	C	30.7	0%	47.4	0%	314.7	375.7
		University Ave SWB	TR	25.9	28.4	C	C	50.8	0%	97.7	1%	314.7	375.7
		Walnut St NWB	L	77.3	46.6	E	D	0.3	0%	56.2	0%	211.5	290.0
		Walnut St NWB	LT	62.4	60.2	E	E	100.8	0%	116.1	2%	211.5	290.0
		Walnut St NWB	R	52.5	44.6	D	D	25.1	0%	34.7	0%	211.5	290.0
		University Ave NEB	LT	12.5	16.9	B	B	12.8	0%	19.3	0%	124.0	251.2
		University Ave NEB	T	13.7	16.9	B	B	17.1	0%	40.5	2%	124.0	251.2
		Walnut St SEB	LR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
5	University Ave/Beechurst Ave & Fayette St	***Overall***		***27.6***	***34.6***	***C***	***C***						
		Beechurst Ave SB	L	57.5	77.3	E	E	87.3	0%	172.8	0%	394.1	436.0
		Beechurst Ave SB	T	13.8	15.7	B	B	29.2	0%	58.8	0%	394.1	436.0
		University Ave SWB	L	74.0	105.8	E	F	2.0	0%	1.8	0%	109.6	138.1
		University Ave SWB	T	56.1	55.5	E	E	24.5	0%	29.2	0%	109.6	138.1
		University Ave SWB	TR	53.1	60.0	D	E	24.0	0%	38.7	0%	109.6	138.1
		University Ave NEB	T	25.3	32.8	C	C	35.9	0%	50.8	0%	256.9	349.9
		University Ave NEB	R	39.0	18.7	D	B	6.2	0%	11.5	0%	256.9	349.9
		Fayette St SEB	LTR	81.2	88.0	F	F	3.5	0%	1.9	0%	22.0	23.2
7	Beechurst Ave & Campus Dr	***Overall***		***21.3***	***33.9***	***C***	***C***						
		Campus Dr WB	L	62.4	53.5	E	D	39.3	0%	96.8	0%	169.5	349.8
		Campus Dr WB	R	45.4	24.6	D	C	20.4	0%	28.3	0%	169.5	349.8
		Beechurst Ave NWB	T	23.7	49.2	C	D	75.1	0%	156.3	0%	393.0	481.5
		Beechurst Ave NWB	R	7.3	14.2	A	B	5.6	0%	15.0	0%	393.0	481.5
9	Beechurst Ave & 6th St	***Overall***		***7.0***	***5.3***	***A***	***A***						
		6th St SWB	LTR	67.5	57.1	E	E	9.3	0%	15.8	0%	54.0	80.4
		US 19/Beechurst Ave NWB	L	20.1	55.6	C	E	0.9	0%	0.2	0%	115.6	110.5
		US 19/Beechurst Ave NWB	TR	2.6	2.2	A	A	8.3	0%	3.5	0%	115.6	110.5
		6th St NEB	LTR	81.6	60.0	F	E	22.8	0%	10.0	0%	123.6	63.3
		US 19/Beechurst Ave SEB	L	19.8	19.0	B	B	0.6	0%	0.4	0%	261.3	181.4
		US 19/Beechurst Ave SEB	TR	6.3	3.6	A	A	20.0	0%	11.3	0%	261.3	181.4
15	University Ave & Campus Dr/Stewart St	***Overall***		***22.7***	***132.5***	***C***	***F***						
		Stewart St SWB	LTR	30.8	291.5	C	F	36.5	0%	680.4	6%	178.6	1480.8
		University Ave NWB	L	22.3	43.2	C	D	5.6	0%	41.7	0%	164.0	226.5
		University Ave NWB	TR	17.6	21.0	B	C	29.7	0%	31.4	0%	164.0	226.5
		Campus Dr NEB	LTR	24.4	46.5	C	D	36.1	0%	106.4	0%	240.9	387.0
		University Ave SEB	TR	26.0	187.7	C	F	45.0	0%	350.8	1%	278.8	1084.6
16	University Ave & Beverly Ave/3rd St/University Place Gara	***Overall***		***19.6***	***65.1***	***B***	***E***						
		University Place Garage SWB	LTR	39.8	50.3	D	D	0.7	0%	2.2	0%	10.7	19.7
		University Ave NWB	LT	28.3	43.5	C	D	15.4	0%	2.2	0%	171.1	218.4
		University Ave NWB	TR	16.8	17.2	B	B	19.2	0%	28.2	0%	171.1	218.4
		3rd St NEB	LTR	27.2	36.6	C	D	25.9	0%	38.5	0%	168.6	216.1
		Beverly Ave EB	LTR	35.7	35.0	D	D	2.5	0%	2.0	0%	25.4	24.2
		University Ave SEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	239.2	988.2
		University Ave SEB	TR	18.2	109.2	B	F	37.0	0%	256.5	0%	239.2	988.2
20	Willey St & High St	***Overall***		***19.0***	***22.1***	***B***	***C***						
		High St SWB	LT	33.2	33.4	C	C	13.5	0%	28.1	0%	94.8	167.8
		High St SWB	R	56.0	43.8	E	D	3.4	0%	6.8	0%	94.8	167.8
		Willey St NWB	L	13.9	30.0	B	C	29.5	1%	80.5	19%	207.6	445.1
		Willey St NWB	T	25.7	8.9	C	A	35.8	2%	18.1	1%	207.6	445.1
		Willey St SEB	TR	17.4	21.7	B	C	18.6	0%	41.8	3%	130.4	193.7
21	High St & Fayette St	***Overall***		***8.5***	***15.1***	***A***	***B***						
		High St SWB	LT	4.1	6.9	A	A	2.2	0%	8.8	0%	167.5	277.9
		High St SWB	T	6.5	12.1	A	B	15.8	0%	42.6	0%	167.5	277.9
		Fayette St SEB	T	35.1	33.8	D	C	14.5	0%	50.4	0%	116.3	228.7
		Fayette St SEB	R	44.4	37.3	D	D	1.1	0%	1.3	0%	116.3	228.7
22	High St & Walnut St	***Overall***		***11.3***	***16.2***	***B***	***B***						
		High St SWB	T	8.6	11.2	A	B	11.4	0%	17.8	0%	120.4	304.2
		High St SWB	R	13.2	26.2	B	C	10.6	0%	32.7	0%	120.4	304.2
		Walnut St NWB	L	19.9	19.3	B	B	16.4	0%	6.8	0%	113.5	214.1
		Walnut St NWB	T	16.2	18.9	B	B	13.9	0%	32.0	1%	113.5	214.1
23	High St & Pleasant St	***Overall***		***17.8***	***20.4***	***B***	***C***						
		High St SWB	LT	17.0	24.2	B	C	24.7	0%	39.1	0%	146.2	228.8
		High St SWB	T	12.1	20.8	B	C	12.4	0%	41.9	0%	146.2	228.8
		Pleasant St SEB	T	19.9	20.6	B	C	29.0	0%	36.1	0%	272.2	242.9
		Pleasant St SEB	TR	22.1	20.2	C	C	49.6	0%	37.6	0%	272.2	242.9
25	Kirk St/Spruce St & Pleasant St	***Overall***		***17.1***	***16.5***	***B***	***B***						
		Pleasant St NWB	R	41.1	39.4	D	D	15.6	0%	15.8	0%	88.4	81.8
		Kirk St NEB	T	24.7	24.9	C	C	21.4	0%	38.6	0%	127.1	175.5
		Kirk St NEB	TR	29.6	28.6	C	C	4.4	0%	4.2	0%	127.1	175.5
		Pleasant St SEB	L	8.0	8.7	A	A	9.6	0%	13.8	0%	194.3	165.5
		Pleasant St SEB	LT	14.0	12.4	B	B	36.8	1%	28.6	1%	194.3	165.5
26	Spruce St & Walnut St	***Overall***		***19.8***	***20.2***	***B***	***C***						
		Walnut St NWB	T	23.4	24.0	C	C	41.4	0%	48.9	0%	208.9	241.4
		Walnut St NWB	R	28.7	28.0	C	C	11.4	0%	7.1	0%	208.9	241.4
		Spruce St NEB	LT	15.6	16.1	B	B	29.3	0%	30.2	0%	214.4	266.3
		Spruce St NEB	T	14.5	17.4	B	B	32.7	0%	34.3	0%	214.4	266.3
		Spruce St NEB	R	33.1	26.4	C	C	47.0	0%	43.0	0%	214.4	266.3
27	Spruce St & Fayette St	***Overall***		***7.4***	***9.0***	***A***	***A***						
		Spruce St NEB	T	8.9	8.3	A	A	13.2	0%	15.6	0%	132.1	157.6
		Spruce St NEB	TR	5.1	7.0	A	A	10.8	0%	14.3	0%	132.1	157.6
		Fayette St SEB	LT	21.1	16.8	C	B	7.6	0%	18.9	2%	121.8	248.8
28	Willey St & Spruce St	***Overall***		***29.0***	***34.9***	***C***	***C***						
		Willey St WB	TR	32.4	58.6	C	E	55.1	0%	118.2	0%	220.6	350.9
		Spruce St NEB	L	51.2	39.7	D	D	62.9	0%	69.0	0%	272.7	281.3
		Spruce St NEB	T	19.6	14.5	B	B	7.4	0%	6.6	0%	272.7	281.3
		Spruce St NEB	R	28.9	27.0	C	C	53.6	0%	66.4	0%	272.7	281.3
		Willey St SEB	LT	11.7	29.9	B	C	9.7	0%	30.8	1%	76.8	183.0

Unsignalized Intersections[3]

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
1	Don Knotts Blvd & Dorsey Ave	Don Knotts Blvd SWB	L	8.7	32.5	A	D	3.8	0%	50.5	0%	56.4	253.6
		Don Knotts Blvd SWB	T	0.1	1.6	A	A	0.0	0%	0.0	0%	56.4	253.6
		Dorsey Ave NB	R	6.7	8.2	A	A	1.9	0%	3.7	0%	28.0	51.5
		Don Knotts Blvd NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Don Knotts Blvd NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
6	Beechurst Ave & Stansbury Hall Parking Lot/Hough St	Beechurst Ave SB	T	1.9	3.0	A	A	25.5	0%	18.3	0%	287.7	259.2
		Beechurst Ave SB	TR	0.5	0.8	A	A	14.0	0%	9.4	0%	287.7	259.2
		Hough St WB	LTR	72.1	37.9	F	E	153.3	6%	55.6	0%	393.7	242.7
		Beechurst Ave NB	LT	0.0	0.3	A	A	13.8	0%	13.2	0%	232.9	286.0
8	Beechurst Ave & 3rd St	3rd St SWB	LTR	198.4	556.4	F	F	181.5	0%	309.7	0%	658.9	587.3
		Beechurst Ave NWB	L	12.6	18.1	B	C	0.2	0%	0.7	0%	87.4	97.8
		Beechurst Ave NWB	TR	0.0	0.2	A	A	1.8	0%	3.8	0%	87.4	97.8
		3rd St NEB	LTR	32.5	133.0	D	F	1.4	0%	18.3	0%	17.6	74.7
		US 19/Beechurst Ave SEB	L	11.0	20.1	B	C	0.4	0%	0.4	0%	141.3	393.4
		US 19/Beechurst Ave SEB	TR	1.7	11.9	A	B	3.6	0%	31.7	0%	141.3	393.4
10	Beechurst Ave & 8th St	8th St SWB	LTR	166.5	181.0	F	F	116.2	0%	89.7	0%	301.5	310.2
		US 19/Beechurst Ave NWB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave NWB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		8th St NEB	LTR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave SEB	L	9.7	13.3	A	B	3.4	0%	8.2	0%	47.6	84.2
		US 19/Beechurst Ave SEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	47.6	84.2
12	University Ave & Prospect St	University Ave SB	T	74.4	31.9	F	D	8.1	0%	4.9	0%	59.2	117.5
		Prospect St NWB	L	86.6	48.8	F	E	46.0	1%	11.2	0%	397.5	257.5
		Prospect St NWB	R	108.1	101.3	F	F	90.2	2%	90.4	0%	397.5	257.5
		University Ave NB	T	135.8	70.2	F	F	102.0	19%	123.3	26%	236.2	295.9
13	University Ave & Woodburn Circle/College Ave	University Ave SB	L	58.2	4.9	F	A	96.7	0%	3.6	0%	312.7	173.7
		University Ave SB	TR	129.9	29.7	F	D	39.8	0%	27.8	0%	312.7	173.7
		College Ave WB	TR	23.9	18.7	C	C	11.0	0%	22.3	0%	190.2	160.8
		University Ave NB	LT	200.4	77.1	F	F	118.0	13%	2.3	0%	300.1	24.0
		University Ave NB	R	336.1	86.8	F	F	0.1	0%	0.1	0%	300.1	24.0
		Woodburn Circle EB	LTR	0.0	40.5	A	E	0.0	0%	0.3	0%	0.0	4.2
14	University Ave & Falling Run Rd	University Ave SB	L	26.7	43.2	D	E	7.4	0%	25.1	0%	124.9	129.0
		University Ave SB	T	2.4	4.8	A	A	5.8	0%	5.8	0%	124.9	129.0
		Falling Run Rd/Protzman St WB	LR	95.8	424.2	F	F	59.6	0%	356.1	0%	229.0	666.6
		University Ave NB	TR	3.8	4.8	A	A	14.2	0%	17.7	0%	215.1	276.7
17	University Ave & Ensign Ave/North St	University Ave SB	LTR	2.9	4.3	A	A	6.3	0%	13.3	0%	186.3	223.9
		North St WB	LTR	10.4	23.4	B	C	8.9	0%	21.2	0%	93.8	136.7
		University Ave NB	LTR	0.2	0.8	A	A	1.3	0%	1.9	0%	0.0	61.9
		Ensign Ave EB	LTR	0.0	40.2	A	E	0.0	0%	0.7	0%	0.0	13.2
18	University Ave & 8th St/Terrace Heights Dwy	Terrace Heights Dwy SB	LTR	0.0	24.7	A	C	0.0	0%	0.4	0%	0.0	4.5
		University Ave WB	LTR	1.3	2.4	A	A	2.7	0%	5.0	0%	129.1	127.7
		8th St NB	LTR	28.7	38.3	D	E	28.0	0%	47.5	0%	157.6	176.8
		University Ave EB	LTR	0.0	0.0	A	A	1.9	0%	1.6	0%	47.6	72.3
19	High St & Prospect St	High St SWB	T	0.0	0.1	A	A	1.4	0%	0.7	0%	33.3	0.0
		Prospect St NWB	LR	7.3	6.9	A	A	3.9	0%	6.1	0%	55.4	74.0
24	High St & Foundry St/South High Station	High St SWB	LTR	0.3	0.8	A	A	1.7	0%	3.2	0%	45.7	53.8
		South High Station NWB	LTR	10.5	13.8	B	B	3.3	0%	4.1	0%	44.2	49.9
		High St NEB	LTR	1.6	3.4	A	A	2.1	0%	4.0	0%	49.0	93.1
		Foundry St SEB	LTR	10.1	16.0	B	C	4.0	0%	11.5	0%	46.3	91.3
30	Willey St & Richwood Ave	Willey St SB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave SWB	T	10.3	17.0	B	C	3.7	0%	6.2	0%	68.3	59.2
		Willey St NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
31	Willey St & Chestnut St	Willey St NWB	T	26.8	0.6	D	A	45.6	3%	3.5	0%	170.0	71.7
		Chestnut St NEB	L	47.1	12.9	E	B	29.9	0%	4.9	0%	94.6	83.4
		Chestnut St NEB	R	27.8	8.7	D	A	3.9	0%	8.8	0%	94.6	83.4
		Willey St SEB	T	5.8	2.9	A	A	0.6	0%	0.8	0%	17.6	22.0
32	Stewart St/Willowdale Rd & Stewart St	Willowdale Rd SB	LT	0.9	1.6	A	A	1.2	0%	2.9	0%	24.5	61.3
		Stewart St WB	LR	7.1	11.7	A	B	6.6	0%	13.9	0%	48.9	86.6
		Stewart St NB	TR	0.0	0.0	A	A	0.0	0%	0.5	0%	0.0	15.3
33	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	LTR	8.0	10.8	A	B	9.5	0%	17.5	0%	112.9	134.3
		Van Gilder Ave NWB	LTR	7.4	13.5	A	B	0.6	0%	0.9	0%	13.7	16.7
		Falling Run Rd/Protzman St NEB	LTR	0.0	0.0	A	A	0.3	0%	1.0	0%	2.5	49.8
		Stewart St EB	LTR	9.1	13.4	A	B	7.7	0%	13.6	0%	63.5	111.5

Notes:

1 Delay shown is the 95th percentile worst case control delay for the full 60-minute simulation period as derived from the 10 random seed simulations

2 Level of Service shown is Simulation based and calculated in a manner that is consistent with the HCM Methodologies

3 Results for unsignalized intersections include only the movements that have conflicting flow and thus have the potential to incur control delay

Signalized Intersections

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
2	Don Knotts Blvd/University Ave & Sturgiss St/Foundry St	***Overall***		***7.4***	***22.1***	***A***	***C***						
		University Ave SWB	L	11.1	18.6	B	B	1.9	0%	1.2	0%	159.9	224.3
		University Ave SWB	T	3.0	6.3	A	A	3.7	0%	22.6	0%	159.9	224.3
		University Ave SWB	TR	3.0	5.9	A	A	3.0	0%	20.1	0%	159.9	224.3
		Foundry St NWB	LT	71.2	45.6	E	D	28.5	0%	62.5	0%	135.0	242.8
		Foundry St NWB	R	13.9	45.8	B	D	3.7	0%	16.1	0%	135.0	242.8
		Don Knotts Blvd NEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	181.0	543.0
		Don Knotts Blvd NEB	T	5.1	56.9	A	E	11.1	0%	127.8	0%	181.0	543.0
		Don Knotts Blvd NEB	TR	4.5	12.9	A	B	3.1	0%	12.9	0%	181.0	543.0
		Sturgiss St SEB	LTR	79.8	93.6	E	F	2.7	0%	0.9	0%	23.2	19.1
3	University Ave & W Park Ave/Pleasant St	***Overall***		***27.3***	***44.9***	***C***	***D***						
		University Ave SWB	L	22.5	29.9	C	C	13.2	0%	10.5	0%	378.7	879.7
		University Ave SWB	T	21.6	24.1	C	C	41.3	2%	77.8	14%	378.7	879.7
		University Ave SWB	R	16.5	29.9	B	C	40.1	2%	73.9	12%	378.7	879.7
		University Ave NEB	L	37.4	90.1	D	F	43.4	0%	68.0	0%	242.3	440.2
		University Ave NEB	T	18.8	32.9	B	C	25.3	0%	27.5	0%	242.3	440.2
		University Ave NEB	R	3.4	7.4	A	A	2.3	0%	4.9	0%	242.3	440.2
		W Park Ave SEB	L	58.9	99.5	E	F	107.8	0%	209.4	0%	416.1	697.9
		W Park Ave SEB	T	73.9	129.5	E	F	122.1	0%	208.0	0%	416.1	697.9
		W Park Ave SEB	R	13.1	33.7	B	C	11.0	0%	49.2	0%	416.1	697.9
4	University Ave & Walnut St	***Overall***		***21.8***	***45.5***	***C***	***D***						
		University Ave SWB	T	20.7	34.4	C	C	32.2	0%	99.5	3%	490.7	936.5
		University Ave SWB	TR	18.4	46.2	B	D	51.6	2%	175.7	21%	490.7	936.5
		Walnut St NWB	L	80.0	74.2	F	E	9.3	0%	79.3	0%	203.4	312.1
		Walnut St NWB	LT	82.6	194.8	F	F	66.2	0%	155.9	3%	203.4	312.1
		Walnut St NWB	R	79.7	76.6	E	E	2.6	0%	15.9	0%	203.4	312.1
		University Ave NEB	LT	16.7	25.9	B	C	29.4	3%	37.7	4%	241.0	571.4
		University Ave NEB	T	18.3	16.0	B	B	28.2	1%	53.7	7%	241.0	571.4
		Walnut St SEB	LR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
5	University Ave/Beechurst Ave & Fayette St	***Overall***		***12.7***	***12.2***	***B***	***B***						
		Beechurst Ave SB	L	16.8	16.2	B	B	18.7	2%	31.9	7%	245.2	457.2
		Beechurst Ave SB	T	2.1	11.4	A	B	2.1	0%	35.9	7%	245.2	457.2
		University Ave NEB	T	31.3	16.6	C	B	62.5	0%	20.3	0%	344.5	181.9
		University Ave NEB	R	9.7	8.3	A	A	0.2	0%	9.7	0%	344.5	181.9
7	Beechurst Ave & Campus Dr	***Overall***		***27.6***	***42.4***	***C***	***D***						
		Campus Dr WB	L	75.9	65.2	E	E	34.8	0%	99.8	0%	185.5	423.4
		Campus Dr WB	LR	74.6	68.5	E	E	41.6	0%	102.9	0%	185.5	423.4
		Beechurst Ave NWB	T	38.8	63.8	D	E	115.5	0%	200.9	0%	743.9	806.0
		Beechurst Ave NWB	R	10.8	16.2	B	B	14.4	0%	27.8	0%	743.9	806.0
8	Beechurst Ave & 3rd St	***Overall***		***16.5***	***41.5***	***B***	***D***						
		3rd St SWB	LTR	71.7	89.2	E	F	71.3	0%	142.1	0%	313.8	453.0
		Beechurst Ave NWB	L	35.7	57.7	D	E	0.4	0%	1.8	0%	305.1	148.7
		Beechurst Ave NWB	TR	6.9	5.4	A	A	19.4	0%	6.0	0%	305.1	148.7
		3rd St NEB	LTR	60.4	44.3	E	D	2.4	0%	4.2	0%	32.6	27.6
		US 19/Beechurst Ave SEB	L	50.8	68.1	D	E	1.3	0%	6.0	0%	467.0	868.7
		US 19/Beechurst Ave SEB	TR	14.4	58.2	B	E	34.5	0%	242.7	2%	467.0	868.7
9	Beechurst Ave & 6th St	***Overall***		***6.9***	***12.9***	***A***	***B***						
		6th St SWB	LTR	21.6	40.9	C	D	3.4	0%	12.3	0%	38.6	86.1
		US 19/Beechurst Ave NWB	L	29.5	54.7	C	D	1.2	0%	0.2	0%	248.5	231.6
		US 19/Beechurst Ave NWB	TR	6.5	5.5	A	A	9.4	0%	10.8	0%	248.5	231.6
		6th St NEB	LTR	79.5	62.3	E	E	22.7	0%	11.2	0%	112.0	67.5
		US 19/Beechurst Ave SEB	L	26.1	25.0	C	C	0.9	0%	0.5	0%	231.3	395.4
15	University Ave & Campus Dr/Stewart St	***Overall***		***19.7***	***41.5***	***B***	***D***						
		Stewart St SWB	LTR	25.7	71.2	C	E	28.4	0%	141.9	0%	165.2	514.6
		University Ave NWB	TR	34.3	37.8	C	D	10.5	0%	29.5	0%	76.0	131.8
		Campus Dr NEB	LTR	15.5	28.0	B	C	29.1	0%	82.7	0%	222.4	407.4
		University Ave SEB	TR	28.5	43.6	C	D	9.4	0%	92.6	0%	81.9	405.0
16	University Ave & Beverly Ave/3rd St/University Place Gara	***Overall***		***18.4***	***19.8***	***B***	***B***						
		University Place Garage SWB	LTR	21.0	25.6	C	C	0.4	0%	1.0	0%	7.5	15.1
		University Ave NWB	LT	25.4	28.7	C	C	6.9	0%	16.9	0%	116.1	136.8
		University Ave NWB	TR	17.8	18.0	B	B	11.5	0%	13.2	0%	116.1	136.8
		3rd St NEB	LTR	22.7	22.5	C	C	21.3	0%	22.6	0%	232.6	171.2
		Beverly Ave EB	LTR	22.3	32.6	C	C	1.3	0%	1.7	0%	23.6	19.8
20	Willey St & High St	***Overall***		***16.0***	***32.3***	***B***	***C***						
		High St SWB	LT	38.1	79.6	D	E	13.8	0%	28.7	0%	137.0	197.5
		High St SWB	R	22.1	37.0	C	D	23.5	0%	51.3	0%	137.0	197.5
		Willey St NWB	L	17.5	27.8	B	C	18.1	0%	56.8	6%	268.4	580.9
		Willey St NWB	T	16.2	25.5	B	C	47.9	6%	70.3	22%	268.4	580.9
21	High St & Fayette St	***Overall***		***4.9***	***21.3***	***A***	***C***						
		High St SWB	LT	3.6	11.7	A	B	1.0	0%	12.1	0%	82.1	183.2
		High St SWB	T	3.2	13.8	A	B	4.6	0%	35.9	0%	82.1	183.2
		Fayette St SEB	T	41.3	36.9	D	D	2.3	0%	57.8	0%	28.1	290.0
		Fayette St SEB	R	35.9	38.7	D	D	1.8	0%	16.1	0%	28.1	290.0
22	High St & Walnut St	***Overall***		***17.5***	***32.3***	***B***	***C***						
		High St SWB	T	10.4	23.0	B	C	18.2	0%	37.6	0%	138.1	316.1
		High St SWB	R	29.6	87.9	C	F	0.6	0%	68.1	2%	138.1	316.1
		Walnut St NWB	L	33.0	31.8	C	C	21.6	0%	16.5	0%	230.9	612.5
		Walnut St NWB	T	31.0	41.3	C	D	30.9	1%	65.4	7%	230.9	612.5
23	High St & Pleasant St	***Overall***		***17.2***	***23.5***	***B***	***C***						
		High St SWB	LT	14.7	24.4	B	C	15.8	0%	40.4	0%	147.3	293.1
		High St SWB	T	13.2	25.7	B	C	7.2	0%	44.8	0%	147.3	293.1
		Pleasant St SEB	T	16.9	23.6	B	C	10.4	0%	25.6	0%	257.7	271.1
		Pleasant St SEB	TR	20.6	23.2	C	C	42.3	0%	39.8	0%	257.7	271.1
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25	Kirk St/Spruce St & Pleasant St	***Overall***		***14.7***	***15.6***	***B***	***B***						
		Pleasant St NWB	R	8.1	6.8	A	A	2.5	0%	2.4	0%	32.0	26.9
		Kirk St NEB	T	24.6	26.7	C	C	21.2	0%	32.3	0%	133.2	165.4
		Kirk St NEB	TR	19.6	13.4	B	B	3.4	0%	1.9	0%	133.2	165.4
		Pleasant St SEB	L	13.9	12.4	B	B	3.0	0%	11.4	1%	312.9	256.3
		Pleasant St SEB	LT	11.3	11.8	B	B	29.4	4%	28.5	3%	312.9	256.3
26	Spruce St & Walnut St	***Overall***		***18.1***	***51.0***	***B***	***D***						
		Walnut St NWB	T	39.2	136.9	D	F	56.3	0%	259.2	0%	254.8	705.1
		Walnut St NWB	R	8.9	70.1	A	E	7.0	0%	5.4	0%	254.8	705.1
		Spruce St NEB	LT	22.8	33.7	C	C	30.2	0%	45.2	0%	212.2	239.9
27	Spruce St & Fayette St	***Overall***		***3.6***	***16.5***	***A***	***B***						
		Spruce St NEB	T	3.6	13.9	A	B	5.0	0%	28.0	0%	77.4	211.4
		Spruce St NEB	TR	2.6	7.2	A	A	3.7	0%	9.5	0%	77.4	211.4
		Fayette St SEB	LT	40.5	35.1	D	D	3.1	0%	59.6	9%	32.4	291.3
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28	Willey St & Spruce St	***Overall***		***19.1***	***56.3***	***B***	***E***						
		Willey St WB	TR	21.1	92.7	C	F	36.3	0%	216.7	5%	183.1	576.9
		Spruce St NEB	L	36.7	71.5	D	E	67.2	0%	118.3	1%	321.7	457.3
		Spruce St NEB	T	27.6	19.0	C	B	10.2	0%	5.8	0%	321.7	457.3
31	Willey St & Chestnut St	***Overall***		***10.8***	***30.7***	***B***	***C***						
		Willey St NWB	T	8.3	10.4	A	B	32.8	6%	58.2	12%	351.0	262.1
		Chestnut St NEB	L	56.2	110.0	E	F	34.0	0%	49.6	1%	190.4	398.2
		Chestnut St NEB	R	18.1	104.8	B	F	2.9	0%	121.2	3%	190.4	398.2
		Willey St SEB	T	4.7	29.4	A	C	8.2	0%	43.6	1%	123.4	228.1
34	Beechurst Ave & Willey St	***Overall***		***16.1***	***16.7***	***B***	***B***						
		Beechurst Ave SB	L	16.6	11.2	B	B	11.5	9%	27.0	34%	221.6	368.7
		Beechurst Ave SB	T	6.0	8.8	A	A	17.4	16%	30.6	31%	221.6	368.7
		Willey St WB	L	37.9	47.4	D	D	54.8	3%	72.5	7%	282.3	374.7
		Willey St WB	R	13.1	9.7	B	A	32.2	1%	24.6	1%	282.3	374.7

Unsignalized Intersections[3]

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
1	Don Knotts Blvd & Dorsey Ave	Don Knotts Blvd SWB	L	8.7	32.7	A	D	3.2	0%	52.0	0%	53.9	349.8
		Don Knotts Blvd SWB	T	0.2	1.9	A	A	0.0	0%	0.0	0%	53.9	349.8
		Dorsey Ave NB	R	6.3	8.3	A	A	2.0	0%	3.9	0%	27.0	53.1
		Don Knotts Blvd NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Don Knotts Blvd NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
6	Beechurst Ave & Stansbury Hall Parking Lot/Hough St	Beechurst Ave SB	T	5.0	52.9	A	F	26.3	0%	154.4	0%	375.5	941.8
		Beechurst Ave SB	TR	2.8	31.1	A	D	13.6	0%	61.6	0%	375.5	941.8
		Beechurst Ave NB	LT	0.3	1.7	A	A	20.4	0%	13.2	0%	235.6	228.7
		Beechurst Ave NB	T	5.5	0.7	A	A	21.2	0%	12.9	0%	235.6	228.7
10	Beechurst Ave & 8th St	8th St SWB	LTR	77.5	14.8	F	B	44.0	0%	6.1	0%	173.7	80.5
		US 19/Beechurst Ave NWB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave NWB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		8th St NEB	LTR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave SEB	L	11.4	12.0	B	B	5.1	0%	7.9	0%	48.9	173.2
		US 19/Beechurst Ave SEB	TR	0.0	5.6	A	A	0.3	0%	14.8	0%	48.9	173.2
13	University Ave & Woodburn Circle	University Ave SB	R	6.6	0.0	A	A	0.1	0%	0.0	0%	0.0	0.0
		Woodburn Circle EB	L	0.0	8.6	A	A	0.0	0%	0.1	0%	0.0	1.8
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14	University Ave & Falling Run Rd	Falling Run Rd WB	LT	0.2	0.6	A	A	0.0	0%	0.0	0%	0.0	0.0
		University Ave NB	LR	0.0	20.8	A	C	0.0	0%	0.1	0%	0.0	4.5
		University Ave EB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
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17	University Ave & Ensign Ave/North St	University Ave SB	LTR	1.8	2.2	A	A	2.4	0%	5.7	0%	67.8	108.4
		North St WB	LTR	7.7	10.1	A	B	6.6	0%	8.1	0%	70.7	74.5
		University Ave NB	LTR	0.2	0.3	A	A	0.6	0%	0.5	0%	6.8	9.6
		Ensign Ave EB	LTR	0.0	20.0	A	C	0.0	0%	0.3	0%	0.0	10.2
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18	University Ave & 8th St/Terrace Heights Dwy	Terrace Heights Dwy SB	LTR	0.0	21.6	A	C	0.0	0%	0.2	0%	0.0	6.4
		University Ave WB	LTR	1.1	2.2	A	A	1.3	0%	2.9	0%	64.6	83.9
		8th St NB	LTR	20.2	30.8	C	D	19.1	0%	43.9	0%	150.5	218.1
		University Ave EB	LTR	0.0	0.0	A	A	1.3	0%	0.6	0%	15.8	23.9
19	High St & Prospect St	High St SWB	T	0.1	0.6	A	A	3.3	5%	1.3	1%	56.1	26.0
		Prospect St NWB	R	7.3	6.2	A	A	3.2	0%	3.7	0%	63.4	76.7
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24	High St & Foundry St/South High Station	High St SWB	LTR	0.8	0.7	A	A	0.9	0%	2.0	0%	17.0	71.5
		South High Station NWB	LTR	9.7	13.6	A	B	2.9	0%	4.4	0%	36.2	46.7
		High St NEB	LTR	0.9	2.9	A	A	1.2	0%	4.2	0%	50.8	67.4
		Foundry St SEB	LTR	8.3	12.7	A	B	4.5	0%	8.1	0%	65.6	70.5
30	Willey St & Richwood Ave	Willey St SB	T	0.0	27.1	A	D	0.0	0%	73.7	0%	0.0	286.5
		Richwood Ave SWB	T	12.1	173.1	B	F	5.1	0%	122.7	0%	48.1	281.8
32	Stewart St/Willowdale Rd & Stewart St	Willowdale Rd SB	LT	0.4	0.6	A	A	0.7	0%	0.6	0%	8.1	28.1
		Stewart St WB	LR	6.4	8.0	A	A	5.3	0%	6.2	0%	61.4	51.5
		Stewart St NB	TR	0.0	0.0	A	A	0.0	0%	0.4	0%	13.5	10.3
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33	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	LTR	7.2	9.1	A	A	5.9	0%	12.4	0%	106.1	121.8
		Van Gilder Ave NWB	LTR	7.4	13.4	A	B	0.3	0%	0.9	0%	7.3	15.0
		Falling Run Rd/Protzman St NEB	LTR	0.0	0.0	A	A	0.4	0%	0.7	0%	3.3	51.3
		Stewart St EB	LTR	7.1	10.9	A	B	3.7	0%	5.4	0%	34.5	49.4
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35	High St & Prospect St	High St SWB	TR	0.0	0.0	A	A	0.1	0%	0.0	0%	0.0	0.0
		High St NEB	LT	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Prospect St SEB	LR	4.2	4.2	A	A	4.2	0%	4.9	0%	46.8	61.7
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36	Beechurst Ave & Driveway	Beechurst Ave SB	T	11.2	22.8	B	C	14.7	0%	27.9	1%	112.6	397.9
		Beechurst Ave SB	TR	5.3	23.0	A	C	7.9	0%	37.5	0%	112.6	397.9
		Beechurst Ave NB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		0 EB	R	48.4	60.6	E	F	2.0	0%	1.5	0%	17.4	17.8
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Notes:

1 Delay shown is the 95th percentile worst case control delay for the full 60-minute simulation period as derived from the 10 random seed simulations

2 Level of Service shown is Simulation based and calculated in a manner that is consistent with the HCM Methodologies

3 Results for unsignalized intersections include only the movements that have conflicting flow and thus have the potential to incur control delay

Signalized Intersections

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
2	Don Knotts Blvd/University Ave & Sturgiss St/Foundry St	***Overall***		***7.2***	***27.6***	***A***	***C***						
		University Ave SWB	L	13.4	55.5	B	E	0.8	0%	1.3	0%	51.4	166.6
		University Ave SWB	T	1.4	5.1	A	A	2.3	0%	15.6	0%	51.4	166.6
		University Ave SWB	TR	1.7	5.0	A	A	1.1	0%	17.8	0%	51.4	166.6
		Foundry St NWB	LT	55.9	65.2	E	E	32.7	0%	65.7	0%	139.1	226.9
		Foundry St NWB	R	40.6	229.4	D	F	2.8	0%	5.3	0%	139.1	226.9
		Don Knotts Blvd NEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	227.0	591.1
		Don Knotts Blvd NEB	T	32.1	140.7	C	F	15.5	0%	189.5	0%	227.0	591.1
		Don Knotts Blvd NEB	TR	5.5	59.5	A	E	1.9	0%	17.2	0%	227.0	591.1
		Sturgiss St SEB	LTR	86.9	479.9	F	F	3.6	0%	4.6	0%	29.7	23.9
3	University Ave & W Park Ave/Pleasant St	***Overall***		***41.0***	***52.4***	***D***	***D***						
		University Ave SWB	L	40.4	33.8	D	C	18.9	0%	21.9	0%	213.6	447.7
		University Ave SWB	T	32.8	25.6	C	C	54.0	0%	79.9	3%	213.6	447.7
		University Ave SWB	R	12.7	13.3	B	B	24.7	2%	31.0	2%	213.6	447.7
		Pleasant St NWB	LTR	71.8	81.4	E	F	111.4	0%	108.2	1%	343.5	376.5
		University Ave NEB	L	100.5	147.5	F	F	71.5	0%	80.0	0%	308.8	545.3
		University Ave NEB	T	100.2	86.5	F	F	36.3	0%	51.0	0%	308.8	545.3
		University Ave NEB	R	5.7	43.5	A	D	2.7	0%	7.1	0%	308.8	545.3
		W Park Ave SEB	L	91.9	129.4	F	F	134.3	0%	243.8	0%	500.8	638.6
		W Park Ave SEB	T	160.5	156.2	F	F	114.0	0%	210.2	0%	500.8	638.6
4	University Ave & Walnut St	***Overall***		***17.1***	***19.0***	***B***	***B***						
		University Ave SWB	LT	13.1	15.7	B	B	22.5	0%	32.6	0%	215.0	356.0
		University Ave SWB	TR	6.8	10.2	A	B	19.1	0%	34.8	0%	215.0	356.0
		Walnut St NWB	L	51.9	51.0	D	D	8.1	0%	48.2	3%	357.4	303.5
		Walnut St NWB	LTR	54.0	45.0	D	D	88.5	26%	110.5	45%	357.4	303.5
		University Ave NEB	LT	17.6	16.7	B	B	30.1	2%	27.1	1%	278.1	290.7
		University Ave NEB	TR	10.4	10.3	B	B	26.4	2%	34.3	3%	278.1	290.7
		Walnut St SEB	LTR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
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5	University Ave/Beechurst Ave & Fayette St	***Overall***		***24.5***	***23.0***	***C***	***C***						
		Beechurst Ave SB	L	101.0	59.6	F	E	139.5	0%	143.5	0%	429.7	428.0
		Beechurst Ave SB	T	8.5	8.4	A	A	6.1	0%	16.3	0%	429.7	428.0
		University Ave SWB	L	82.7	106.6	F	F	2.7	0%	0.9	0%	118.5	187.6
		University Ave SWB	T	66.7	56.3	E	E	30.7	0%	38.6	0%	118.5	187.6
		University Ave SWB	TR	62.0	56.5	E	E	33.4	0%	52.9	0%	118.5	187.6
		University Ave NEB	T	5.6	9.9	A	A	12.8	0%	17.8	0%	132.0	162.3
		University Ave NEB	R	14.4	5.9	B	A	0.3	0%	1.7	0%	132.0	162.3
		Fayette St SEB	LTR	95.5	84.1	F	F	3.8	0%	2.1	0%	31.5	21.7
7	Beechurst Ave & Campus Dr	***Overall***		***27.1***	***36.4***	***C***	***D***						
		Campus Dr WB	L	59.2	110.2	E	F	67.2	0%	154.0	0%	210.8	442.5
		Campus Dr WB	R	22.4	27.9	C	C	20.9	0%	19.6	0%	210.8	442.5
		Beechurst Ave NWB	T	31.9	38.2	C	D	78.9	0%	117.5	0%	461.0	514.9
		Beechurst Ave NWB	R	5.0	5.9	A	A	2.7	0%	5.8	0%	461.0	514.9
9	Beechurst Ave & 6th St	***Overall***		***5.1***	***5.8***	***A***	***A***						
		6th St SWB	LTR	22.7	40.5	C	D	3.4	0%	11.7	0%	30.9	79.1
		US 19/Beechurst Ave NWB	L	17.4	13.6	B	B	1.3	0%	0.1	0%	76.0	103.0
		US 19/Beechurst Ave NWB	TR	1.2	1.5	A	A	2.5	0%	6.1	0%	76.0	103.0
		6th St NEB	LTR	74.9	60.3	E	E	19.2	0%	9.7	0%	117.4	57.7
		US 19/Beechurst Ave SEB	L	26.0	18.4	C	B	0.6	0%	0.5	0%	215.2	197.0
		US 19/Beechurst Ave SEB	TR	5.4	3.7	A	A	14.8	0%	16.6	0%	215.2	197.0
15	University Ave & Campus Dr/Stewart St	***Overall***		***33.8***	***158.5***	***C***	***F***						
		Stewart St SWB	LTR	37.6	445.8	D	F	50.3	0%	868.0	33%	234.9	2053.9
		University Ave NWB	L	34.6	42.4	C	D	26.3	0%	40.2	0%	180.4	178.7
		University Ave NWB	TR	23.3	22.4	C	C	25.6	0%	42.5	0%	180.4	178.7
		Campus Dr NEB	LTR	28.4	40.7	C	D	48.9	0%	96.7	0%	294.6	380.0
		University Ave SEB	TR	48.0	221.1	D	F	96.8	0%	406.4	4%	425.7	1172.8
16	University Ave & Beverly Ave/3rd St/University Place Gara	***Overall***		***18.4***	***80.8***	***B***	***F***						
		University Place Garage SWB	LTR	37.1	53.7	D	D	0.3	0%	3.0	0%	6.7	21.6
		University Ave NWB	LT	37.2	38.1	D	D	1.6	0%	2.1	0%	181.1	254.0
		University Ave NWB	TR	18.1	16.1	B	B	26.0	0%	28.7	0%	181.1	254.0
		3rd St NEB	LTR	23.6	36.1	C	D	15.6	0%	24.2	0%	196.6	177.4
		Beverly Ave EB	LTR	26.8	44.1	C	D	1.8	0%	2.3	0%	25.8	32.8
		University Ave SEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	215.9	1269.0
		University Ave SEB	TR	19.2	99.6	B	F	38.5	0%	357.9	0%	215.9	1269.0
20	Willey St & High St	***Overall***		***21.4***	***28.5***	***C***	***C***						
		High St SWB	LT	32.4	36.5	C	D	13.7	0%	26.2	0%	93.3	157.6
		High St SWB	R	5.7	13.1	A	B	0.6	0%	13.4	0%	93.3	157.6
		Willey St NWB	L	28.3	21.0	C	C	14.6	0%	19.4	0%	119.6	458.7
		Willey St NWB	T	19.0	36.8	B	D	16.3	0%	69.4	12%	119.6	458.7
		High St NEB	LR	18.3	17.3	B	B	11.9	0%	21.3	0%	141.2	190.9
21	High St & Fayette St	***Overall***		***5.1***	***19.1***	***A***	***B***						
		High St SWB	LT	4.6	17.2	A	B	9.3	0%	42.7	0%	134.0	291.7
		0 NEB	TR	1.0	3.5	A	A	0.7	0%	0.5	0%	18.7	17.9
		Fayette St SEB	LT	45.1	30.0	D	C	1.6	0%	33.4	0%	22.1	231.1
		Fayette St SEB	R	61.0	38.3	E	D	0.9	0%	1.4	0%	22.1	231.1
22	High St & Walnut St	***Overall***		***18.1***	***30.8***	***B***	***C***						
		High St SWB	LT	25.3	27.1	C	C	39.0	1%	67.0	7%	229.6	390.2
		High St SWB	R	41.2	51.5	D	D	1.0	0%	39.1	2%	229.6	390.2
		Walnut St NWB	L	17.4	41.9	B	D	6.3	0%	12.2	1%	197.2	347.9
		Walnut St NWB	TR	17.0	29.8	B	C	22.7	1%	72.4	9%	197.2	347.9
23	High St & Pleasant St	***Overall***		***22.2***	***44.2***	***C***	***D***						
		High St SWB	LTR	23.7	41.3	C	D	24.0	0%	75.3	2%	166.5	300.0
		Pleasant St NWB	LTR	14.8	19.4	B	B	26.3	0%	44.0	3%	205.6	281.2
		High St NEB	LTR	32.1	162.2	C	F	6.9	0%	122.5	9%	69.3	437.4
		Pleasant St SEB	LTR	28.6	32.2	C	C	54.2	0%	65.3	0%	314.3	348.3
25	Kirk St/Spruce St & Pleasant St	***Overall***		***18.5***	***22.0***	***B***	***C***						
		Spruce St SWB	L	44.6	38.7	D	D	13.6	0%	24.4	0%	145.8	145.7
		Spruce St SWB	TR	10.5	4.0	B	A	15.5	0%	6.0	0%	145.8	145.7
		Pleasant St NWB	LTR	6.2	10.7	A	B	2.5	0%	5.2	0%	33.1	66.5
		Kirk St NEB	L	25.7	25.0	C	C	12.2	0%	13.5	0%	210.4	333.3
		Kirk St NEB	TR	28.0	26.5	C	C	42.8	0%	67.7	1%	210.4	333.3
26	Spruce St & Walnut St	***Overall***		***16.8***	***30.5***	***B***	***C***						
		Spruce St SWB	L	43.6	30.5	D	C	1.8	0%	1.0	0%	208.5	241.4
		Spruce St SWB	TR	15.0	13.3	B	B	23.1	1%	35.4	3%	208.5	241.4
		Walnut St NWB	L	37.1	164.2	D	F	3.1	0%	8.2	0%	268.7	675.3
		Walnut St NWB	TR	30.6	131.9	C	F	54.6	0%	191.3	0%	268.7	675.3
		Spruce St NEB	L	30.6	46.0	C	D	1.1	0%	13.0	0%	174.9	188.2
27	Spruce St & Fayette St	***Overall***		***4.6***	***7.3***	***A***	***A***						
		Spruce St SWB	LT	2.3	4.3	A	A	0.0	0%	0.0	0%	51.2	79.1
		Spruce St SWB	T	0.8	1.7	A	A	0.8	0%	5.3	0%	51.2	79.1
		0 NEB	TR	6.6	5.9	A	A	24.2	9%	30.0	7%	233.5	277.2
28	Willey St & Spruce St	***Overall***		***18.2***	***46.4***	***B***	***D***						
		Willey St WB	LTR	19.8	145.4	B	F	31.6	0%	133.8	1%	177.4	515.6
		Spruce St NEB	L	22.4	33.2	C	C	22.2	0%	70.3	0%	254.5	350.6
		Spruce St NEB	TR	19.6	14.3	B	B	37.1	0%	31.6	0%	254.5	350.6
		Willey St SEB	LTR	15.9	18.5	B	B	21.1	0%	42.9	2%	103.5	214.7
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Unsignalized Intersections[3]

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
1	Don Knotts Blvd & Dorsey Ave	Don Knotts Blvd SWB	L	10.4	43.1	B	E	3.1	0%	33.0	0%	54.9	223.2
		Don Knotts Blvd SWB	T	0.2	3.0	A	A	0.0	0%	0.0	0%	54.9	223.2
		Dorsey Ave NB	R	6.5	8.1	A	A	1.5	0%	3.4	0%	39.5	54.5
		Don Knotts Blvd NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Don Knotts Blvd NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
6	Beechurst Ave & Stansbury Hall Parking Lot/Hough St	Beechurst Ave SB	T	1.6	1.6	A	A	21.4	0%	16.4	0%	254.5	279.5
		Beechurst Ave SB	TR	0.9	0.6	A	A	11.7	0%	7.4	0%	254.5	279.5
		Hough St WB	LTR	65.0	86.2	F	F	98.8	1%	91.7	2%	323.2	395.8
		Beechurst Ave NB	LT	0.3	0.0	A	A	11.9	0%	9.7	0%	208.1	249.8
8	Beechurst Ave & 3rd St	3rd St SWB	LTR	134.2	498.8	F	F	44.7	0%	178.0	0%	199.6	390.4
		Beechurst Ave NWB	L	18.6	20.2	C	C	0.0	0%	0.5	0%	73.9	78.2
		Beechurst Ave NWB	TR	0.0	0.2	A	A	2.4	0%	2.0	0%	73.9	78.2
		3rd St NEB	LTR	59.7	153.4	F	F	2.6	0%	16.5	0%	34.8	67.7
		US 19/Beechurst Ave SEB	L	16.6	47.2	C	E	0.8	0%	0.4	0%	218.0	454.0
		US 19/Beechurst Ave SEB	TR	5.5	23.7	A	C	10.4	0%	65.6	0%	218.0	454.0
10	Beechurst Ave & 8th St	8th St SWB	LTR	227.0	865.0	F	F	131.7	0%	630.6	0%	313.2	968.4
		US 19/Beechurst Ave NWB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave NWB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		8th St NEB	LTR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave SEB	L	12.3	12.5	B	B	5.1	0%	7.3	0%	42.2	67.2
		US 19/Beechurst Ave SEB	TR	0.1	0.0	A	A	0.0	0%	0.0	0%	42.2	67.2
12	University Ave & Prospect St	University Ave SB	T	55.0	36.9	F	E	1.1	0%	11.0	0%	50.6	131.3
		Prospect St NWB	L	17.5	113.2	C	F	9.4	0%	6.5	0%	153.5	621.2
		Prospect St NWB	R	22.6	170.8	C	F	23.7	0%	275.6	7%	153.5	621.2
		University Ave NB	T	11.1	75.0	B	F	4.5	0%	146.9	52%	41.2	660.4
13	University Ave & Woodburn Circle/College Ave	University Ave SB	L	61.5	5.5	F	A	125.5	0%	2.4	0%	412.9	274.2
		University Ave SB	TR	52.0	30.7	F	D	7.0	0%	62.4	0%	412.9	274.2
		College Ave WB	TR	23.9	19.9	C	C	11.4	0%	23.0	0%	179.5	163.3
		University Ave NB	LT	135.6	77.8	F	F	52.2	0%	10.2	0%	161.2	38.6
		University Ave NB	R	220.6	82.5	F	F	0.3	0%	0.0	0%	161.2	38.6
		Woodburn Circle EB	LTR	0.0	36.3	A	E	0.0	0%	0.2	0%	0.0	4.2
14	University Ave & Falling Run Rd	University Ave SB	L	38.0	45.3	E	E	19.9	0%	40.3	1%	120.3	325.8
		University Ave SB	T	4.3	5.6	A	A	5.1	0%	7.1	0%	120.3	325.8
		Falling Run Rd/Protzman St WB	LR	81.5	1027.4	F	F	35.7	0%	1248.9	0%	150.9	2220.6
		University Ave NB	TR	6.4	4.4	A	A	21.3	0%	27.0	0%	269.8	297.6
17	University Ave & Ensign Ave/North St	University Ave SB	LTR	2.8	3.8	A	A	9.0	0%	10.4	0%	177.0	185.4
		North St WB	LTR	9.0	21.0	A	C	9.4	0%	18.0	0%	88.8	135.4
		University Ave NB	LTR	0.2	0.5	A	A	1.1	0%	0.4	0%	13.9	60.6
		Ensign Ave EB	LTR	0.0	29.4	A	D	0.0	0%	0.6	0%	0.0	9.4
18	University Ave & 8th St/Terrace Heights Dwy	Terrace Heights Dwy SB	LTR	0.0	21.6	A	C	0.0	0%	0.4	0%	0.0	2.6
		University Ave WB	LTR	1.2	2.4	A	A	4.1	0%	3.8	0%	99.6	119.1
		8th St NB	LTR	34.6	47.4	D	E	36.1	0%	52.4	0%	197.6	207.4
		University Ave EB	LTR	0.0	0.0	A	A	1.7	0%	1.3	0%	92.7	69.0
19	High St & Prospect St	High St SWB	T	0.1	0.0	A	A	1.0	0%	0.6	0%	45.9	16.2
		Prospect St NWB	LR	6.6	8.7	A	A	4.0	0%	8.6	0%	54.1	121.9
24	High St & Foundry St/South High Station	High St SWB	LTR	0.6	0.8	A	A	1.5	0%	3.1	0%	46.3	96.3
		South High Station NWB	LTR	8.8	23.9	A	C	2.8	0%	6.0	0%	36.0	47.3
		High St NEB	LTR	0.7	23.0	A	C	1.2	0%	23.7	0%	29.1	209.0
		Foundry St SEB	LTR	8.1	96.5	A	F	2.5	0%	102.4	2%	39.4	346.0
30	Willey St & Richwood Ave	Willey St SB	T	0.0	57.6	A	F	0.0	0%	101.7	0%	0.0	255.8
		Richwood Ave SWB	T	11.7	376.0	B	F	4.7	0%	41.9	0%	58.7	119.0
		Willey St NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
31	Willey St & Chestnut St	Willey St NWB	T	0.1	18.4	A	C	1.5	0%	72.4	12%	66.1	476.9
		Chestnut St NEB	L	10.7	23.5	B	C	5.1	0%	24.2	0%	53.4	116.7
		Chestnut St NEB	R	8.2	12.5	A	B	2.2	0%	9.5	0%	53.4	116.7
		Willey St SEB	T	1.0	3.8	A	A	0.5	0%	0.4	0%	2.6	25.1
32	Stewart St/Willowdale Rd & Stewart St	Willowdale Rd SB	LT	1.2	42.8	A	E	1.5	0%	35.7	0%	34.1	170.2
		Stewart St WB	LR	7.7	92.8	A	F	8.3	0%	60.9	0%	58.7	188.3
		Stewart St NB	TR	0.0	0.0	A	A	0.7	0%	0.2	0%	19.0	11.5
33	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	LTR	8.2	10.9	A	B	8.0	0%	18.3	0%	101.4	144.9
		Van Gilder Ave NWB	LTR	7.4	11.2	A	B	0.6	0%	0.8	0%	7.3	18.3
		Falling Run Rd/Protzman St NEB	LTR	0.0	0.0	A	A	0.2	0%	0.6	0%	0.0	32.3
		Stewart St EB	LTR	9.4	14.7	A	B	7.8	0%	12.3	0%	111.6	117.8
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Notes:

1 Delay shown is the 95th percentile worst case control delay for the full 60-minute simulation period as derived from the 10 random seed simulations

2 Level of Service shown is Simulation based and calculated in a manner that is consistent with the HCM Methodologies

3 Results for unsignalized intersections include only the movements that have conflicting flow and thus have the potential to incur control delay

Signalized Intersections

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
2	Don Knotts Blvd/University Ave & Sturgiss St/Foundry St	***Overall***		***8.0***	***11.9***	***A***	***B***						
		University Ave SWB	L	10.0	27.0	A	C	2.1	0%	1.9	0%	100.8	145.9
		University Ave SWB	T	2.5	3.9	A	A	2.2	0%	20.6	0%	100.8	145.9
		University Ave SWB	TR	1.8	3.3	A	A	2.2	0%	23.6	0%	100.8	145.9
		Foundry St NWB	LT	62.3	49.2	E	D	31.8	0%	52.3	0%	167.9	259.9
		Foundry St NWB	R	11.8	70.1	B	E	2.7	0%	3.8	0%	167.9	259.9
		Don Knotts Blvd NEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	191.7	571.4
		Don Knotts Blvd NEB	T	7.3	68.7	A	E	14.6	0%	43.1	0%	191.7	571.4
		Don Knotts Blvd NEB	TR	3.8	11.8	A	B	2.2	0%	7.1	0%	191.7	571.4
		Sturgiss St SEB	LTR	68.1	146.4	E	F	2.3	0%	0.7	0%	28.9	17.4
3	University Ave & W Park Ave/Pleasant St	***Overall***		***25.0***	***27.5***	***C***	***C***						
		University Ave SWB	L	17.4	46.0	B	D	9.8	0%	26.2	0%	164.8	674.5
		University Ave SWB	T	12.5	38.1	B	D	23.6	0%	92.0	2%	164.8	674.5
		University Ave SWB	R	5.8	12.6	A	B	13.7	0%	44.1	2%	164.8	674.5
		University Ave NEB	L	68.6	79.3	E	E	73.3	0%	59.1	0%	269.1	490.4
		University Ave NEB	T	16.8	81.5	B	F	18.0	0%	29.1	0%	269.1	490.4
		University Ave NEB	R	5.5	14.2	A	B	3.7	0%	6.0	0%	269.1	490.4
		W Park Ave SEB	L	45.8	38.1	D	D	30.8	0%	60.1	0%	451.3	348.9
		W Park Ave SEB	T	57.1	42.0	E	D	129.1	0%	135.8	0%	451.3	348.9
		W Park Ave SEB	R	12.1	17.5	B	B	11.0	0%	20.4	0%	451.3	348.9
4	University Ave & Walnut St	***Overall***		***31.0***	***27.6***	***C***	***C***						
		University Ave SWB	T	20.4	42.5	C	D	36.0	0%	8.3	0%	246.5	980.7
		University Ave SWB	TR	21.0	52.3	C	D	61.9	1%	28.5	0%	246.5	980.7
		Walnut St NWB	L	60.2	45.6	E	D	14.5	0%	52.7	0%	311.0	428.9
		Walnut St NWB	LT	74.6	85.2	E	F	116.3	1%	116.6	1%	311.0	428.9
		Walnut St NWB	R	57.3	34.0	E	C	59.6	0%	33.5	0%	311.0	428.9
		University Ave NEB	LT	13.9	33.0	B	C	18.6	0%	18.0	0%	136.5	608.1
		University Ave NEB	T	13.9	30.7	B	C	18.7	0%	38.8	1%	136.5	608.1
		Walnut St SEB	LR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
5	University Ave/Beechurst Ave & Fayette St	***Overall***		***30.6***	***46.0***	***C***	***D***						
		Beechurst Ave SB	L	107.8	293.9	F	F	154.4	0%	356.2	1%	465.1	913.0
		Beechurst Ave SB	T	14.8	76.3	B	E	44.9	0%	96.1	0%	465.1	913.0
		University Ave SWB	L	88.5	60.4	F	E	1.3	0%	0.7	0%	127.2	178.6
		University Ave SWB	T	64.7	46.1	E	D	22.9	0%	27.9	0%	127.2	178.6
		University Ave SWB	TR	65.6	46.6	E	D	24.4	0%	41.6	0%	127.2	178.6
		University Ave NEB	T	11.6	15.8	B	B	23.2	0%	15.7	0%	160.7	182.8
		University Ave NEB	R	5.0	1.2	A	A	1.3	0%	0.5	0%	160.7	182.8
		Fayette St SEB	LTR	69.6	67.3	E	E	2.4	0%	1.0	0%	24.9	20.0
7	Beechurst Ave & Campus Dr	***Overall***		***30.7***	***41.4***	***C***	***D***						
		Campus Dr WB	L	55.3	109.1	E	F	52.5	0%	159.6	0%	189.9	359.2
		Campus Dr WB	R	21.2	31.2	C	C	22.3	0%	21.5	0%	189.9	359.2
		Beechurst Ave NWB	T	47.2	45.6	D	D	132.2	0%	131.6	0%	567.0	470.0
		Beechurst Ave NWB	R	5.9	2.0	A	A	3.3	0%	11.1	0%	567.0	470.0
9	Beechurst Ave & 6th St	***Overall***		***5.0***	***6.3***	***A***	***A***						
		6th St SWB	LTR	22.1	38.2	C	D	2.8	0%	10.4	0%	31.3	72.2
		US 19/Beechurst Ave NWB	L	11.4	33.7	B	C	0.9	0%	0.2	0%	67.8	46.3
		US 19/Beechurst Ave NWB	TR	1.2	1.0	A	A	3.1	0%	4.3	0%	67.8	46.3
		6th St NEB	LTR	82.0	61.2	F	E	22.9	0%	9.2	0%	133.8	60.1
		US 19/Beechurst Ave SEB	L	32.9	26.8	C	C	1.0	0%	0.5	0%	240.0	264.2
		US 19/Beechurst Ave SEB	TR	5.2	9.3	A	A	16.3	0%	21.1	0%	240.0	264.2
15	University Ave & Campus Dr/Stewart St	***Overall***		***34.6***	***177.6***	***C***	***F***						
		Stewart St SWB	LTR	38.2	468.2	D	F	51.6	0%	891.6	51%	242.7	2785.6
		University Ave NWB	L	34.8	40.6	C	D	29.1	0%	44.8	0%	168.3	205.9
		University Ave NWB	TR	24.0	22.7	C	C	27.2	0%	36.9	0%	168.3	205.9
		Campus Dr NEB	LTR	28.1	45.1	C	D	53.3	0%	136.8	0%	275.2	432.6
		University Ave SEB	TR	49.2	251.5	D	F	99.8	0%	427.3	4%	398.6	1187.4
16	University Ave & Beverly Ave/3rd St/University Place Gara	***Overall***		***19.0***	***118.0***	***B***	***F***						
		University Place Garage SWB	LTR	32.8	109.4	C	F	0.6	0%	2.7	0%	7.7	26.1
		University Ave NWB	LT	40.7	35.9	D	D	0.5	0%	1.3	0%	184.8	237.8
		University Ave NWB	TR	17.9	16.0	B	B	26.7	0%	27.2	0%	184.8	237.8
		3rd St NEB	LTR	19.8	45.1	B	D	14.4	0%	41.9	0%	146.3	224.2
		Beverly Ave EB	LTR	25.9	40.7	C	D	1.7	0%	2.4	0%	21.1	27.9
		University Ave SEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	252.9	1295.7
		University Ave SEB	TR	20.8	235.6	C	F	43.3	0%	518.0	1%	252.9	1295.7
20	Willey St & High St	***Overall***		***18.1***	***30.4***	***B***	***C***						
		High St SWB	LT	32.0	70.5	C	E	14.1	0%	64.7	2%	95.2	343.8
		High St SWB	R	4.8	27.2	A	C	0.4	0%	3.1	0%	95.2	343.8
		Willey St NWB	L	21.3	46.1	C	D	43.4	3%	107.2	25%	274.9	631.4
		Willey St NWB	T	9.2	22.0	A	C	6.5	0%	13.8	1%	274.9	631.4
		Willey St SEB	TR	19.4	33.2	B	C	21.7	0%	64.2	7%	134.6	300.4
21	High St & Fayette St	***Overall***		***6.5***	***13.4***	***A***	***B***						
		High St SWB	LT	2.5	9.0	A	A	1.2	0%	2.6	0%	144.8	295.8
		High St SWB	T	4.3	18.0	A	B	10.4	0%	24.0	0%	144.8	295.8
		Fayette St SEB	T	30.6	32.2	C	C	10.6	0%	26.1	0%	132.4	86.2
		Fayette St SEB	R	74.9	54.8	E	D	0.5	0%	1.3	0%	132.4	86.2
22	High St & Walnut St	***Overall***		***15.2***	***22.1***	***B***	***C***						
		High St SWB	T	12.3	24.9	B	C	28.3	0%	35.2	0%	191.2	474.0
		High St SWB	R	16.5	60.8	B	E	16.6	0%	57.3	1%	191.2	474.0
		Walnut St NWB	L	22.0	25.2	C	C	13.7	0%	9.4	0%	205.8	647.9
		Walnut St NWB	T	21.4	35.2	C	D	23.5	0%	45.3	3%	205.8	647.9
23	High St & Pleasant St	***Overall***		***18.2***	***20.8***	***B***	***C***						
		High St SWB	LT	18.2	24.4	B	C	24.0	0%	34.4	0%	146.7	302.6
		High St SWB	T	16.2	26.1	B	C	11.9	0%	44.4	0%	146.7	302.6
		Pleasant St SEB	T	18.7	23.3	B	C	25.1	0%	33.4	0%	289.3	268.5
		Pleasant St SEB	TR	20.7	17.2	C	B	40.9	0%	33.4	0%	289.3	268.5
25	Kirk St/Spruce St & Pleasant St	***Overall***		***17.4***	***15.0***	***B***	***B***						
		Pleasant St NWB	R	9.0	8.8	A	A	3.5	0%	2.8	0%	38.1	37.6
		Kirk St NEB	T	33.1	38.6	C	D	28.7	0%	39.7	0%	143.9	226.6
		Kirk St NEB	TR	26.6	11.2	C	B	4.5	0%	1.9	0%	143.9	226.6
		Pleasant St SEB	L	10.7	18.7	B	B	14.7	1%	24.0	2%	255.9	349.0
		Pleasant St SEB	LT	12.2	11.0	B	B	31.8	3%	22.3	1%	255.9	349.0
26	Spruce St & Walnut St	***Overall***		***21.3***	***27.4***	***C***	***C***						
		Walnut St NWB	T	43.1	101.7	D	F	85.3	0%	121.8	0%	350.7	774.4
		Walnut St NWB	R	12.4	46.4	B	D	6.4	0%	2.4	0%	350.7	774.4
		Spruce St NEB	LT	26.7	37.1	C	D	43.3	0%	49.5	0%	268.0	370.5
		Spruce St NEB	T	24.8	30.9	C	C	48.3	0%	48.0	0%	268.0	370.5
		Spruce St NEB	R	6.9	6.8	A	A	8.4	0%	9.9	0%	268.0	370.5
27	Spruce St & Fayette St	***Overall***		***8.4***	***11.1***	***A***	***B***						
		Spruce St NEB	T	3.4	14.9	A	B	4.4	0%	9.0	0%	177.4	249.2
		Spruce St NEB	TR	11.5	10.2	B	B	15.7	0%	18.6	0%	177.4	249.2
		Fayette St SEB	LT	22.7	37.7	C	D	9.5	0%	37.2	0%	98.8	110.3
28	Willey St & Spruce St	***Overall***		***23.1***	***53.2***	***C***	***D***						
		Willey St WB	TR	17.6	53.4	B	D	37.9	0%	130.1	1%	185.2	291.0
		Spruce St NEB	L	26.1	93.9	C	F	33.0	0%	96.7	0%	364.3	477.9
		Spruce St NEB	T	21.3	20.1	C	C	10.7	0%	11.0	0%	364.3	477.9
		Spruce St NEB	R	34.0	37.7	C	D	72.7	1%	89.9	1%	364.3	477.9
		Willey St SEB	LT	12.1	40.8	B	D	10.6	0%	50.2	3%	78.5	288.5

Unsignalized Intersections[3]

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
1	Don Knotts Blvd & Dorsey Ave	Don Knotts Blvd SWB	L	8.2	26.9	A	D	3.4	0%	32.5	0%	43.3	202.0
		Don Knotts Blvd SWB	T	0.1	1.3	A	A	0.0	0%	0.0	0%	43.3	202.0
		Dorsey Ave NB	R	6.5	8.1	A	A	1.4	0%	3.9	0%	24.2	49.7
		Don Knotts Blvd NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Don Knotts Blvd NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
6	Beechurst Ave & Stansbury Hall Parking Lot/Hough St	Beechurst Ave SB	T	1.9	84.2	A	F	14.2	0%	22.0	0%	262.9	605.0
		Beechurst Ave SB	TR	0.4	29.9	A	D	6.4	0%	5.8	0%	262.9	605.0
		Hough St WB	LTR	35.0	58.4	D	F	50.5	0%	59.5	1%	239.3	322.7
		Beechurst Ave NB	LT	1.0	0.0	A	A	10.2	0%	13.7	0%	234.4	169.5
8	Beechurst Ave & 3rd St	3rd St SWB	LTR	162.1	221.6	F	F	67.9	0%	209.0	0%	226.5	236.5
		Beechurst Ave NWB	L	13.5	15.9	B	C	0.4	0%	1.0	0%	96.2	104.7
		Beechurst Ave NWB	TR	0.1	0.1	A	A	4.8	0%	2.0	0%	96.2	104.7
		3rd St NEB	LTR	60.6	87.7	F	F	2.6	0%	15.4	0%	33.5	52.7
		US 19/Beechurst Ave SEB	L	19.9	98.2	C	F	1.6	0%	0.5	0%	242.6	713.8
		US 19/Beechurst Ave SEB	TR	4.0	33.8	A	D	9.8	0%	88.8	0%	242.6	713.8
10	Beechurst Ave & 8th St	8th St SWB	LTR	99.7	776.4	F	F	52.0	0%	476.0	0%	202.8	1722.4
		US 19/Beechurst Ave NWB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	17.0	0.0
		US 19/Beechurst Ave NWB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	17.0	0.0
		8th St NEB	LTR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave SEB	L	11.4	12.7	B	B	3.4	0%	7.6	0%	55.7	138.9
		US 19/Beechurst Ave SEB	TR	0.0	2.0	A	A	0.0	0%	0.0	0%	55.7	138.9
12	University Ave & Prospect St	University Ave SB	T	70.6	38.5	F	E	2.8	0%	7.7	0%	66.7	147.9
		Prospect St NWB	L	31.2	45.4	D	E	8.4	0%	7.4	0%	295.7	241.8
		Prospect St NWB	R	71.9	87.5	F	F	74.7	1%	132.9	2%	295.7	241.8
		University Ave NB	T	62.9	65.5	F	F	37.3	2%	101.9	21%	100.8	476.9
13	University Ave & Woodburn Circle/College Ave	University Ave SB	L	79.5	42.3	F	E	153.6	1%	5.5	0%	423.2	1093.0
		University Ave SB	TR	60.2	82.6	F	F	26.1	0%	158.5	5%	423.2	1093.0
		College Ave WB	TR	23.9	18.9	C	C	11.3	0%	20.6	0%	177.7	155.3
		University Ave NB	LT	170.4	79.7	F	F	102.7	6%	5.9	0%	273.0	105.8
		University Ave NB	R	330.5	86.1	F	F	8.5	0%	0.1	0%	273.0	105.8
		Woodburn Circle EB	LTR	0.0	48.3	A	E	0.0	0%	0.2	0%	0.0	3.8
14	University Ave & Falling Run Rd	University Ave SB	L	39.5	44.0	E	E	12.8	0%	27.9	1%	126.7	269.1
		University Ave SB	T	8.0	14.8	A	B	15.2	0%	52.9	2%	126.7	269.1
		Falling Run Rd/Protzman St WB	LR	82.6	1153.2	F	F	31.1	0%	1174.7	0%	141.4	1935.4
		University Ave NB	TR	7.5	2.8	A	A	17.7	0%	32.2	0%	222.1	262.1
17	University Ave & Ensign Ave/North St	University Ave SB	LTR	2.9	13.4	A	B	5.3	0%	91.6	0%	133.5	287.8
		North St WB	LTR	9.9	22.4	A	C	8.6	0%	30.6	0%	84.3	130.0
		University Ave NB	LTR	0.2	0.4	A	A	0.5	0%	0.9	0%	21.1	14.7
		Ensign Ave EB	LTR	0.0	30.8	A	D	0.0	0%	0.3	0%	0.0	8.8
18	University Ave & 8th St/Terrace Heights Dwy	Terrace Heights Dwy SB	LTR	0.0	28.2	A	D	0.0	0%	0.3	0%	0.0	6.0
		University Ave WB	LTR	1.3	3.0	A	A	4.0	0%	4.4	0%	81.0	147.6
		8th St NB	LTR	31.6	40.0	D	E	31.5	0%	63.2	0%	189.2	209.2
		University Ave EB	LTR	0.0	0.8	A	A	2.2	0%	1.9	0%	39.4	150.2
19	High St & Prospect St	High St SWB	T	0.1	2.5	A	A	2.1	0%	0.9	0%	39.4	21.9
		Prospect St NWB	LR	7.4	41.9	A	E	3.4	0%	25.1	0%	57.3	394.5
24	High St & Foundry St/South High Station	High St SWB	LTR	0.7	3.5	A	A	1.4	0%	2.2	0%	42.6	151.5
		South High Station NWB	LTR	10.4	12.3	B	B	2.5	0%	3.8	0%	48.2	48.1
		High St NEB	LTR	1.0	5.4	A	A	1.6	0%	2.6	0%	56.7	107.5
		Foundry St SEB	LTR	8.0	14.4	A	B	3.8	0%	7.2	0%	64.0	62.2
30	Willey St & Richwood Ave	Willey St SWB	T	0.0	0.0	A	A	0.5	0%	19.7	0%	16.8	8.9
		Richwood Ave NWB	L	11.1	17.5	B	C	5.6	0%	10.1	0%	70.9	89.9
		Willey St NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
31	Willey St & Chestnut St	Willey St NWB	T	2.0	23.1	A	C	2.2	0%	2.2	0%	51.8	276.1
		Chestnut St NEB	L	11.8	34.4	B	D	4.9	0%	5.4	0%	55.9	190.2
		Chestnut St NEB	R	8.8	40.4	A	E	2.9	0%	36.8	0%	55.9	190.2
		Willey St SEB	T	0.8	11.3	A	B	0.7	0%	8.5	0%	34.4	121.4
32	Stewart St/Willowdale Rd & Stewart St	Willowdale Rd SB	LT	1.2	184.0	A	F	1.5	0%	447.7	12%	31.2	1173.5
		Stewart St WB	LR	7.9	142.2	A	F	8.0	0%	420.5	18%	80.3	548.2
		Stewart St NB	TR	0.0	0.0	A	A	0.4	0%	0.2	0%	7.9	18.9
33	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	LTR	8.2	12.6	A	B	9.5	0%	393.0	2%	128.0	157.9
		Van Gilder Ave NWB	LTR	6.4	10.7	A	B	0.6	0%	0.9	0%	5.6	16.9
		Falling Run Rd/Protzman St NEB	LTR	0.0	0.0	A	A	0.4	0%	0.7	0%	11.3	0.0
		Stewart St EB	LTR	9.9	13.2	A	B	8.0	0%	13.8	0%	108.8	126.2
34	Richwood Ave & Snider St	0 SWB	LR	4.8	4.9	A	A	0.3	0%	0.5	0%	11.9	9.1
		Richwood Ave NWB	TR	0.5	0.5	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave SEB	LT	0.1	0.1	A	A	0.1	0%	0.0	0%	0.0	0.0
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Notes:

1 Delay shown is the 95th percentile worst case control delay for the full 60-minute simulation period as derived from the 10 random seed simulations

2 Level of Service shown is Simulation based and calculated in a manner that is consistent with the HCM Methodologies

3 Results for unsignalized intersections include only the movements that have conflicting flow and thus have the potential to incur control delay

Signalized Intersections

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
2	Don Knotts Blvd/University Ave & Sturgiss St/Foundry St	***Overall***		***13.2***	***13.5***	***B***	***B***						
		University Ave SWB	L	11.3	20.3	B	C	1.9	0%	0.8	0%	114.1	229.2
		University Ave SWB	T	3.3	5.6	A	A	3.7	0%	22.0	0%	114.1	229.2
		University Ave SWB	TR	2.5	5.8	A	A	4.6	0%	23.4	0%	114.1	229.2
		Foundry St NWB	LT	66.5	43.3	E	D	36.6	0%	70.5	0%	214.1	300.4
		Foundry St NWB	R	32.4	23.2	C	C	5.8	0%	2.9	0%	214.1	300.4
		Don Knotts Blvd NEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	283.1	299.9
		Don Knotts Blvd NEB	T	16.6	19.8	B	B	30.2	0%	52.5	0%	283.1	299.9
		Don Knotts Blvd NEB	TR	6.5	6.7	A	A	3.5	0%	6.6	0%	283.1	299.9
		Sturgiss St SEB	LTR	89.5	75.4	F	E	2.9	0%	0.7	0%	23.0	16.7
3	University Ave & W Park Ave/Pleasant St	***Overall***		***26.2***	***33.2***	***C***	***C***						
		University Ave SWB	L	17.7	33.5	B	C	11.7	0%	33.9	1%	158.0	214.9
		University Ave SWB	T	14.5	19.1	B	B	24.8	0%	74.0	2%	158.0	214.9
		University Ave SWB	R	6.3	14.7	A	B	13.7	0%	48.8	2%	158.0	214.9
		University Ave NEB	L	74.7	65.8	E	E	76.6	0%	61.5	0%	295.7	330.4
		University Ave NEB	T	19.3	23.7	B	C	20.6	0%	31.6	0%	295.7	330.4
		University Ave NEB	R	5.3	8.9	A	A	4.5	0%	6.0	0%	295.7	330.4
		W Park Ave SEB	L	46.5	45.8	D	D	37.0	0%	69.2	0%	446.0	665.4
		W Park Ave SEB	T	54.9	96.4	D	F	121.3	0%	220.3	0%	446.0	665.4
		W Park Ave SEB	R	11.6	21.2	B	C	10.5	0%	16.6	0%	446.0	665.4
4	University Ave & Walnut St	***Overall***		***32.4***	***31.6***	***C***	***C***						
		University Ave SWB	T	20.1	15.4	C	B	39.7	0%	13.0	0%	282.8	149.3
		University Ave SWB	TR	21.4	23.6	C	C	64.0	1%	27.0	0%	282.8	149.3
		Walnut St NWB	L	62.0	38.5	E	D	12.7	0%	39.3	0%	310.3	431.1
		Walnut St NWB	LT	76.6	81.8	E	F	128.0	1%	154.0	6%	310.3	431.1
		Walnut St NWB	R	50.8	37.4	D	D	58.9	0%	32.1	0%	310.3	431.1
		University Ave NEB	LT	15.4	21.9	B	C	21.3	1%	20.7	0%	172.3	154.6
		University Ave NEB	T	16.5	23.3	B	C	28.4	0%	45.4	2%	172.3	154.6
		Walnut St SEB	LR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
5	University Ave/Beechurst Ave & Fayette St	***Overall***		***29.4***	***26.2***	***C***	***C***						
		Beechurst Ave SB	L	95.4	79.7	F	E	138.3	0%	144.8	0%	440.7	387.6
		Beechurst Ave SB	T	15.6	18.5	B	B	40.8	0%	68.2	0%	440.7	387.6
		University Ave SWB	L	108.6	64.3	F	E	0.8	0%	4.3	0%	117.9	222.8
		University Ave SWB	T	67.4	48.6	E	D	23.4	0%	29.1	0%	117.9	222.8
		University Ave SWB	TR	71.2	55.5	E	E	23.3	0%	48.1	0%	117.9	222.8
		University Ave NEB	T	17.1	12.1	B	B	25.1	0%	14.4	0%	164.6	109.9
		University Ave NEB	R	5.2	0.6	A	A	2.5	0%	0.2	0%	164.6	109.9
		Fayette St SEB	LTR	73.3	54.2	E	D	2.6	0%	1.3	0%	26.8	20.4
7	Beechurst Ave & Campus Dr	***Overall***		***30.5***	***40.1***	***C***	***D***						
		Campus Dr WB	L	58.3	123.2	E	F	55.2	0%	134.7	0%	211.8	404.8
		Campus Dr WB	R	23.3	35.8	C	D	23.3	0%	25.0	0%	211.8	404.8
		Beechurst Ave NWB	T	45.0	39.4	D	D	123.1	0%	125.0	0%	561.4	528.7
		Beechurst Ave NWB	R	6.2	16.6	A	B	4.4	0%	17.5	0%	561.4	528.7
9	Beechurst Ave & 6th St	***Overall***		***5.0***	***12.5***	***A***	***B***						
		6th St SWB	LTR	24.3	43.9	C	D	3.4	0%	12.2	0%	35.3	81.0
		US 19/Beechurst Ave NWB	L	14.1	51.8	B	D	0.7	0%	0.3	0%	74.3	43.2
		US 19/Beechurst Ave NWB	TR	1.2	1.5	A	A	2.6	0%	4.0	0%	74.3	43.2
		6th St NEB	LTR	83.6	62.9	F	E	22.2	0%	10.4	0%	118.4	54.3
		US 19/Beechurst Ave SEB	L	22.6	33.5	C	C	0.6	0%	0.6	0%	206.5	394.0
		US 19/Beechurst Ave SEB	TR	5.0	17.7	A	B	13.3	0%	57.1	0%	206.5	394.0
15	University Ave & Campus Dr/Stewart St	***Overall***		***34.0***	***181.4***	***C***	***F***						
		Stewart St SWB	LTR	39.8	452.7	D	F	53.6	0%	831.8	33%	237.7	2400.4
		University Ave NWB	L	32.8	42.6	C	D	27.3	0%	46.9	1%	181.6	273.7
		University Ave NWB	TR	24.6	22.3	C	C	27.1	0%	36.0	0%	181.6	273.7
		Campus Dr NEB	LTR	28.1	83.3	C	F	51.1	0%	171.1	0%	295.0	477.8
		University Ave SEB	TR	46.9	319.5	D	F	92.9	0%	460.9	6%	402.0	1668.3
16	University Ave & Beverly Ave/3rd St/University Place Gara	***Overall***		***17.8***	***162.8***	***B***	***F***						
		University Place Garage SWB	LTR	34.3	83.7	C	F	0.6	0%	3.4	0%	13.0	23.1
		University Ave NWB	LT	55.4	36.2	E	D	0.3	0%	1.7	0%	216.1	242.5
		University Ave NWB	TR	18.3	16.0	B	B	25.6	0%	27.8	0%	216.1	242.5
		3rd St NEB	LTR	20.4	46.1	C	D	16.5	0%	40.9	0%	171.4	267.3
		Beverly Ave EB	LTR	29.1	43.1	C	D	1.8	0%	2.3	0%	19.6	27.6
		University Ave SEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	173.9	2285.9
		University Ave SEB	TR	18.3	385.2	B	F	32.7	0%	765.5	8%	173.9	2285.9
20	Willey St & High St	***Overall***		***18.9***	***37.3***	***B***	***D***						
		High St SWB	LT	35.5	74.0	D	E	13.1	0%	138.6	9%	98.9	424.8
		High St SWB	R	5.3	30.0	A	C	0.5	0%	5.3	0%	98.9	424.8
		Willey St NWB	L	21.7	41.6	C	D	50.6	4%	99.5	24%	296.0	531.0
		Willey St NWB	T	8.3	24.6	A	C	5.7	0%	33.4	2%	296.0	531.0
		Willey St SEB	TR	21.3	26.7	C	C	23.9	0%	60.6	8%	146.0	235.4
21	High St & Fayette St	***Overall***		***6.4***	***22.1***	***A***	***C***						
		High St SWB	LT	1.9	10.7	A	B	1.6	0%	10.3	0%	145.0	345.6
		High St SWB	T	3.8	28.9	A	C	10.8	0%	83.9	0%	145.0	345.6
		Fayette St SEB	T	32.2	32.0	C	C	14.7	0%	18.8	0%	120.8	96.6
		Fayette St SEB	R	71.4	59.1	E	E	0.5	0%	1.4	0%	120.8	96.6
22	High St & Walnut St	***Overall***		***15.6***	***39.1***	***B***	***D***						
		High St SWB	T	13.6	26.2	B	C	31.0	0%	46.1	0%	215.7	534.2
		High St SWB	R	16.2	74.8	B	E	17.1	0%	158.0	11%	215.7	534.2
		Walnut St NWB	L	19.1	27.7	B	C	10.9	0%	13.8	0%	192.1	561.8
		Walnut St NWB	T	20.8	39.4	C	D	25.2	1%	78.3	8%	192.1	561.8
23	High St & Pleasant St	***Overall***		***19.5***	***25.4***	***B***	***C***						
		High St SWB	LT	19.4	25.9	B	C	25.7	0%	43.0	0%	174.3	298.1
		High St SWB	T	17.7	28.6	B	C	14.4	0%	50.7	0%	174.3	298.1
		Pleasant St SEB	T	20.0	25.6	B	C	26.1	0%	44.9	0%	290.2	301.6
		Pleasant St SEB	TR	22.0	25.5	C	C	45.1	0%	37.1	0%	290.2	301.6
25	Kirk St/Spruce St & Pleasant St	***Overall***		***14.7***	***21.7***	***B***	***C***						
		Pleasant St NWB	R	9.4	8.9	A	A	3.2	0%	3.5	0%	42.4	38.7
		Kirk St NEB	T	24.6	39.4	C	D	27.9	0%	56.9	1%	149.1	242.3
		Kirk St NEB	TR	25.0	11.5	C	B	3.5	0%	1.6	0%	149.1	242.3
		Pleasant St SEB	L	11.1	22.1	B	C	14.2	1%	43.5	5%	304.6	397.8
		Pleasant St SEB	LT	11.8	10.8	B	B	32.7	5%	25.6	3%	304.6	397.8
26	Spruce St & Walnut St	***Overall***		***21.4***	***51.2***	***C***	***D***						
		Walnut St NWB	T	40.2	132.7	D	F	82.7	0%	302.0	0%	315.7	897.0
		Walnut St NWB	R	11.1	78.1	B	E	4.6	0%	3.5	0%	315.7	897.0
		Spruce St NEB	LT	24.4	40.2	C	D	45.2	0%	79.0	2%	273.2	434.4
		Spruce St NEB	T	22.9	29.4	C	C	45.4	0%	53.8	1%	273.2	434.4
		Spruce St NEB	R	7.0	6.9	A	A	9.4	0%	9.3	0%	273.2	434.4
27	Spruce St & Fayette St	***Overall***		***9.2***	***10.8***	***A***	***B***						
		Spruce St NEB	T	4.6	6.4	A	A	3.8	0%	10.3	0%	175.1	276.5
		Spruce St NEB	TR	10.7	10.7	B	B	11.5	0%	18.9	0%	175.1	276.5
		Fayette St SEB	LT	28.3	35.6	C	D	16.4	0%	23.7	0%	105.2	110.6
28	Willey St & Spruce St	***Overall***		***24.2***	***53.3***	***C***	***D***						
		Willey St WB	TR	18.2	80.2	B	F	43.5	0%	111.2	0%	204.0	373.7
		Spruce St NEB	L	25.7	82.3	C	F	31.1	0%	138.8	0%	332.6	544.7
		Spruce St NEB	T	22.5	19.5	C	B	11.0	0%	9.3	0%	332.6	544.7
		Spruce St NEB	R	35.8	40.9	D	D	80.6	1%	90.4	1%	332.6	544.7
		Willey St SEB	LT	13.5	33.3	B	C	10.8	0%	49.5	3%	95.2	204.9

Number of Ints 16

Unsignalized Intersections[3]

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
1	Don Knotts Blvd & Dorsey Ave	Don Knotts Blvd SWB	L	8.6	30.7	A	D	3.4	0%	40.9	0%	59.4	239.5
		Don Knotts Blvd SWB	T	0.1	1.1	A	A	0.0	0%	0.0	0%	59.4	239.5
		Dorsey Ave NB	R	6.4	8.2	A	A	1.7	0%	3.7	0%	19.6	47.1
		Don Knotts Blvd NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Don Knotts Blvd NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
6	Beechurst Ave & Stansbury Hall Parking Lot/Hough St	Beechurst Ave SB	T	1.9	0.5	A	A	25.3	0%	11.2	0%	278.3	179.8
		Beechurst Ave SB	TR	0.4	0.1	A	A	13.9	0%	5.5	0%	278.3	179.8
		Hough St WB	LTR	50.8	32.3	F	D	75.7	1%	39.8	0%	304.7	226.6
		Beechurst Ave NB	LT	0.8	0.1	A	A	16.2	0%	11.7	0%	235.0	112.3
8	Beechurst Ave & 3rd St	3rd St SWB	LTR	151.4	376.2	F	F	35.2	0%	137.2	0%	163.3	322.5
		Beechurst Ave NWB	L	13.8	18.4	B	C	0.4	0%	0.5	0%	87.9	138.5
		Beechurst Ave NWB	TR	0.1	0.5	A	A	2.3	0%	2.1	0%	87.9	138.5
		3rd St NEB	LTR	54.7	174.1	F	F	2.4	0%	22.4	0%	24.1	83.3
		US 19/Beechurst Ave SEB	L	13.0	88.9	B	F	0.6	0%	0.5	0%	231.8	929.5
		US 19/Beechurst Ave SEB	TR	4.3	42.4	A	E	7.6	0%	131.7	1%	231.8	929.5
10	Beechurst Ave & 8th St	8th St SWB	LTR	180.0	887.1	F	F	140.5	0%	839.1	1%	338.8	1758.8
		US 19/Beechurst Ave NWB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave NWB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		8th St NEB	LTR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave SEB	L	10.4	14.7	B	B	3.9	0%	7.2	0%	47.5	370.5
		US 19/Beechurst Ave SEB	TR	0.0	16.4	A	C	0.0	0%	45.1	0%	47.5	370.5
12	University Ave & Prospect St	University Ave SB	T	63.2	36.0	F	E	1.5	0%	7.9	0%	55.2	126.4
		Prospect St NWB	L	27.5	50.1	D	F	8.6	0%	8.1	0%	275.8	314.2
		Prospect St NWB	R	52.4	131.6	F	F	48.7	0%	124.8	0%	275.8	314.2
		University Ave NB	T	21.5	77.3	C	F	11.5	0%	132.6	35%	71.5	438.4
13	University Ave & Woodburn Circle/College Ave	University Ave SB	L	48.8	52.0	E	F	82.9	0%	1.6	0%	313.2	1149.9
		University Ave SB	TR	509.7	95.9	F	F	15.0	0%	240.9	7%	313.2	1149.9
		College Ave WB	TR	22.9	20.3	C	C	11.8	0%	22.5	0%	176.7	163.2
		University Ave NB	LT	131.0	83.0	F	F	47.8	0%	2.0	0%	153.7	1.7
		University Ave NB	R	254.8	91.6	F	F	18.2	0%	0.0	0%	153.7	1.7
		Woodburn Circle EB	LTR	0.0	51.5	A	F	0.0	0%	0.3	0%	0.0	6.2
14	University Ave & Falling Run Rd	University Ave SB	L	30.2	42.1	D	E	10.3	0%	12.9	0%	117.5	490.3
		University Ave SB	T	3.2	30.1	A	D	7.3	0%	103.6	7%	117.5	490.3
		Falling Run Rd/Protzman St WB	LR	70.8	876.5	F	F	30.8	0%	976.0	0%	137.0	1715.6
		University Ave NB	TR	6.6	3.3	A	A	25.4	0%	13.9	0%	249.1	196.1
17	University Ave & Ensign Ave/North St	University Ave SB	LTR	2.8	99.2	A	F	6.9	0%	319.5	4%	112.5	1210.0
		North St WB	LTR	10.2	50.1	B	F	10.0	0%	53.5	0%	95.6	220.9
		University Ave NB	LTR	0.3	0.6	A	A	1.0	0%	1.2	0%	15.5	46.4
		Ensign Ave EB	LTR	0.0	35.3	A	E	0.0	0%	0.5	0%	0.0	10.1
18	University Ave & 8th St/Terrace Heights Dwy	Terrace Heights Dwy SB	LTR	0.0	17.1	A	C	0.0	0%	0.2	0%	0.0	6.0
		University Ave WB	LTR	1.3	2.7	A	A	3.1	0%	6.5	0%	94.9	168.0
		8th St NB	LTR	29.7	82.0	D	F	28.5	0%	100.6	0%	169.0	298.4
		University Ave EB	LTR	0.0	64.3	A	F	1.4	0%	222.2	2%	80.8	933.6
19	High St & Prospect St	High St SWB	T	0.8	53.9	A	F	1.7	0%	2.7	0%	36.9	43.4
		Prospect St NWB	LR	7.1	53.1	A	F	3.3	0%	130.2	0%	51.5	550.8
24	High St & Foundry St/South High Station	High St SWB	LTR	0.6	1.1	A	A	1.6	0%	3.5	0%	31.9	170.5
		South High Station NWB	LTR	9.8	14.8	A	B	3.3	0%	4.7	0%	39.6	51.7
		High St NEB	LTR	1.6	4.5	A	A	2.6	0%	5.7	0%	44.3	115.3
		Foundry St SEB	LTR	7.7	12.8	A	B	4.2	0%	7.4	0%	58.1	65.1
30	Willey St & Richwood Ave	Willey St SB	LR	6.2	6.4	A	A	0.7	0%	0.8	0%	8.9	20.0
		0 WB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		0 NEB	LT	0.3	0.7	A	A	0.2	0%	1.2	0%	26.0	54.2
31	Willey St & Chestnut St	Willey St NWB	T	0.0	25.5	A	D	2.2	0%	57.0	4%	37.5	193.3
		Chestnut St NEB	L	13.2	27.7	B	D	5.1	0%	10.2	0%	60.0	162.6
		Chestnut St NEB	R	8.5	22.2	A	C	2.7	0%	28.2	0%	60.0	162.6
		Willey St SEB	T	0.8	9.3	A	A	0.6	0%	6.5	0%	8.1	75.4
32	Stewart St/Willowdale Rd & Stewart St	Willowdale Rd SB	LT	1.1	126.8	A	F	1.1	0%	301.9	2%	30.9	794.2
		Stewart St WB	LR	7.4	201.5	A	F	7.2	0%	290.3	1%	67.7	506.8
		Stewart St NB	TR	0.0	0.0	A	A	0.0	0%	0.4	0%	21.9	35.9
33	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	LTR	7.9	12.4	A	B	8.5	0%	23.6	0%	104.3	179.4
		Van Gilder Ave NWB	LTR	8.0	9.8	A	A	0.6	0%	0.6	0%	11.5	16.7
		Falling Run Rd/Protzman St NEB	LTR	0.0	0.0	A	A	0.5	0%	0.4	0%	0.0	29.1
		Stewart St EB	LTR	9.5	13.2	A	B	8.3	0%	12.1	0%	77.5	139.5
34	Richwood Ave WB/EB & Richwood Ave NB/SB	0 SWB	LR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave NWB	TR	0.2	0.6	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave SEB	LT	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
35	Snider St & Richwood Avenue NB/SB	0 WB	LT	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		0 NB	R	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		0 EB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
36	Snider St & Richwood Ave WB/EB	0 SWB	LT	0.0	0.1	A	A	0.4	0%	0.7	0%	14.0	45.3
		Richwood Ave NWB	LR	18.0	27.4	C	D	7.1	0%	9.7	0%	84.1	64.8
		Willey St NEB	TR	0.3	0.3	A	A	0.0	0%	0.7	0%	0.0	46.8

Notes:

1 Delay shown is the 95th percentile worst case control delay for the full 60-minute simulation period as derived from the 10 random seed simulations

2 Level of Service shown is Simulation based and calculated in a manner that is consistent with the HCM Methodologies

3 Results for unsignalized intersections include only the movements that have conflicting flow and thus have the potential to incur control delay

Signalized Intersections

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
2	Don Knotts Blvd/University Ave & Sturgiss St/Foundry St	***Overall***		***4.3***	***11.0***	***A***	***B***						
		University Ave SWB	L	9.3	24.5	A	C	1.6	0%	0.6	0%	117.9	197.6
		University Ave SWB	T	3.9	4.5	A	A	3.3	0%	17.3	0%	117.9	197.6
		University Ave SWB	TR	2.0	4.4	A	A	3.6	0%	16.9	0%	117.9	197.6
		Foundry St NWB	LT	85.3	46.9	F	D	8.3	0%	53.7	0%	77.2	246.1
		Foundry St NWB	R	10.3	15.9	B	B	4.0	0%	2.4	0%	77.2	246.1
		Don Knotts Blvd NEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	160.2	254.3
		Don Knotts Blvd NEB	T	3.7	17.4	A	B	7.4	0%	46.3	0%	160.2	254.3
		Don Knotts Blvd NEB	TR	3.9	6.2	A	A	0.9	0%	6.2	0%	160.2	254.3
		Sturgiss St SEB	LTR	89.8	72.2	F	E	2.8	0%	0.7	0%	28.3	12.8
4	University Ave & Walnut St	***Overall***		***30.2***	***42.8***	***C***	***D***						
		University Ave SWB	T	30.9	82.8	C	F	67.0	0%	201.5	19%	402.5	955.3
		University Ave SWB	TR	14.6	25.3	B	C	13.7	0%	63.9	1%	402.5	955.3
		Walnut St NWB	L	48.6	44.2	D	D	17.6	0%	73.3	0%	272.3	325.7
		Walnut St NWB	LT	59.8	59.7	E	E	95.1	0%	120.8	2%	272.3	325.7
		Walnut St NWB	R	48.0	42.5	D	D	47.7	0%	44.8	0%	272.3	325.7
		University Ave NEB	LT	12.1	17.7	B	B	14.1	0%	26.5	0%	117.1	269.2
		University Ave NEB	T	12.7	15.2	B	B	13.9	0%	36.5	0%	117.1	269.2
		Walnut St SEB	LR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
5	University Ave/Beechurst Ave & Fayette St	***Overall***		***21.9***	***43.3***	***C***	***D***						
		Beechurst Ave SB	L	64.9	88.6	E	F	88.5	0%	187.6	0%	352.8	576.7
		Beechurst Ave SB	T	7.4	17.4	A	B	7.5	0%	22.6	0%	352.8	576.7
		University Ave SWB	L	87.5	339.8	F	F	1.7	0%	67.2	0%	129.7	359.2
		University Ave SWB	T	59.8	619.7	E	F	36.9	0%	172.9	0%	129.7	359.2
		University Ave SWB	TR	54.8	129.9	D	F	11.7	0%	29.6	0%	129.7	359.2
		University Ave NEB	T	14.4	20.8	B	C	24.4	0%	34.5	0%	223.3	273.9
		University Ave NEB	R	12.4	18.0	B	B	0.2	0%	9.0	0%	223.3	273.9
		Fayette St SEB	LTR	82.4	108.6	F	F	3.4	0%	2.4	0%	24.3	20.0
7	Beechurst Ave & Campus Dr	***Overall***		***19.4***	***35.8***	***B***	***D***						
		Campus Dr WB	L	58.5	66.0	E	E	53.7	0%	133.6	0%	218.9	369.8
		Campus Dr WB	R	18.6	24.2	B	C	4.3	0%	4.6	0%	218.9	369.8
		Beechurst Ave NWB	T	22.9	39.9	C	D	66.4	0%	126.3	0%	412.0	480.7
		Beechurst Ave NWB	R	7.1	5.8	A	A	5.3	0%	5.3	0%	412.0	480.7
		Beechurst Ave SEB	L	31.3	64.1	C	E	17.6	0%	44.8	0%	407.4	663.7
		Beechurst Ave SEB	T	13.4	30.0	B	C	55.5	0%	149.3	8%	407.4	663.7
10	Beechurst Ave & 6th St/6th St NB Crossover	***Overall***		***4.6***	***4.1***	***A***	***A***						
		6th St NB Crossover NWB	L	64.1	86.9	E	F	3.1	0%	0.5	0%	48.7	9.5
		6th St NEB	R	57.4	48.3	E	D	14.6	0%	8.0	0%	104.1	49.4
		US 19/Beechurst Ave SEB	TR	2.8	2.7	A	A	11.7	0%	11.5	0%	133.2	148.5
11	Beechurst Ave & 6th St/6th St SB Crossover	***Overall***		***7.1***	***8.3***	***A***	***A***						
		6th St SWB	R	48.9	52.2	D	D	6.8	0%	14.0	0%	50.3	69.9
		US 19/Beechurst Ave NWB	TR	5.3	5.3	A	A	13.9	0%	14.7	0%	176.1	192.8
		6th St SB Crossover SEB	L	54.2	50.6	D	D	2.0	0%	1.5	0%	20.9	18.8
17	University Ave & Campus Dr/Stewart St	***Overall***		***26.7***	***48.7***	***C***	***D***						
		Stewart St SWB	LTR	31.5	109.3	C	F	53.5	0%	265.7	0%	246.4	697.1
		University Ave NWB	TR	31.0	31.2	C	C	53.9	0%	88.6	2%	233.8	331.4
		Campus Dr NEB	LTR	19.3	37.2	B	D	33.9	0%	90.9	0%	246.0	352.3
		University Ave SEB	TR	32.7	38.7	C	D	55.3	0%	119.6	0%	316.3	532.7
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18	University Ave & Beverly Ave/3rd St/University Place Gara	***Overall***		***21.0***	***23.2***	***C***	***C***						
		University Place Garage SWB	LTR	34.4	30.9	C	C	0.5	0%	1.4	0%	10.6	17.6
		University Ave NWB	LT	32.6	38.2	C	D	24.9	0%	52.7	0%	247.4	435.5
		University Ave NWB	TR	18.0	20.5	B	C	21.5	0%	33.9	0%	247.4	435.5
		3rd St NEB	LTR	29.5	33.0	C	C	18.2	0%	27.9	0%	158.9	217.2
		Beverly Ave EB	LTR	33.1	40.1	C	D	2.0	0%	2.3	0%	20.4	19.7
		University Ave SEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	205.7	272.2
		University Ave SEB	TR	17.4	17.3	B	B	27.0	0%	37.3	0%	205.7	272.2
22	Willey St & High St	***Overall***		***16.3***	***27.4***	***B***	***C***						
		High St SWB	LT	33.1	49.5	C	D	13.1	0%	63.5	1%	84.9	279.8
		High St SWB	R	5.0	11.1	A	B	0.4	0%	1.6	0%	84.9	279.8
		Willey St NWB	L	16.8	39.3	B	D	32.4	2%	102.5	22%	171.8	486.5
		Willey St NWB	T	8.9	10.6	A	B	8.1	0%	12.9	1%	171.8	486.5
		Willey St SEB	TR	21.2	24.8	C	C	21.0	0%	49.7	3%	137.1	219.7
23	High St & Fayette St	***Overall***		***4.6***	***15.8***	***A***	***B***						
		High St SWB	LT	2.7	5.8	A	A	1.0	0%	4.4	0%	132.2	275.5
		High St SWB	T	4.0	13.1	A	B	11.4	0%	37.7	0%	132.2	275.5
		Fayette St SEB	T	31.4	31.4	C	C	4.8	0%	37.4	0%	92.4	211.4
		Fayette St SEB	R	43.0	53.0	D	D	0.5	0%	17.4	0%	92.4	211.4
24	High St & Walnut St	***Overall***		***16.9***	***25.0***	***B***	***C***						
		High St SWB	T	18.5	20.8	B	C	24.3	0%	47.1	0%	239.2	413.3
		High St SWB	R	13.9	37.6	B	D	17.5	0%	79.0	3%	239.2	413.3
		Walnut St NWB	L	20.5	23.5	C	C	12.8	0%	7.8	0%	180.5	273.6
		Walnut St NWB	T	20.5	23.2	C	C	24.1	0%	44.9	3%	180.5	273.6
25	High St & Pleasant St	***Overall***		***16.1***	***20.3***	***B***	***C***						
		High St SWB	LT	16.9	23.4	B	C	19.7	0%	36.8	0%	136.2	289.8
		High St SWB	T	12.2	27.7	B	C	7.3	0%	47.6	1%	136.2	289.8
		Pleasant St SEB	T	18.1	16.9	B	B	24.4	0%	26.7	0%	212.8	198.6
		Pleasant St SEB	TR	17.3	15.3	B	B	40.5	0%	27.4	0%	212.8	198.6
27	Kirk St/Spruce St & Pleasant St	***Overall***		***14.0***	***15.5***	***B***	***B***						
		Pleasant St NWB	R	9.5	7.3	A	A	3.5	0%	2.7	0%	44.5	40.5
		Kirk St NEB	T	24.4	25.7	C	C	29.2	0%	40.2	0%	140.7	185.4
		Kirk St NEB	TR	25.3	12.7	C	B	4.2	0%	1.9	0%	140.7	185.4
		Pleasant St SEB	L	11.0	13.0	B	B	13.1	0%	20.5	1%	292.0	223.0
		Pleasant St SEB	LT	10.4	11.4	B	B	24.8	2%	26.5	1%	292.0	223.0
28	Spruce St & Walnut St	***Overall***		***20.9***	***25.6***	***C***	***C***						
		Walnut St NWB	T	38.8	48.4	D	D	79.1	0%	109.8	0%	309.0	375.8
		Walnut St NWB	R	9.8	12.8	A	B	4.3	0%	2.8	0%	309.0	375.8
		Spruce St NEB	LT	24.4	29.4	C	C	43.5	0%	49.6	0%	243.6	309.4
		Spruce St NEB	T	22.4	26.8	C	C	46.4	0%	44.3	0%	243.6	309.4
		Spruce St NEB	R	6.4	5.4	A	A	9.2	0%	6.8	0%	243.6	309.4
29	Spruce St & Fayette St	***Overall***		***5.4***	***13.5***	***A***	***B***						
		Spruce St NEB	T	3.3	10.7	A	B	3.9	0%	16.0	0%	157.2	211.1
		Spruce St NEB	TR	6.9	11.6	A	B	10.8	0%	17.2	0%	157.2	211.1
		Fayette St SEB	LT	32.4	35.0	C	C	7.5	0%	43.2	4%	68.4	287.3
30	Willey St & Spruce St	***Overall***		***31.8***	***39.9***	***C***	***D***						
		Willey St WB	TR	51.4	51.0	D	D	37.5	0%	94.6	0%	183.9	337.8
		Spruce St NEB	L	23.5	57.2	C	E	30.9	0%	95.2	0%	331.4	455.7
		Spruce St NEB	T	22.7	23.7	C	C	10.8	0%	13.2	0%	331.4	455.7
		Spruce St NEB	R	31.9	37.1	C	D	65.8	1%	87.7	1%	331.4	455.7
		Willey St SEB	LT	10.6	30.0	B	C	9.8	0%	37.6	0%	76.7	189.0

Unsignalized Intersections[3]

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
1	Don Knotts Blvd & Dorsey Ave	Don Knotts Blvd SWB	L	7.7	31.1	A	D	3.5	0%	42.9	0%	47.6	215.9
		Don Knotts Blvd SWB	T	0.1	1.1	A	A	0.0	0%	0.0	0%	47.6	215.9
		Dorsey Ave NB	R	6.6	8.2	A	A	1.5	0%	3.5	0%	25.1	54.2
		Don Knotts Blvd NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Don Knotts Blvd NEB	TR	0.0	0.0	A	A	0.0	0%	0.1	0%	0.0	0.0
6	Beechurst Ave & Stansbury Hall Parking Lot/Hough St	Beechurst Ave SB	T	1.0	3.8	A	A	16.6	0%	19.4	0%	217.1	253.0
		Beechurst Ave SB	TR	0.1	1.4	A	A	7.3	0%	7.2	0%	217.1	253.0
		Hough St WB	LTR	47.9	50.6	E	F	75.8	0%	61.3	1%	256.7	283.3
		Beechurst Ave NB	LT	0.6	0.0	A	A	12.1	0%	13.0	0%	221.9	238.0
		Beechurst Ave NB	T	0.3	0.0	A	A	10.4	0%	10.8	0%	221.9	238.0
		Stansbury Hall Parking Lot EB	LR	0.0	63.1	A	F	0.0	0%	1.0	0%	0.0	18.4
8	Beechurst Ave & 3rd St/3rd St NB Crossover	3rd St NB Crossover NWB	L	20.6	37.0	C	E	0.6	0%	1.1	0%	16.0	24.2
		3rd St NEB	R	15.9	48.5	C	E	0.9	0%	5.2	0%	20.9	36.7
		US 19/Beechurst Ave SEB	TR	0.7	5.1	A	A	1.7	0%	24.3	12%	67.4	422.7
9	Beechurst Ave & 3rd St/3rd St SB Crossover	3rd St SWB	R	22.1	28.3	C	D	19.5	0%	38.1	0%	150.8	220.4
		Beechurst Ave NWB	TR	0.0	0.0	A	A	1.1	0%	0.9	0%	22.0	45.0
		3rd St SB Crossover SEB	L	25.5	27.8	D	D	0.5	0%	1.6	0%	13.6	22.5
14	University Ave & Prospect St	University Ave SB	T	63.2	34.2	F	D	1.7	0%	8.4	0%	53.9	105.0
		Prospect St NWB	L	18.2	49.0	C	E	8.3	0%	5.4	0%	92.1	336.0
		Prospect St NWB	R	14.6	115.7	B	F	8.8	0%	113.3	0%	92.1	336.0
		University Ave NB	T	8.1	64.0	A	F	3.5	0%	104.9	22%	43.0	282.1
15	University Ave & Woodburn Circle/College Ave	University Ave SB	L	40.1	10.7	E	B	56.9	0%	7.0	0%	231.2	264.7
		University Ave SB	TR	52.0	32.5	F	D	4.7	0%	42.9	0%	231.2	264.7
		College Ave WB	TR	22.2	20.5	C	C	10.6	0%	25.3	0%	185.5	152.3
		University Ave NB	LT	116.1	77.0	F	F	59.0	1%	7.8	0%	161.9	40.5
		University Ave NB	R	181.1	81.5	F	F	0.5	0%	0.1	0%	161.9	40.5
		Woodburn Circle EB	LTR	0.0	37.9	A	E	0.0	0%	0.2	0%	0.0	4.9
16	University Ave & Falling Run Rd	University Ave SB	L	32.9	43.0	D	E	9.6	0%	21.8	0%	110.8	146.6
		University Ave SB	T	0.0	1.7	A	A	5.2	0%	8.7	0%	110.8	146.6
		Falling Run Rd/Protzman St WB	R	37.3	31.5	E	D	2.5	0%	15.7	0%	30.4	101.1
		University Ave NB	TR	3.9	4.5	A	A	9.0	0%	12.1	0%	204.5	220.1
19	University Ave & Ensign Ave/North St	University Ave SB	LTR	3.0	4.5	A	A	5.9	0%	10.4	0%	131.3	208.0
		North St WB	LTR	9.0	15.6	A	C	8.2	0%	13.5	0%	88.8	124.1
		University Ave NB	LTR	0.1	0.4	A	A	0.7	0%	0.1	0%	0.0	21.6
		Ensign Ave EB	LTR	0.0	33.8	A	D	0.0	0%	0.5	0%	0.0	17.1
20	University Ave & 8th St/Terrace Heights Dwy	Terrace Heights Dwy SB	LTR	0.0	31.3	A	D	0.0	0%	0.4	0%	0.0	7.5
		University Ave WB	LTR	1.0	3.3	A	A	2.8	0%	6.7	0%	130.5	119.9
		8th St NB	LTR	31.0	37.1	D	E	33.0	0%	40.6	0%	171.0	164.5
		University Ave EB	LTR	0.0	0.0	A	A	3.1	0%	2.6	0%	52.5	95.7
21	High St & Prospect St	High St SWB	T	0.0	1.1	A	A	1.6	0%	0.7	0%	38.5	14.1
		Prospect St NWB	LR	7.0	10.4	A	B	4.0	0%	14.0	0%	56.2	134.4
26	High St & Foundry St/South High Station	High St SWB	LTR	0.8	1.2	A	A	0.6	0%	2.3	0%	15.8	105.4
		South High Station NWB	LTR	10.1	11.9	B	B	3.3	0%	3.5	0%	41.4	48.0
		High St NEB	LTR	0.6	2.7	A	A	1.3	0%	3.6	0%	20.3	66.2
		Foundry St SEB	LTR	7.9	12.3	A	B	3.3	0%	6.6	0%	36.2	50.7
32	Willey St & Richwood Ave	Willey St SWB	T	0.0	0.1	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave WB	T	10.3	17.0	B	C	4.4	0%	5.7	0%	65.8	58.3
		Willey St NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
33	Willey St & Chestnut St	Willey St NWB	T	0.0	4.4	A	A	2.9	0%	10.1	0%	69.6	49.6
		Chestnut St NEB	L	11.2	15.3	B	C	4.5	0%	6.1	0%	51.2	89.3
		Chestnut St NEB	R	8.9	11.5	A	B	2.5	0%	12.8	0%	51.2	89.3
		Willey St SEB	T	3.4	39.6	A	E	0.6	0%	1.5	0%	7.6	56.4
34	Stewart St/Willowdale Rd & Stewart St	Willowdale Rd SB	LT	1.2	1.3	A	A	1.3	0%	2.4	0%	32.5	70.8
		Stewart St WB	LR	9.9	12.1	A	B	13.5	0%	17.7	0%	82.7	92.9
		Stewart St NB	TR	0.0	0.0	A	A	0.0	0%	1.0	0%	22.7	11.6

Roundabouts

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) AM	Delay[1] (s) PM	Level of Service[2] AM	Level of Service[2] PM	95th Queue (ft)/Spillback Rate AM		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) AM	Maximum Queue Length (ft) PM
3	University Ave & W Park Ave/Pleasant St	University Ave SWB	T	16.0	21.1	C	C	34.9	1%	65.6	2%	210.4	279.1
		University Ave NEB	T	19.4	45.9	C	E	27.5	0%	43.0	0%	233.3	405.0
		W Park Ave SEB	R	14.2	217.3	B	F	24.0	0%	543.3	1%	188.0	1554.3
12	Beechurst Ave & 8th St	8th St SWB	T	15.0	19.1	C	C	12.0	0%	18.4	0%	87.5	123.5
		US 19/Beechurst Ave NWB	T	8.2	10.2	A	B	6.7	0%	15.8	0%	122.8	160.4
		8th St NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave SEB	T	11.6	39.8	B	E	10.7	0%	73.9	0%	148.5	598.0
35	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	T	3.9	3.9	A	A	0.5	0%	0.4	0%	10.5	4.1
		Van Gilder Ave NWB	T	5.6	9.8	A	A	0.4	0%	0.5	0%	3.0	14.3
		Falling Run Rd/Protzman St NEB	T	4.7	7.2	A	A	1.5	0%	5.8	0%	34.6	113.0
		Stewart St EB	R	3.9	4.1	A	A	0.3	0%	0.8	0%	2.8	23.9

Notes:

1 Delay shown is the 95th percentile worst case control delay for the full 60-minute simulation period as derived from the 10 random seed simulations

2 Level of Service shown is Simulation based and calculated in a manner that is consistent with the HCM Methodologies

3 Results for unsignalized intersections include only the movements that have conflicting flow and thus have the potential to incur control delay

Signalized Intersections

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
2	Don Knotts Blvd/University Ave & Sturgiss St/Foundry St	***Overall***		***15.5***	***33.6***	***B***	***C***						
		University Ave SWB	L	13.7	26.8	B	C	0.4	0%	0.9	0%	68.9	148.7
		University Ave SWB	T	1.5	3.4	A	A	4.1	0%	13.0	0%	68.9	148.7
		University Ave SWB	TR	1.5	3.8	A	A	2.7	0%	14.8	0%	68.9	148.7
		Foundry St NWB	LT	64.0	54.2	E	D	26.8	0%	44.7	0%	95.5	170.8
		Foundry St NWB	R	29.3	106.1	C	F	2.3	0%	9.1	0%	95.5	170.8
		Don Knotts Blvd NEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	361.5	737.6
		Don Knotts Blvd NEB	T	34.5	140.1	C	F	60.9	0%	298.9	0%	361.5	737.6
		Don Knotts Blvd NEB	TR	5.9	42.9	A	D	4.6	0%	56.1	0%	361.5	737.6
		Sturgiss St SEB	LTR	86.6	438.0	F	F	3.3	0%	4.1	0%	23.5	20.3
3	University Ave & W Park Ave/Pleasant St	***Overall***		***43.0***	***65.1***	***D***	***E***						
		University Ave SWB	L	30.8	44.1	C	D	21.7	0%	22.8	0%	237.7	580.3
		University Ave SWB	T	30.7	28.2	C	C	53.5	0%	86.0	9%	237.7	580.3
		University Ave SWB	R	10.4	12.9	B	B	21.3	1%	32.6	3%	237.7	580.3
		Pleasant St NWB	LTR	60.8	80.2	E	F	85.6	0%	95.3	1%	299.8	332.7
		University Ave NEB	L	99.2	151.8	F	F	73.8	0%	85.1	0%	439.4	764.5
		University Ave NEB	T	33.9	88.2	C	F	35.8	0%	66.2	1%	439.4	764.5
		University Ave NEB	R	4.7	40.8	A	D	1.5	0%	14.8	0%	439.4	764.5
		W Park Ave SEB	L	117.0	150.3	F	F	205.0	0%	301.7	0%	685.8	854.7
4	University Ave & Walnut St	***Overall***		***12.1***	***23.6***	***B***	***C***						
		University Ave SWB	LT	10.6	18.1	B	B	18.3	0%	46.3	0%	291.3	440.6
		University Ave SWB	TR	9.2	16.3	A	B	20.9	0%	64.5	2%	291.3	440.6
		Walnut St NWB	L	80.9	91.7	F	F	3.2	0%	86.4	16%	214.0	478.3
		Walnut St NWB	LTR	60.2	53.4	E	D	56.5	7%	116.3	51%	214.0	478.3
		University Ave NEB	LT	10.8	15.2	B	B	15.6	0%	18.0	1%	211.3	379.3
		University Ave NEB	TR	6.0	9.0	A	A	15.8	0%	29.9	3%	211.3	379.3
		Walnut St SEB	LTR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
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5	University Ave/Beechurst Ave & Fayette St	***Overall***		***6.9***	***6.9***	***A***	***A***						
		Beechurst Ave SB	L	19.8	19.8	B	B	24.5	6%	29.2	9%	248.6	240.2
		Beechurst Ave SB	T	0.5	1.8	A	A	0.0	0%	0.5	0%	248.6	240.2
		University Ave NEB	T	15.1	14.6	B	B	22.1	0%	16.5	0%	195.2	165.8
		University Ave NEB	R	9.2	4.8	A	A	0.1	0%	3.0	0%	195.2	165.8
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7	Beechurst Ave & Campus Dr	***Overall***		***27.8***	***37.3***	***C***	***D***						
		Campus Dr WB	L	68.3	54.2	E	D	37.9	0%	70.6	0%	217.9	336.4
		Campus Dr WB	LR	67.4	55.7	E	E	44.2	0%	72.6	0%	217.9	336.4
		Beechurst Ave NWB	T	42.5	66.2	D	E	127.1	0%	188.7	0%	869.7	874.7
8	Beechurst Ave & 3rd St	***Overall***		***13.5***	***69.5***	***B***	***E***						
		3rd St SWB	LTR	66.6	237.8	E	F	52.6	0%	295.1	0%	294.0	682.6
		Beechurst Ave NWB	L	26.7	59.1	C	E	0.3	0%	1.8	0%	240.5	124.0
		Beechurst Ave NWB	TR	6.2	5.9	A	A	17.1	0%	10.5	0%	240.5	124.0
9	Beechurst Ave & 6th St	***Overall***		***7.4***	***17.6***	***A***	***B***						
		6th St SWB	LTR	20.4	39.2	C	D	3.3	0%	11.6	0%	41.6	79.3
		US 19/Beechurst Ave NWB	L	27.3	44.7	C	D	1.3	0%	0.2	0%	270.1	164.2
		US 19/Beechurst Ave NWB	TR	7.2	5.1	A	A	11.8	0%	8.8	0%	270.1	164.2
		6th St NEB	LTR	81.9	58.4	F	E	22.7	0%	10.7	0%	125.2	64.6
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15	University Ave & Campus Dr/Stewart St	***Overall***		***19.9***	***38.0***	***B***	***D***						
		Stewart St SWB	LTR	25.6	51.9	C	D	29.8	0%	36.4	0%	184.6	264.6
		University Ave NWB	TR	32.5	39.3	C	D	6.3	0%	81.5	4%	59.0	366.4
		Campus Dr NEB	LTR	16.4	35.3	B	D	29.5	0%	91.2	0%	215.5	426.5
		University Ave SEB	TR	31.5	45.8	C	D	11.4	0%	106.8	0%	88.2	514.8
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16	University Ave & Beverly Ave/3rd St/University Place Gara	***Overall***		***18.5***	***33.1***	***B***	***C***						
		University Place Garage SWB	LTR	20.4	33.1	C	C	0.4	0%	1.3	0%	3.7	20.4
		University Ave NWB	LT	26.0	57.2	C	E	4.5	0%	94.1	0%	109.1	600.0
		University Ave NWB	TR	16.5	30.2	B	C	11.2	0%	13.0	0%	109.1	600.0
		3rd St NEB	LTR	21.2	37.4	C	D	20.3	0%	34.4	0%	169.8	211.9
		Beverly Ave EB	LTR	17.1	52.2	B	D	1.0	0%	2.8	0%	20.2	25.1
20	Willey St & High St	***Overall***		***17.1***	***19.3***	***B***	***B***						
		High St SWB	LT	33.7	36.3	C	D	12.6	0%	7.7	0%	92.2	116.7
		High St SWB	R	9.1	13.2	A	B	9.8	0%	15.7	0%	92.2	116.7
		Willey St NWB	L	28.0	15.5	C	B	15.0	0%	7.4	0%	156.9	95.0
		Willey St NWB	T	10.9	10.3	B	B	21.8	0%	33.8	2%	156.9	95.0
21	High St & Fayette St	***Overall***		***6.0***	***8.2***	***A***	***A***						
		High St SWB	LT	5.6	4.0	A	A	7.4	0%	7.2	0%	100.4	89.1
		0 NEB	TR	4.1	2.6	A	A	2.1	0%	1.8	0%	42.9	36.3
		Fayette St SEB	LT	40.8	29.4	D	C	3.0	0%	17.1	0%	27.4	63.7
		Fayette St SEB	R	71.0	35.7	E	D	0.4	0%	0.7	0%	27.4	63.7
22	High St & Walnut St	***Overall***		***56.7***	***22.7***	***E***	***C***						
		High St SWB	LT	22.8	20.4	C	C	33.5	0%	30.1	0%	168.1	189.4
		High St SWB	R	28.2	48.9	C	D	0.1	0%	23.6	0%	168.1	189.4
		Walnut St NWB	L	18.7	26.5	B	C	1.1	0%	0.3	0%	167.2	644.1
		Walnut St NWB	TR	11.6	25.4	B	C	15.7	0%	69.7	12%	167.2	644.1
23	High St & Pleasant St	***Overall***		***21.4***	***35.1***	***C***	***D***						
		High St SWB	LTR	22.9	35.2	C	D	13.7	0%	36.6	0%	117.5	145.6
		Pleasant St NWB	LTR	18.3	27.9	B	C	33.7	1%	59.6	7%	214.1	339.6
		High St NEB	LTR	37.2	45.6	D	D	9.2	0%	26.5	0%	82.9	161.6
		Pleasant St SEB	LTR	24.3	41.6	C	D	45.9	0%	77.1	0%	275.2	317.3
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25	Kirk St/Spruce St & Pleasant St	***Overall***		***16.0***	***30.2***	***B***	***C***						
		Spruce St SWB	L	50.4	35.4	D	D	17.0	0%	26.1	0%	99.5	181.2
		Spruce St SWB	TR	4.5	9.5	A	A	5.9	0%	17.1	0%	99.5	181.2
		Pleasant St NWB	LTR	9.9	17.0	A	B	2.8	0%	6.7	0%	35.6	58.1
		Kirk St NEB	L	25.8	63.1	C	E	12.8	0%	23.5	0%	154.8	350.7
		Kirk St NEB	TR	26.7	47.0	C	D	30.5	0%	94.8	3%	154.8	350.7
26	Spruce St & Walnut St	***Overall***		***16.6***	***68.7***	***B***	***E***						
		Spruce St SWB	L	46.4	43.0	D	D	1.7	0%	0.8	0%	118.7	314.3
		Spruce St SWB	TR	11.8	16.5	B	B	8.4	0%	42.9	6%	118.7	314.3
		Walnut St NWB	L	31.6	224.4	C	F	15.2	0%	8.0	0%	240.3	1136.4
27	Spruce St & Fayette St	***Overall***		***5.6***	***9.1***	***A***	***A***						
		Spruce St SWB	LT	1.0	7.5	A	A	0.0	0%	0.1	0%	8.4	280.6
		Spruce St SWB	T	0.5	8.9	A	A	0.4	0%	18.7	0%	8.4	280.6
		0 NEB	TR	6.5	7.0	A	A	26.5	10%	20.7	6%	225.2	263.6
		Fayette St SEB	LTR	28.0	35.4	C	D	1.4	0%	23.1	0%	29.1	115.1
28	Willey St & Spruce St	***Overall***		***17.5***	***37.9***	***B***	***D***						
		Willey St WB	LTR	16.6	70.3	B	E	33.4	0%	139.2	2%	193.4	589.7
		Spruce St NEB	L	21.8	36.6	C	D	19.3	0%	62.7	0%	280.5	306.1
		Spruce St NEB	TR	20.8	22.8	C	C	37.4	0%	59.7	0%	280.5	306.1
		Willey St SEB	LTR	14.1	16.0	B	B	22.7	0%	31.3	4%	154.3	388.1
31	Willey St & Chestnut St	***Overall***		***11.7***	***9.5***	***B***	***A***						
		Willey St NWB	T	3.6	3.2	A	A	10.5	0%	6.5	0%	114.7	148.5
		Chestnut St NEB	L	65.3	39.7	E	D	41.7	0%	23.8	0%	154.1	159.3
		Chestnut St NEB	R	26.4	15.7	C	B	3.1	0%	10.6	0%	154.1	159.3
		Willey St SEB	T	5.8	10.1	A	B	3.9	0%	11.8	0%	70.2	148.3
34	Beechurst Ave & Willey St	***Overall***		***14.6***	***12.3***	***B***	***B***						
		Beechurst Ave SB	L	10.3	10.5	B	B	6.8	5%	23.2	25%	231.9	273.0
		Beechurst Ave SB	T	6.5	5.2	A	A	19.7	16%	18.5	18%	231.9	273.0
		Willey St WB	L	40.2	38.7	D	D	49.5	2%	40.0	1%	203.7	265.8
		Willey St WB	R	9.8	9.4	A	A	19.5	0%	22.2	1%	203.7	265.8
		Willey St WB	LR	31.3	22.3	C	C	54.1	2%	48.5	3%	203.7	265.8
		Beechurst Ave NB	T	20.3	23.9	C	C	30.8	13%	40.8	18%	341.7	313.9
		Beechurst Ave NB	TR	18.2	22.9	B	C	32.8	16%	35.9	13%	341.7	313.9

Unsignalized Intersections[3]

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
1	Don Knotts Blvd & Dorsey Ave	Don Knotts Blvd SWB	L	9.0	30.3	A	D	3.6	0%	42.4	0%	52.6	219.6
		Don Knotts Blvd SWB	T	0.2	1.6	A	A	0.0	0%	0.0	0%	52.6	219.6
		Dorsey Ave NB	R	6.7	7.6	A	A	1.8	0%	3.3	0%	23.7	45.1
		Don Knotts Blvd NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Don Knotts Blvd NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
6	Beechurst Ave & Stansbury Hall Parking Lot/Hough St	Beechurst Ave SB	T	6.4	13.2	A	B	28.3	0%	43.9	0%	354.2	534.7
		Beechurst Ave SB	TR	3.6	6.0	A	A	15.6	0%	17.0	0%	354.2	534.7
		Beechurst Ave NB	LT	0.8	1.6	A	A	21.9	0%	17.3	0%	232.9	285.4
		Beechurst Ave NB	T	0.4	0.9	A	A	19.4	0%	17.0	0%	232.9	285.4
		Stansbury Hall Parking Lot EB	LR	0.0	187.2	A	F	0.0	0%	2.7	0%	0.0	20.3
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10	Beechurst Ave & 8th St	8th St SWB	LTR	134.3	114.4	F	F	75.1	0%	131.5	0%	286.7	453.5
		US 19/Beechurst Ave NWB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave NWB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
13	University Ave & Woodburn Circle	University Ave SB	R	4.9	0.0	A	A	0.1	0%	0.0	0%	0.0	0.0
		Woodburn Circle EB	L	0.0	6.0	A	A	0.0	0%	0.2	0%	0.0	0.0
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14	University Ave & Falling Run Rd	Falling Run Rd/Protzman St WB	LT	0.0	2.6	A	A	0.0	0%	3.3	0%	0.0	106.9
		University Ave NB	LR	0.0	35.6	A	E	0.0	0%	0.2	0%	0.0	4.8
		University Ave EB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
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17	University Ave & Ensign Ave/North St	University Ave SB	LTR	2.0	2.8	A	A	3.5	0%	6.1	0%	81.0	103.3
		North St WB	LTR	7.4	12.5	A	B	5.3	0%	9.6	0%	64.4	102.7
		University Ave NB	LTR	0.1	0.5	A	A	0.2	0%	1.0	0%	0.0	44.0
		Ensign Ave EB	LTR	0.0	27.7	A	D	0.0	0%	0.4	0%	0.0	9.6
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18	University Ave & 8th St/Terrace Heights Dwy	Terrace Heights Dwy SB	LTR	0.0	15.3	A	C	0.0	0%	0.2	0%	0.0	5.7
		University Ave WB	LTR	0.7	3.5	A	A	2.3	0%	5.4	0%	49.7	126.3
		8th St NB	LTR	16.3	41.2	C	E	13.3	0%	75.1	0%	130.0	329.7
		University Ave EB	LTR	0.0	0.0	A	A	1.4	0%	1.6	0%	8.8	49.7
19	High St & Prospect St	High St SWB	T	0.1	0.1	A	A	2.9	6%	0.9	1%	45.8	22.4
		Prospect St NWB	R	6.9	6.1	A	A	3.4	0%	3.1	0%	78.0	52.3
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24	High St & Foundry St/South High Station	High St SWB	LTR	0.6	0.7	A	A	1.1	0%	1.5	0%	46.5	44.6
		South High Station NWB	LTR	9.6	12.7	A	B	3.0	0%	4.2	0%	37.4	45.2
		High St NEB	LTR	0.7	1.3	A	A	0.9	0%	1.7	0%	46.4	63.4
		Foundry St SEB	LTR	8.1	19.2	A	C	2.2	0%	17.5	0%	29.5	145.3
30	Snider St & Willey St	Willey St SB	LR	6.4	11.0	A	B	0.7	0%	1.3	0%	15.1	17.4
		Richwood Ave WB	TR	0.0	14.2	A	B	0.0	0%	36.2	4%	0.0	267.9
32	Stewart St/Willowdale Rd & Stewart St	Willowdale Rd SB	LT	0.5	0.8	A	A	0.4	0%	1.1	0%	12.4	36.3
		Stewart St WB	LR	7.1	4.9	A	A	7.0	0%	2.2	0%	52.8	28.0
		Stewart St NB	TR	0.0	0.0	A	A	0.0	0%	0.1	0%	0.0	0.0
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33	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	LTR	6.9	9.9	A	A	5.9	0%	13.1	0%	99.9	114.6
		Van Gilder Ave NWB	LTR	7.5	13.9	A	B	0.4	0%	1.0	0%	14.5	14.3
		Falling Run Rd/Protzman St NEB	LTR	0.0	0.0	A	A	0.5	0%	0.9	0%	0.0	46.5
35	High St & Prospect St	High St SWB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	1.6
		High St NEB	LT	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		0 SEB	LR	4.1	4.2	A	A	3.2	0%	4.2	0%	56.9	66.5
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36	Beechurst Ave & Driveway	Beechurst Ave SB	T	8.3	14.4	A	B	17.3	0%	20.1	0%	177.3	246.1
		Beechurst Ave SB	TR	4.2	6.3	A	A	5.4	0%	12.0	0%	177.3	246.1
		Beechurst Ave NB	T	0.0	0.0	A	A	0.0	0%	0.2	0%	0.0	6.1
		0 EB	R	30.8	38.7	D	E	1.2	0%	0.9	0%	19.6	16.7
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37	Richwood Ave WB/EB & Richwood Ave NB/SB	Richwood Ave SWB	LR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave NWB	TR	0.3	1.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave SEB	LT	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
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38	Snider St & Richwood Avenue NB/SB	Richwood Ave WB	LT	0.0	7.9	A	A	0.0	0%	21.7	0%	0.0	98.1
		Richwood Ave NB	R	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave EB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
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Roundabouts

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) AM	Delay[1] (s) PM	Level of Service[2] AM	Level of Service[2] PM	95th Queue (ft)/Spillback Rate AM		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) AM	Maximum Queue Length (ft) PM
3	University Ave & W Park Ave/Pleasant St	University Ave SWB	T	16.0	21.1	C	C	53.5	0%	86.0	9%	237.7	580.3
		University Ave NEB	T	19.4	45.9	C	E	35.8	0%	66.2	1%	439.4	764.5
		W Park Ave SEB	R	14.2	217.3	B	F	6.3	0%	25.3	0%	685.8	854.7
12	Beechurst Ave & 8th St	8th St SWB	T	15.0	19.1	C	C	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
		US 19/Beechurst Ave NWB	T	8.2	10.2	A	B	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
		8th St NEB	T	0.0	0.0	A	A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
		US 19/Beechurst Ave SEB	T	11.6	39.8	B	E	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
35	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	T	3.9	3.9	A	A	#N/A	#N/A	#N/A	#N/A	0.0	1.6
		Van Gilder Ave NWB	T	5.6	9.8	A	A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
		Falling Run Rd/Protzman St NEB	T	4.7	7.2	A	A	#N/A	#N/A	#N/A	#N/A	0.0	0.0
		Stewart St EB	R	3.9	4.1	A	A	#N/A	#N/A	#N/A	#N/A	#N/A	#N/A
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Notes:

1 Delay shown is the 95th percentile worst case control delay for the full 60-minute simulation period as derived from the 10 random seed simulations

2 Level of Service shown is Simulation based and calculated in a manner that is consistent with the HCM Methodologies

3 Results for unsignalized intersections include only the movements that have conflicting flow and thus have the potential to incur control delay

Signalized Intersections

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
2	Don Knotts Blvd/University Ave & Sturgiss St/Foundry St		***Overall***	***13.6***	***9.6***	***B***	***A***						
		University Ave SWB	L	12.1	17.1	B	B	3.3	0%	2.1	0%	155.5	132.2
		University Ave SWB	T	8.5	2.0	A	A	17.6	0%	7.1	0%	155.5	132.2
		University Ave SWB	TR	7.6	2.1	A	A	18.6	0%	7.1	0%	155.5	132.2
		Foundry St NWB	LT	52.1	61.3	D	E	41.5	0%	60.2	0%	171.5	210.8
		Foundry St NWB	R	52.9	72.5	D	E	17.6	0%	22.9	0%	171.5	210.8
		Don Knotts Blvd NEB	L	0.0	0.0	A	A	0.0	0%	0.0	0%	219.6	220.6
		Don Knotts Blvd NEB	T	11.0	10.4	B	B	27.7	0%	32.0	0%	219.6	220.6
		Don Knotts Blvd NEB	TR	11.2	10.5	B	B	7.3	0%	10.6	0%	219.6	220.6
		Sturgiss St SEB	LTR	74.4	110.4	E	F	2.7	0%	1.0	0%	25.7	18.0
3	University Ave & Pleasant St		***Overall***	***27.6***	***29.2***	***C***	***C***						
		University Ave SWB	L	46.5	52.6	D	D	30.8	0%	18.9	0%	272.0	330.5
		University Ave SWB	T	21.0	15.1	C	B	39.0	0%	51.6	1%	272.0	330.5
		University Ave SWB	R	10.8	6.5	B	A	28.9	1%	19.4	0%	272.0	330.5
		University Ave NEB	L	30.1	48.6	C	D	34.8	0%	60.1	0%	252.4	306.8
		University Ave NEB	T	26.2	34.8	C	C	41.7	0%	53.5	0%	252.4	306.8
		University Ave NEB	R	30.8	24.9	C	C	16.9	0%	16.2	0%	252.4	306.8
		W Park Ave SEB	L	56.3	71.7	E	E	88.2	0%	97.3	0%	330.3	557.4
		W Park Ave SEB	T	49.4	77.7	D	E	89.7	0%	179.0	0%	330.3	557.4
4	University Ave & Walnut St		***Overall***	***18.7***	***33.9***	***B***	***C***						
		University Ave SWB	T	12.3	62.2	B	E	22.0	0%	61.3	0%	291.9	626.6
		University Ave SWB	TR	11.7	31.2	B	C	34.9	0%	115.0	10%	291.9	626.6
		Walnut St NWB	L	54.4	55.7	D	E	0.5	0%	73.1	0%	188.0	287.6
		Walnut St NWB	LT	76.1	63.7	E	E	62.9	0%	88.9	0%	188.0	287.6
5	University Ave/Beechurst Ave & Fayette St		***Overall***	***18.6***	***10.3***	***B***	***B***						
		Beechurst Ave SB	L	25.7	15.7	C	B	39.8	14%	35.6	9%	313.8	314.5
		Beechurst Ave SB	T	9.7	5.2	A	A	0.0	0%	9.3	1%	313.8	314.5
		University Ave NEB	T	35.3	23.5	D	C	53.2	0%	25.7	0%	380.0	170.0
		University Ave NEB	R	16.6	5.4	B	A	0.3	0%	3.8	0%	380.0	170.0
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7	Beechurst Ave & Campus Dr		***Overall***	***29.1***	***36.0***	***C***	***D***						
		Campus Dr WB	L	74.5	71.9	E	E	34.0	0%	109.7	0%	174.6	446.4
		Campus Dr WB	LR	73.0	69.4	E	E	37.5	0%	111.7	0%	174.6	446.4
		Beechurst Ave NWB	T	42.0	44.1	D	D	128.6	0%	142.7	0%	839.7	779.6
10	0 & 0		***Overall***	***4.3***	***4.8***	***A***	***A***						
		6th St NB Crossover NWB	L	76.3	90.1	E	F	3.5	0%	0.4	0%	55.3	12.0
		6th St NEB	R	61.2	53.2	E	D	15.1	0%	9.6	0%	98.1	55.9
		US 19/Beechurst Ave SEB	TR	2.6	3.3	A	A	10.5	0%	14.7	0%	153.8	159.6
11	0 & 0		***Overall***	***8.2***	***8.7***	***A***	***A***						
		6th St SWB	R	56.9	49.9	E	D	7.5	0%	14.9	0%	51.2	70.9
		US 19/Beechurst Ave NWB	TR	6.0	5.3	A	A	8.1	0%	13.5	0%	189.8	165.0
		6th St SB Crossover SEB	L	64.1	56.3	E	E	2.9	0%	1.6	0%	21.4	20.7
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15	University Ave & Campus Dr/Stewart St		***Overall***	***21.9***	***43.1***	***C***	***D***						
		Stewart St SWB	LTR	27.0	63.8	C	E	31.1	0%	129.2	0%	151.0	441.7
		University Ave NWB	TR	31.7	38.3	C	D	10.0	0%	29.2	0%	80.4	137.3
		Campus Dr NEB	LTR	18.1	31.2	B	C	34.4	0%	92.7	0%	240.7	378.4
		University Ave SEB	TR	32.0	53.4	C	D	10.9	0%	95.0	0%	88.2	343.0
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16	University Ave & Beverly Ave/3rd St/University Place Gara		***Overall***	***17.9***	***20.0***	***B***	***C***						
		University Place Garage SWB	LTR	29.6	25.8	C	C	0.6	0%	0.9	0%	11.4	16.0
		University Ave NWB	LT	20.8	24.6	C	C	7.4	0%	17.4	0%	91.2	110.0
		University Ave NWB	TR	17.4	17.5	B	B	8.4	0%	5.9	0%	91.2	110.0
		3rd St NEB	LTR	21.1	22.2	C	C	19.2	0%	28.7	0%	207.5	227.8
		Beverly Ave EB	LTR	24.1	25.8	C	C	1.3	0%	1.5	0%	26.6	20.1
20	Willey St & High St		***Overall***	***19.4***	***22.0***	***B***	***C***						
		High St SWB	LT	39.9	41.5	D	D	15.6	0%	20.8	0%	132.0	153.0
		High St SWB	R	20.2	33.0	C	C	21.8	0%	37.1	0%	132.0	153.0
		Willey St NWB	L	28.5	16.7	C	B	37.0	1%	33.9	5%	357.9	441.1
		Willey St NWB	T	18.5	20.3	B	C	52.4	7%	60.1	15%	357.9	441.1
21	High St & Fayette St		***Overall***	***7.7***	***13.6***	***A***	***B***						
		High St SWB	LT	5.4	8.2	A	A	2.6	0%	8.0	0%	110.0	196.2
		High St SWB	T	5.6	8.9	A	A	9.4	0%	23.9	0%	110.0	196.2
		Fayette St SEB	T	38.8	32.0	D	C	2.6	0%	27.9	0%	51.6	182.6
		Fayette St SEB	R	42.3	32.6	D	C	4.3	0%	13.0	0%	51.6	182.6
22	High St & Walnut St		***Overall***	***7.1***	***11.6***	***A***	***B***						
		High St SWB	T	6.0	10.1	A	B	6.0	0%	12.1	0%	129.4	200.3
		High St SWB	R	23.6	16.0	C	B	0.3	0%	6.3	0%	129.4	200.3
		Walnut St NWB	L	9.8	19.2	A	B	6.8	0%	7.8	0%	113.3	173.6
		Walnut St NWB	T	9.7	12.3	A	B	6.2	0%	14.8	0%	113.3	173.6
23	High St & Pleasant St		***Overall***	***18.2***	***18.5***	***B***	***B***						
		High St SWB	LT	14.2	16.2	B	B	18.0	0%	28.6	0%	137.5	165.2
		High St SWB	T	11.6	16.4	B	B	10.3	0%	24.9	0%	137.5	165.2
		Pleasant St SEB	T	21.0	24.0	C	C	17.2	0%	35.5	0%	276.5	262.3
		Pleasant St SEB	TR	24.7	21.9	C	C	49.0	0%	36.3	0%	276.5	262.3
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25	Kirk St/Spruce St & Pleasant St		***Overall***	***17.7***	***15.9***	***B***	***B***						
		Pleasant St NWB	R	50.4	41.8	D	D	14.7	0%	16.2	0%	93.5	96.2
		Kirk St NEB	T	23.9	24.1	C	C	20.4	0%	32.9	0%	132.5	184.4
		Kirk St NEB	TR	32.7	26.5	C	C	4.7	0%	3.8	0%	132.5	184.4
		Pleasant St SEB	L	6.5	11.1	A	B	2.6	0%	21.3	0%	244.9	170.6
		Pleasant St SEB	LT	13.8	9.7	B	A	35.2	2%	23.0	1%	244.9	170.6
26	Spruce St & Walnut St		***Overall***	***23.3***	***15.8***	***C***	***B***						
		Walnut St NWB	T	23.6	22.3	C	C	43.2	0%	42.0	0%	215.4	220.0
		Walnut St NWB	R	28.8	28.3	C	C	12.8	0%	10.2	0%	215.4	220.0
		Spruce St NEB	LT	6.1	8.8	A	A	8.2	0%	17.8	0%	205.0	188.7
27	Spruce St & Fayette St		***Overall***	***6.5***	***7.7***	***A***	***A***						
		Spruce St NEB	T	3.5	10.2	A	B	5.3	0%	23.2	0%	151.6	166.3
		Spruce St NEB	TR	9.3	7.3	A	A	15.4	0%	15.9	0%	151.6	166.3
		Fayette St SEB	LT	23.1	5.3	C	A	2.2	0%	4.3	0%	47.8	47.1
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28	Willey St & Spruce St		***Overall***	***20.2***	***52.7***	***C***	***D***						
		Willey St WB	TR	14.9	90.2	B	F	31.7	0%	179.4	4%	190.4	605.9
		Spruce St NEB	L	35.5	36.9	D	D	54.1	0%	49.5	0%	232.1	368.3
		Spruce St NEB	T	26.4	20.4	C	C	9.5	0%	5.5	0%	232.1	368.3
		Spruce St NEB	R	32.1	32.6	C	C	40.0	0%	57.6	0%	232.1	368.3
31	Willey St & Chestnut St		***Overall***	***9.3***	***34.6***	***A***	***C***						
		Willey St NWB	T	2.7	6.8	A	A	6.2	0%	23.0	1%	77.1	174.9
		Chestnut St NEB	L	45.8	123.2	D	F	24.9	0%	39.9	1%	145.8	475.1
		Chestnut St NEB	R	68.2	154.9	E	F	19.9	0%	175.0	4%	145.8	475.1
		Willey St SEB	T	6.5	11.3	A	B	10.8	0%	15.8	0%	196.5	132.4
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34	Beechurst Ave & Willey St		***Overall***	***16.7***	***19.4***	***B***	***B***						
		Beechurst Ave SB	L	19.5	13.0	B	B	15.3	14%	29.6	37%	267.4	365.1
		Beechurst Ave SB	T	9.0	18.8	A	B	35.0	28%	25.8	27%	267.4	365.1
		Willey St WB	L	38.3	40.0	D	D	53.0	3%	48.7	2%	374.5	285.3
		Willey St WB	R	30.2	11.6	C	B	58.2	4%	28.3	2%	374.5	285.3
		Willey St WB	LR	30.4	24.1	C	C	66.3	6%	52.4	3%	374.5	285.3
		Beechurst Ave NB	T	7.5	28.2	A	C	16.0	8%	52.9	31%	294.9	363.9
		Beechurst Ave NB	TR	10.3	31.5	B	C	19.4	10%	55.8	29%	294.9	363.9

Unsignalized Intersections[3]

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) MD	Delay[1] (s) PM	Level of Service[2] MD	Level of Service[2] PM	95th Queue (ft)/Spillback Rate MD		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) MD	Maximum Queue Length (ft) PM
1	Don Knotts Blvd & Dorsey Ave	Don Knotts Blvd SWB	L	9.1	26.3	A	D	4.2	0%	36.6	0%	56.4	178.5
		Don Knotts Blvd SWB	T	0.2	1.2	A	A	0.0	0%	0.0	0%	56.4	178.5
		Dorsey Ave NB	R	6.2	8.6	A	A	1.6	0%	4.0	0%	23.5	47.7
		Don Knotts Blvd NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Don Knotts Blvd NEB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
6	Beechurst Ave & Stansbury Hall Parking Lot/Hough St	Beechurst Ave SB	T	11.0	37.6	B	E	25.7	0%	119.9	0%	406.5	729.2
		Beechurst Ave SB	TR	3.1	19.1	A	C	15.1	0%	39.4	0%	406.5	729.2
		Beechurst Ave NB	LT	0.2	1.2	A	A	20.5	0%	18.4	0%	229.7	269.0
		Beechurst Ave NB	T	0.2	1.8	A	A	15.9	0%	17.6	0%	229.7	269.0
		Stansbury Hall Parking Lot EB	LR	0.0	231.7	A	F	0.0	0%	3.3	0%	0.0	19.6
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8	0 & 0	3rd St NB Crossover NWB	L	28.3	42.8	D	E	0.9	0%	1.6	0%	16.3	21.3
		3rd St NEB	R	31.2	57.4	D	F	1.4	0%	5.5	0%	18.2	36.2
		US 19/Beechurst Ave SEB	TR	1.3	3.7	A	A	5.2	2%	19.6	9%	144.9	383.5
9	0 & 0	3rd St SWB	R	21.9	28.1	C	D	10.1	0%	23.4	0%	94.4	160.5
		Beechurst Ave NWB	TR	0.0	0.0	A	A	1.5	1%	1.6	1%	44.1	44.2
		3rd St SB Crossover SEB	L	37.2	41.6	E	E	1.0	0%	1.8	0%	15.3	15.7
14	University Ave & Falling Run Rd	Falling Run Rd WB	LT	0.4	0.1	A	A	0.0	0%	0.0	0%	0.0	0.0
		University Ave NB	LR	0.0	10.0	A	B	0.0	0%	0.1	0%	0.0	2.2
		University Ave EB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
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17	University Ave & Ensign Ave/North St	University Ave SB	LTR	2.1	2.6	A	A	1.9	0%	3.2	0%	56.3	80.4
		North St WB	LTR	6.8	7.9	A	A	4.8	0%	6.6	0%	64.3	72.6
		University Ave NB	LTR	0.1	0.3	A	A	0.0	0%	0.1	0%	2.1	0.0
		Ensign Ave EB	LTR	0.0	19.5	A	C	0.0	0%	0.4	0%	0.0	11.2
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18	University Ave & 8th St/Terrace Heights Dwy	Terrace Heights Dwy SB	LTR	0.0	17.6	A	C	0.0	0%	0.3	0%	0.0	3.2
		University Ave WB	LTR	0.6	2.7	A	A	1.0	0%	3.3	0%	44.7	83.2
		8th St NB	LTR	16.0	20.8	C	C	13.7	0%	22.5	0%	137.9	167.9
		University Ave EB	LTR	0.0	0.0	A	A	1.9	0%	1.4	0%	29.0	29.7
19	High St & Prospect St	High St SWB	T	0.1	0.1	A	A	3.2	5%	1.1	1%	69.1	34.6
		Prospect St NWB	R	7.1	5.3	A	A	3.6	0%	3.1	0%	67.8	44.1
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24	High St & Foundry St/South High Station	High St SWB	LTR	0.6	0.6	A	A	1.3	0%	1.7	0%	37.6	60.5
		South High Station NWB	LTR	10.1	12.1	B	B	2.8	0%	3.7	0%	33.1	43.1
		High St NEB	LTR	1.5	1.9	A	A	2.4	0%	2.6	0%	56.0	54.5
		Foundry St SEB	LTR	7.6	12.9	A	B	4.7	0%	9.2	0%	59.1	80.2
30	Willey St & Richwood Ave	Willey St SB	LR	6.7	14.8	A	B	0.4	0%	1.6	0%	15.3	20.7
		Richwood Ave WB	TR	0.0	22.5	A	C	0.0	0%	63.0	8%	0.0	471.7
32	Stewart St/Willowdale Rd & Stewart St	Willowdale Rd SB	LT	0.8	1.3	A	A	0.7	0%	2.0	0%	26.4	49.5
		Stewart St WB	LR	6.8	9.2	A	A	4.7	0%	7.6	0%	64.3	68.1
		Stewart St NB	TR	0.0	0.0	A	A	0.5	0%	0.1	0%	5.8	10.0
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35	High St & Prospect St	High St SWB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		High St NEB	LT	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Prospect St SEB	LR	4.2	4.2	A	A	4.0	0%	3.7	0%	50.7	57.7
36	Beechurst Ave & Driveway	Beechurst Ave SB	T	17.0	23.8	C	C	35.2	0%	39.0	1%	216.4	410.7
		Beechurst Ave SB	TR	8.1	10.2	A	B	12.4	0%	25.1	0%	216.4	410.7
		Beechurst Ave NB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	9.5	0.0
		Realigned Fayette St EB	R	83.7	80.4	F	F	3.5	0%	1.9	0%	25.7	18.5
37	Richwood Ave WB/EB & Richwood Ave NB/SB	Richwood Ave SWB	LR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave NB	TR	0.5	0.9	A	A	0.0	0%	0.0	0%	0.0	0.0
		Connector Rd SEB	LT	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
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38	Snider St & Richwood Avenue NB/SB	Snider St WB	LT	0.0	19.2	A	C	0.0	0%	74.9	0%	0.0	309.6
		Richwood Ave NB	R	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		Richwood Ave EB	TR	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
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39	Snider St & Richwood Ave WB/EB	Richwood Ave SWB	LT	0.0	14.3	A	B	0.3	0%	39.1	14%	8.1	218.4
		Connector Rd NWB	LR	20.0	98.3	C	F	8.7	0%	40.4	0%	86.1	126.9
		Willey St NEB	TR	0.3	16.5	A	C	0.0	0%	0.8	0%	0.0	21.3

Roundabouts

Intersection No.	Intersection	Approach	Lane Group	Delay[1] (s) AM	Delay[1] (s) PM	Level of Service[2] AM	Level of Service[2] PM	95th Queue (ft)/Spillback Rate AM		95th Queue (ft)/Spillback Rate PM		Maximum Queue Length (ft) AM	Maximum Queue Length (ft) PM
12	Beechurst Ave & 8th St	8th St SWB	T	8.3	11.2	A	B	5.6	0%	11.9	0%	77.2	99.8
		US 19/Beechurst Ave NWB	T	12.0	14.3	B	B	21.1	0%	39.7	0%	190.4	247.6
		8th St NEB	T	0.0	0.0	A	A	0.0	0%	0.0	0%	0.0	0.0
		US 19/Beechurst Ave SEB	T	12.5	49.1	B	E	12.7	0%	60.8	0%	161.8	608.9
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33	Protzman St/Stewart St & Stewart St/Van Gilder Ave	Stewart St SWB	T	3.3	3.5	A	A	0.3	0%	0.9	0%	7.7	12.3
		Van Gilder Ave NWB	T	3.6	5.6	A	A	0.0	0%	0.3	0%	2.2	1.9
		Falling Run Rd/Protzman St NEB	T	5.7	11.3	A	B	2.0	0%	17.1	0%	52.5	221.2
		Stewart St EB	R	4.5	5.4	A	A	1.7	0%	3.0	0%	30.9	55.3

Notes:

1 Delay shown is the 95th percentile worst case control delay for the full 60-minute simulation period as derived from the 10 random seed simulations

2 Level of Service shown is Simulation based and calculated in a manner that is consistent with the HCM Methodologies

3 Results for unsignalized intersections include only the movements that have conflicting flow and thus have the potential to incur control delay

Appendix E - TransModeler Trip Statistics Reports

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
12:15 PM	1	4,482	5,420.7	318.6	166.3	105.9	11,849	1.2	4.3	19.5
12:15 PM	2	4,494	5,438.2	315.1	162.2	101.9	11,776	1.2	4.2	19.5
12:15 PM	3	4,470	5,397.6	313.8	162.0	101.7	11,582	1.2	4.2	19.5
12:15 PM	4	4,475	5,408.9	316.6	164.5	104.1	11,724	1.2	4.2	19.4
12:15 PM	5	4,498	5,444.1	310.8	157.8	97.6	11,574	1.2	4.1	19.7
12:15 PM	6	4,497	5,434.3	312.8	159.9	99.2	11,779	1.2	4.2	19.5
12:15 PM	7	4,483	5,422.9	319.8	167.1	105.0	11,906	1.2	4.3	19.4
12:15 PM	8	4,504	5,458.3	312.7	159.2	97.9	11,981	1.2	4.2	19.6
12:15 PM	9	4,480	5,400.3	319.6	167.7	106.3	12,066	1.2	4.3	19.4
12:15 PM	10	4,497	5,436.4	318.7	165.6	104.3	11,986	1.2	4.3	19.4
En Route Start	1	281	433.6	22.4	10.2	5.5	707	1.5	4.8	20.4
En Route Start	2	313	465.2	24.9	11.8	6.5	852	1.5	4.8	19.7
En Route Start	3	292	438.4	22.6	10.2	5.4	751	1.5	4.6	20.3
En Route Start	4	292	445.9	23.4	10.8	5.6	771	1.5	4.8	19.9
En Route Start	5	288	431.0	22.0	9.9	5.2	759	1.5	4.6	20.5
En Route Start	6	299	459.4	23.1	10.1	5.2	699	1.5	4.6	20.8
En Route Start	7	302	458.4	23.3	10.3	5.5	756	1.5	4.6	20.6
En Route Start	8	285	434.4	22.5	10.3	5.3	722	1.5	4.7	20.1
En Route Start	9	291	439.5	23.2	10.8	5.3	766	1.5	4.8	19.8
En Route Start	10	287	430.4	22.3	10.3	5.2	750	1.5	4.7	20.1
En Route End	1	327	227.8	21.5	14.8	9.4	621	0.7	4.0	19.4
En Route End	2	329	211.4	18.4	12.1	8.8	657	0.6	3.4	17.9
En Route End	3	347	237.8	22.8	15.7	10.0	755	0.7	3.9	18.5
En Route End	4	341	236.1	20.7	13.3	9.7	704	0.7	3.6	18.3
En Route End	5	316	214.2	19.2	12.6	7.5	640	0.7	3.6	19.5
En Route End	6	340	231.7	18.9	11.9	8.1	694	0.7	3.3	18.8
En Route End	7	335	228.1	20.4	13.6	8.4	689	0.7	3.7	18.5
En Route End	8	328	214.4	17.0	10.5	7.7	655	0.7	3.1	19.5
En Route End	9	350	247.3	21.6	14.1	9.4	816	0.7	3.7	17.9
En Route End	10	331	225.9	18.5	11.9	8.4	701	0.7	3.4	18.8
Missed	1	6	3.1	0.2	0.1	0.1	16	0.5	2.4	13.7
Missed	2	6	4.3	0.3	0.2	0.1	21	0.7	3.1	14.2
Missed	3	4	1.5	0.1	0.0	0.0	7	0.4	1.3	19.4
Missed	4	6	2.3	0.1	0.1	0.0	12	0.4	1.3	18.6
Missed	5	4	1.5	0.1	0.0	0.0	10	0.4	1.2	19.4
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Missed	7	5	2.3	0.1	0.1	0.0	10	0.5	1.6	16.9

Missed	8	4	1.5	0.1	0.1	0.0	9	0.4	1.6	16.4
Missed	9	3	1.2	0.1	0.1	0.0	6	0.4	1.6	14.5
Missed	10	8	3.1	0.2	0.1	0.1	17	0.4	1.4	17.1
Unserved	1	35	0.0	3.0	3.0	0.0	0	0.0	5.2	--
Unserved	2	21	0.0	0.9	0.9	0.0	0	0.0	2.6	--
Unserved	3	29	0.0	2.1	2.1	0.0	0	0.0	4.3	--
Unserved	4	28	0.0	1.8	1.8	0.0	0	0.0	3.9	--
Unserved	5	32	0.0	2.4	2.4	0.0	0	0.0	4.5	--
Unserved	6	13	0.0	0.4	0.4	0.0	0	0.0	1.8	--
Unserved	7	27	0.0	1.7	1.7	0.0	0	0.0	3.7	--
Unserved	8	14	0.0	0.5	0.5	0.0	0	0.0	2.3	--
Unserved	9	17	0.0	0.8	0.8	0.0	0	0.0	2.8	--
Unserved	10	14	0.0	0.5	0.5	0.0	0	0.0	2.2	--
12:15 PM	Avg	4,488	5,426.2	315.8	163.2	102.4	11,822	1.2	4.2	19.5
En Route Start	Avg	293	443.6	23.0	10.5	5.5	753	1.5	4.7	20.2
En Route End	Avg	334	227.5	19.9	13.1	8.7	693	0.7	3.6	18.7
Missed	Avg	5	2.1	0.1	0.1	0.1	12	0.5	1.6	16.7
Unserved	Avg	23	0.0	1.4	1.4	0.0	0	0.0	3.3	--

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	4,488.0	11.4	4,470.0	4,504.0	10
En Route Start	293.0	9.4	281.0	313.0	10
En Route End	334.4	10.3	316.0	350.0	10
Missed	4.6	2.2	3.0	8.0	10
Unserved	23.0	8.2	13.0	35.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,426.2	19.7	5,397.6	5,458.3	10
En Route Start	443.6	12.9	430.4	465.2	10
En Route End	227.5	11.5	211.4	247.3	10
Missed	2.1	1.2	1.2	4.3	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	315.8	3.2	310.8	319.8	10
En Route Start	23.0	0.8	22.0	24.9	10
En Route End	19.9	1.8	17.0	22.8	10
Missed	0.1	0.1	0.1	0.3	10
Unserved	1.4	0.9	0.4	3.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	163.2	3.5	157.8	167.7	10
En Route Start	10.5	0.5	9.9	11.8	10
En Route End	13.1	1.6	10.5	15.7	10
Missed	0.1	0.1	0.0	0.2	10
Unserved	1.4	0.9	0.4	3.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	102.4	3.3	97.6	106.3	10
En Route Start	5.5	0.4	5.2	6.5	10
En Route End	8.7	0.9	7.5	10.0	10
Missed	0.0	0.0	0.0	0.1	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	11,822.3	167.4	11,574.0	12,066.0	10
En Route Start	753.3	42.6	699.0	852.0	10
En Route End	693.2	57.6	621.0	816.0	10
Missed	10.8	6.1	6.0	21.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.0	1.5	1.5	10
En Route End	0.7	0.0	0.6	0.7	10
Missed	0.4	0.2	0.4	0.7	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	4.2	0.1	4.1	4.3	10
En Route Start	4.7	0.1	4.6	4.8	10
En Route End	3.6	0.3	3.1	4.0	10
Missed	1.6	0.8	1.2	3.1	10
Unserved	3.3	1.1	1.8	5.2	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	19.5	0.1	19.4	19.7	10
En Route Start	20.2	0.4	19.7	20.8	10
En Route End	18.7	0.6	17.9	19.5	10
Missed	15.0	5.7	13.7	19.4	10
Unserved	0.0	0.0			10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
4:30 PM	1	6,085	7,370.0	443.6	236.2	142.9	18,043	1.2	4.4	18.2
4:30 PM	2	6,088	7,374.3	452.2	244.8	148.7	18,540	1.2	4.5	17.9
4:30 PM	3	5,977	7,187.6	476.7	274.8	178.0	19,475	1.2	4.8	17.3
4:30 PM	4	6,053	7,318.7	463.6	257.8	162.5	18,737	1.2	4.6	17.8
4:30 PM	5	6,082	7,369.4	451.7	244.6	150.2	18,339	1.2	4.5	18.1
4:30 PM	6	6,037	7,279.9	468.6	263.9	165.5	19,432	1.2	4.7	17.6
4:30 PM	7	6,092	7,372.4	443.5	236.0	142.8	17,491	1.2	4.4	18.3
4:30 PM	8	6,048	7,293.5	461.9	256.9	161.3	19,000	1.2	4.6	17.7
4:30 PM	9	6,093	7,370.3	434.5	227.3	136.1	17,408	1.2	4.3	18.6
4:30 PM	10	6,078	7,347.5	452.8	246.2	151.9	18,179	1.2	4.5	18.0
En Route Start	1	395	592.3	31.8	15.1	7.8	1,103	1.5	4.8	19.4
En Route Start	2	398	591.7	33.5	16.7	9.3	1,142	1.5	5.0	18.6
En Route Start	3	392	593.7	32.4	15.7	8.8	1,086	1.5	5.0	19.3
En Route Start	4	395	607.5	33.5	16.4	9.0	1,127	1.5	5.1	18.9
En Route Start	5	402	606.0	32.9	15.8	8.6	1,096	1.5	4.9	19.2
En Route Start	6	391	581.6	32.1	15.7	9.0	1,108	1.5	4.9	19.4
En Route Start	7	377	575.2	31.7	15.5	8.2	1,115	1.5	5.0	19.0
En Route Start	8	372	557.0	30.4	14.9	8.6	1,089	1.5	4.9	19.3
En Route Start	9	403	600.3	34.0	17.1	9.6	1,177	1.5	5.1	18.6
En Route Start	10	399	604.0	32.5	15.4	8.4	1,167	1.5	4.9	19.5
En Route End	1	553	400.7	34.7	23.0	17.4	1,361	0.7	3.8	15.9
En Route End	2	543	390.6	33.2	21.7	15.7	1,329	0.7	3.7	15.9
En Route End	3	656	446.8	53.1	39.8	31.9	2,292	0.7	4.9	12.5
En Route End	4	584	416.3	41.1	28.8	22.0	1,420	0.7	4.2	15.3
En Route End	5	562	391.6	36.0	24.4	19.2	1,385	0.7	3.8	15.8
En Route End	6	595	428.6	44.7	32.1	24.1	1,671	0.7	4.5	14.3
En Route End	7	553	406.0	36.1	24.1	18.9	1,377	0.7	3.9	15.5
En Route End	8	593	431.6	41.0	28.1	21.2	1,711	0.7	4.1	14.2
En Route End	9	547	404.7	40.0	28.1	21.3	1,277	0.7	4.4	15.9
En Route End	10	554	387.9	37.0	25.5	19.2	1,467	0.7	4.0	15.0
Missed	1	3	5.0	0.3	0.2	0.1	16	1.7	6.2	16.8
Missed	2	1	2.1	0.2	0.2	0.1	8	2.1	13.2	9.4
Missed	3	5	2.6	0.2	0.1	0.1	15	0.5	2.1	15.4
Missed	4	1	0.4	0.0	0.0	0.0	2	0.4	1.4	16.2
Missed	5	1	1.7	0.1	0.1	0.1	6	1.7	7.9	12.5
Missed	6	1	0.4	0.0	0.0	0.0	2	0.4	1.0	23.8
Missed	7	1	2.2	0.1	0.1	0.1	6	2.2	8.0	16.8

Missed	8	1	0.7	0.0	0.0	0.0	3	0.7	2.1	20.3
Missed	9	--	--	--	--	--	--	--		--
Missed	10	--	--	--	--	--	--	--		--
Unserved	1	8	0.0	0.2	0.2	0.0	0	0.0	1.2	--
Unserved	2	17	0.0	0.6	0.6	0.0	0	0.0	2.2	--
Unserved	3	11	0.0	0.2	0.2	0.0	0	0.0	1.2	--
Unserved	4	11	0.0	0.3	0.3	0.0	0	0.0	1.4	--
Unserved	5	4	0.0	0.0	0.0	0.0	0	0.0	0.3	--
Unserved	6	16	0.0	0.6	0.6	0.0	0	0.0	2.2	--
Unserved	7	3	0.0	0.0	0.0	0.0	0	0.0	0.4	--
Unserved	8	7	0.0	0.1	0.1	0.0	0	0.0	1.2	--
Unserved	9	9	0.0	0.2	0.2	0.0	0	0.0	1.2	--
Unserved	10	17	0.0	0.6	0.6	0.0	0	0.0	2.2	--
4:30 PM	Avg	6,063	7,328.4	454.9	248.9	154.0	18,464	1.2	4.5	18.0
En Route Start	Avg	392	590.9	32.5	15.8	8.7	1,121	1.5	5.0	19.1
En Route End	Avg	574	410.5	39.7	27.6	21.1	1,529	0.7	4.1	15.0
Missed	Avg	1	1.5	0.1	0.1	0.0	7	1.2	4.2	16.4
Unserved	Avg	10	0.0	0.3	0.3	0.0	0	0.0	1.4	--

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	6,063.3	36.3	5,977.0	6,093.0	10
En Route Start	392.4	10.3	372.0	403.0	10
En Route End	574.0	34.5	543.0	656.0	10
Missed	1.4	1.5	1.0	5.0	10
Unserved	10.3	5.1	3.0	17.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	7,328.4	60.6	7,187.6	7,374.3	10
En Route Start	590.9	15.8	557.0	607.5	10
En Route End	410.5	19.8	387.9	446.8	10
Missed	1.5	1.6	0.4	5.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	454.9	12.8	434.5	476.7	10
En Route Start	32.5	1.0	30.4	34.0	10
En Route End	39.7	5.9	33.2	53.1	10
Missed	0.1	0.1	0.0	0.3	10
Unserved	0.3	0.2	0.0	0.6	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	248.9	14.4	227.3	274.8	10
En Route Start	15.8	0.7	14.9	17.1	10
En Route End	27.6	5.3	21.7	39.8	10
Missed	0.1	0.1	0.0	0.2	10
Unserved	0.3	0.2	0.0	0.6	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	154.0	12.7	136.1	178.0	10
En Route Start	8.7	0.5	7.8	9.6	10
En Route End	21.1	4.5	15.7	31.9	10
Missed	0.0	0.0	0.0	0.1	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	18,464.4	719.8	17,408.0	19,475.0	10
En Route Start	1,121.0	31.9	1,086.0	1,177.0	10
En Route End	1,529.0	303.1	1,277.0	2,292.0	10
Missed	5.8	5.8	2.0	16.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.0	1.5	1.5	10
En Route End	0.7	0.0	0.7	0.7	10
Missed	1.0	0.9	0.4	2.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	4.5	0.1	4.3	4.8	10
En Route Start	5.0	0.1	4.8	5.1	10
En Route End	4.1	0.4	3.7	4.9	10
Missed	4.2	4.4	1.0	13.2	10
Unserved	1.4	0.7	0.3	2.2	10

Project: NoBuild_2023_Morgantown
Scenario: 2023_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	18.0	0.4	17.3	18.6	10
En Route Start	19.1	0.3	18.6	19.5	10
En Route End	15.0	1.1	12.5	15.9	10
Missed	13.1	7.9	9.4	23.8	10
Unserved	0.0	0.0			10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
12:15 PM	1	5,615	6,572.8	381.1	195.9	117.8	15,605	1.2	4.1	18.8
12:15 PM	2	5,631	6,604.3	380.3	194.1	116.0	15,507	1.2	4.1	18.8
12:15 PM	3	5,606	6,577.3	382.6	197.3	119.6	15,681	1.2	4.1	18.7
12:15 PM	4	5,616	6,582.4	376.4	190.8	112.7	15,428	1.2	4.0	19.0
12:15 PM	5	5,617	6,593.4	376.1	190.1	111.8	15,333	1.2	4.0	19.0
12:15 PM	6	5,609	6,572.7	377.5	192.2	113.0	15,485	1.2	4.0	18.9
12:15 PM	7	5,594	6,550.0	388.0	203.3	124.3	15,915	1.2	4.2	18.5
12:15 PM	8	5,610	6,571.1	399.2	213.8	135.0	16,154	1.2	4.3	18.3
12:15 PM	9	5,601	6,567.0	376.6	191.5	114.9	15,339	1.2	4.0	18.9
12:15 PM	10	5,599	6,553.5	373.6	188.8	110.6	15,298	1.2	4.0	19.0
En Route Start	1	344	506.4	26.8	12.6	6.7	933	1.5	4.7	19.7
En Route Start	2	353	519.8	27.5	12.9	6.8	996	1.5	4.7	19.9
En Route Start	3	366	542.8	28.8	13.5	7.2	1,040	1.5	4.7	19.8
En Route Start	4	347	516.1	27.6	13.1	7.0	943	1.5	4.8	19.6
En Route Start	5	355	528.6	28.4	13.5	7.1	986	1.5	4.8	19.5
En Route Start	6	339	506.1	27.1	12.9	7.2	935	1.5	4.8	19.8
En Route Start	7	355	527.2	29.1	14.3	8.1	984	1.5	4.9	19.2
En Route Start	8	355	531.0	28.3	13.3	7.1	1,003	1.5	4.8	19.7
En Route Start	9	355	530.8	29.4	14.4	7.8	1,078	1.5	5.0	19.1
En Route Start	10	355	525.5	28.3	13.5	7.7	980	1.5	4.8	19.6
En Route End	1	404	266.5	18.2	10.3	7.1	903	0.7	2.7	18.1
En Route End	2	387	260.6	16.3	8.5	5.7	786	0.7	2.5	18.8
En Route End	3	414	273.7	17.2	9.2	6.0	873	0.7	2.5	18.6
En Route End	4	404	265.0	17.0	9.0	6.2	779	0.7	2.5	18.6
En Route End	5	401	268.6	17.0	9.1	6.1	826	0.7	2.6	18.7
En Route End	6	411	272.3	18.1	10.1	6.8	887	0.7	2.6	18.3
En Route End	7	421	285.8	19.2	10.7	7.6	897	0.7	2.7	18.4
En Route End	8	410	279.0	17.7	9.4	6.2	852	0.7	2.6	18.5
En Route End	9	419	285.2	18.4	10.0	6.8	948	0.7	2.6	18.5
En Route End	10	420	287.9	18.6	10.2	6.7	899	0.7	2.7	18.1
Missed	1	1	1.5	0.1	0.1	0.0	6	1.5	5.8	15.5
Missed	2	2	1.2	0.1	0.1	0.1	5	0.6	3.1	12.9
Missed	3	--	--	--	--	--	--	--		--
Missed	4	--	--	--	--	--	--	--		--
Missed	5	--	--	--	--	--	--	--		--
Missed	6	--	--	--	--	--	--	--		--
Missed	7	4	4.6	0.6	0.5	0.4	26	1.1	9.2	11.2

Missed	8	--	--	--	--	--	--	--		--
Missed	9	--	--	--	--	--	--	--		--
Missed	10	1	2.7	0.2	0.1	0.1	7	2.7	10.6	15.2
Unserved	1	--	--	--	--	--	--	--		--
Unserved	2	--	--	--	--	--	--	--		--
Unserved	3	--	--	--	--	--	--	--		--
Unserved	4	--	--	--	--	--	--	--		--
Unserved	5	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Unserved	6	--	--	--	--	--	--	--		--
Unserved	7	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Unserved	8	--	--	--	--	--	--	--		--
Unserved	9	--	--	--	--	--	--	--		--
Unserved	10	--	--	--	--	--	--	--		--
12:15 PM	Avg	5,610	6,574.5	381.1	195.8	117.6	15,575	1.2	4.1	18.8
En Route Start	Avg	352	523.4	28.1	13.4	7.3	988	1.5	4.8	19.6
En Route End	Avg	409	274.5	17.8	9.7	6.5	865	0.7	2.6	18.5
Missed	Avg	1	1.0	0.1	0.2	0.1	11	1.5	2.9	13.7
Unserved	Avg	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,609.8	10.7	5,594.0	5,631.0	10
En Route Start	352.4	7.4	339.0	366.0	10
En Route End	409.1	10.5	387.0	421.0	10
Missed	0.8	1.3	1.0	4.0	10
Unserved	0.2	0.4	1.0	1.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	6,574.5	16.4	6,550.0	6,604.3	10
En Route Start	523.4	11.5	506.1	542.8	10
En Route End	274.5	9.6	260.6	287.9	10
Missed	1.0	1.6	1.2	4.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	381.1	7.6	373.6	399.2	10
En Route Start	28.1	0.9	26.8	29.4	10
En Route End	17.8	0.9	16.3	19.2	10
Missed	0.1	0.2	0.1	0.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	195.8	7.6	188.8	213.8	10
En Route Start	13.4	0.6	12.6	14.4	10
En Route End	9.7	0.7	8.5	10.7	10
Missed	0.1	0.2	0.1	0.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	117.6	7.4	110.6	135.0	10
En Route Start	7.3	0.5	6.7	8.1	10
En Route End	6.5	0.6	5.7	7.6	10
Missed	0.1	0.1	0.0	0.4	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	15,574.5	276.5	15,298.0	16,154.0	10
En Route Start	987.8	46.0	933.0	1,078.0	10
En Route End	865.0	54.1	779.0	948.0	10
Missed	4.4	8.1	5.0	26.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.0	1.5	1.5	10
En Route End	0.7	0.0	0.7	0.7	10
Missed	0.6	0.9	0.6	2.7	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	4.1	0.1	4.0	4.3	10
En Route Start	4.8	0.1	4.7	5.0	10
En Route End	2.6	0.1	2.5	2.7	10
Missed	2.9	4.2	3.1	10.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	18.8	0.2	18.3	19.0	10
En Route Start	19.6	0.3	19.1	19.9	10
En Route End	18.5	0.2	18.1	18.8	10
Missed	5.5	7.2	11.2	15.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
4:30 PM	1	7,524	8,519.4	669.9	430.1	293.9	27,913	1.1	5.3	15.6
4:30 PM	2	7,486	8,451.7	674.8	436.8	297.6	28,472	1.1	5.4	15.3
4:30 PM	3	7,471	8,429.9	667.2	430.0	294.3	28,448	1.1	5.4	15.5
4:30 PM	4	7,416	8,315.3	694.3	460.3	327.0	29,314	1.1	5.6	15.2
4:30 PM	5	7,295	8,195.7	646.2	416.0	290.4	26,874	1.1	5.3	15.6
4:30 PM	6	7,481	8,440.2	687.0	449.0	311.2	28,849	1.1	5.5	15.3
4:30 PM	7	7,447	8,390.7	694.3	458.2	316.7	29,217	1.1	5.6	15.0
4:30 PM	8	7,547	8,544.8	677.6	437.0	296.1	28,340	1.1	5.4	15.6
4:30 PM	9	7,250	8,111.6	658.6	430.7	308.0	28,173	1.1	5.5	15.3
4:30 PM	10	7,578	8,586.4	661.1	419.3	283.1	27,735	1.1	5.2	15.7
En Route Start	1	544	790.1	50.9	28.5	17.7	1,934	1.5	5.6	16.8
En Route Start	2	537	780.9	53.6	31.5	20.7	1,960	1.5	6.0	16.4
En Route Start	3	533	767.8	49.7	28.0	17.7	1,880	1.4	5.6	16.7
En Route Start	4	533	770.4	52.4	30.5	20.1	1,930	1.4	5.9	16.4
En Route Start	5	518	750.1	47.8	26.6	16.4	1,759	1.4	5.5	17.0
En Route Start	6	545	796.7	52.5	30.0	19.2	1,923	1.5	5.8	16.7
En Route Start	7	519	757.1	48.7	27.3	17.0	1,771	1.5	5.6	17.0
En Route Start	8	531	782.0	53.2	31.1	20.1	2,024	1.5	6.0	16.3
En Route Start	9	516	756.3	48.5	27.2	17.6	1,734	1.5	5.6	17.2
En Route Start	10	531	767.2	48.4	26.7	16.7	1,873	1.4	5.5	17.2
En Route End	1	937	623.4	98.9	79.2	63.4	3,379	0.7	6.3	10.7
En Route End	2	964	646.8	111.7	91.7	74.8	3,459	0.7	7.0	10.7
En Route End	3	989	652.5	118.6	98.2	81.3	3,671	0.7	7.2	10.3
En Route End	4	1,072	728.8	135.0	113.1	94.9	4,176	0.7	7.6	9.9
En Route End	5	1,145	690.2	148.8	127.5	110.1	3,949	0.6	7.8	9.8
En Route End	6	977	655.5	111.8	92.1	75.8	3,578	0.7	6.9	10.7
En Route End	7	1,008	685.0	114.6	93.7	75.3	4,041	0.7	6.8	10.4
En Route End	8	904	609.6	101.3	83.1	66.7	3,303	0.7	6.7	11.2
En Route End	9	1,177	697.9	155.7	133.6	115.7	4,622	0.6	7.9	8.1
En Route End	10	880	595.4	93.2	75.3	60.3	3,032	0.7	6.4	11.1
Missed	1	3	5.0	0.6	0.4	0.3	17	1.7	11.1	12.6
Missed	2	10	16.9	1.4	1.0	0.7	73	1.7	8.3	13.5
Missed	3	8	13.7	1.0	0.7	0.4	57	1.7	7.7	14.2
Missed	4	1	0.9	0.1	0.0	0.0	2	0.9	2.8	20.2
Missed	5	25	14.9	1.8	1.4	1.2	130	0.6	4.4	10.5
Missed	6	12	19.4	1.7	1.2	0.9	84	1.6	8.6	13.2
Missed	7	16	23.8	1.6	1.0	0.6	92	1.5	6.0	16.3

Missed	8	3	5.1	0.3	0.2	0.1	21	1.7	6.4	16.1
Missed	9	31	31.0	3.3	2.5	2.0	176	1.0	6.4	13.6
Missed	10	7	8.1	0.6	0.4	0.3	39	1.2	5.4	13.9
Unserved	1	88	0.0	19.0	19.0	0.0	0	0.0	12.9	--
Unserved	2	92	0.0	21.3	21.3	0.0	0	0.0	13.9	--
Unserved	3	84	0.0	16.0	16.0	0.0	0	0.0	11.4	--
Unserved	4	63	0.0	10.0	10.0	0.0	0	0.0	9.5	--
Unserved	5	87	0.0	17.3	17.3	0.0	0	0.0	11.9	--
Unserved	6	82	0.0	16.8	16.8	0.0	0	0.0	12.3	--
Unserved	7	81	0.0	16.6	16.6	0.0	0	0.0	12.3	--
Unserved	8	98	0.0	19.0	19.0	0.0	0	0.0	11.6	--
Unserved	9	94	0.0	13.4	13.4	0.0	0	0.0	8.5	--
Unserved	10	87	0.0	19.3	19.3	0.0	0	0.0	13.3	--
4:30 PM	Avg	7,450	8,398.6	673.1	436.7	301.8	28,334	1.1	5.4	15.4
En Route Start	Avg	531	771.9	50.6	28.7	18.3	1,879	1.5	5.7	16.8
En Route End	Avg	1,005	658.5	119.0	98.7	81.8	3,721	0.7	7.1	10.3
Missed	Avg	12	13.9	1.2	0.9	0.7	69	1.4	6.7	14.4
Unserved	Avg	86	0.0	16.9	16.9	0.0	0	0.0	11.8	--

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	7,449.5	105.0	7,250.0	7,578.0	10
En Route Start	530.7	10.3	516.0	545.0	10
En Route End	1,005.3	98.2	880.0	1,177.0	10
Missed	11.6	9.8	1.0	31.0	10
Unserved	85.6	9.6	63.0	98.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	8,398.6	151.8	8,111.6	8,586.4	10
En Route Start	771.9	15.3	750.1	796.7	10
En Route End	658.5	42.1	595.4	728.8	10
Missed	13.9	9.4	0.9	31.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	673.1	15.8	646.2	694.3	10
En Route Start	50.6	2.2	47.8	53.6	10
En Route End	119.0	21.1	93.2	155.7	10
Missed	1.2	1.0	0.1	3.3	10
Unserved	16.9	3.2	10.0	21.3	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	436.7	15.0	416.0	460.3	10
En Route Start	28.7	1.9	26.6	31.5	10
En Route End	98.7	19.8	75.3	133.6	10
Missed	0.9	0.7	0.0	2.5	10
Unserved	16.9	3.2	10.0	21.3	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	301.8	13.5	283.1	327.0	10
En Route Start	18.3	1.6	16.4	20.7	10
En Route End	81.8	19.1	60.3	115.7	10
Missed	0.7	0.6	0.0	2.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	28,333.5	725.0	26,874.0	29,314.0	10
En Route Start	1,878.8	95.6	1,734.0	2,024.0	10
En Route End	3,721.0	475.1	3,032.0	4,622.0	10
Missed	69.1	54.2	2.0	176.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	1.1	0.0	1.1	1.1	10
En Route Start	1.5	0.1	1.4	1.5	10
En Route End	0.7	0.0	0.6	0.7	10
Missed	1.4	0.4	0.6	1.7	10
Unserved	0.0	0.0	0.0	0.0	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	5.4	0.1	5.2	5.6	10
En Route Start	5.7	0.2	5.5	6.0	10
En Route End	7.1	0.6	6.3	7.9	10
Missed	6.7	2.3	2.8	11.1	10
Unserved	11.8	1.7	8.5	13.9	10

Project: NoBuild_2050_Morgantown
Scenario: 2050_NB_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	15.4	0.2	15.0	15.7	10
En Route Start	16.8	0.3	16.3	17.2	10
En Route End	10.3	0.9	8.1	11.2	10
Missed	14.4	2.6	10.5	20.2	10
Unserved	0.0	0.0			10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
12:15 PM	1	5,599	6,553.7	382.0	197.3	120.4	15,389	1.2	4.1	18.9
12:15 PM	2	5,605	6,569.6	373.4	188.1	111.1	15,413	1.2	4.0	19.0
12:15 PM	3	5,600	6,551.0	386.5	201.7	123.2	15,923	1.2	4.1	18.7
12:15 PM	4	5,602	6,560.0	388.0	202.8	124.5	15,608	1.2	4.2	18.7
12:15 PM	5	5,545	6,491.8	396.8	213.6	136.4	15,826	1.2	4.3	18.5
12:15 PM	6	5,610	6,561.6	372.9	187.8	111.8	15,358	1.2	4.0	19.1
12:15 PM	7	5,604	6,564.8	383.2	198.0	120.9	15,249	1.2	4.1	18.8
12:15 PM	8	5,585	6,530.7	379.1	194.8	116.9	15,460	1.2	4.1	18.9
12:15 PM	9	5,600	6,556.6	382.8	197.9	120.6	15,262	1.2	4.1	18.8
12:15 PM	10	5,600	6,557.0	390.3	205.3	127.5	15,711	1.2	4.2	18.5
En Route Start	1	368	548.4	29.1	13.7	7.5	1,022	1.5	4.7	19.8
En Route Start	2	381	567.6	30.4	14.4	7.7	1,052	1.5	4.8	19.5
En Route Start	3	377	562.5	30.8	14.9	8.6	1,031	1.5	4.9	19.8
En Route Start	4	364	539.8	30.2	15.0	9.0	994	1.5	5.0	19.2
En Route Start	5	362	537.4	29.1	14.0	7.9	1,028	1.5	4.8	19.6
En Route Start	6	366	545.5	29.4	14.1	7.4	1,017	1.5	4.8	19.5
En Route Start	7	370	552.3	29.3	13.6	7.1	1,018	1.5	4.7	19.8
En Route Start	8	362	537.9	28.9	13.7	7.5	1,022	1.5	4.8	19.7
En Route Start	9	356	528.1	28.4	13.6	7.3	1,009	1.5	4.8	19.7
En Route Start	10	364	535.4	29.5	14.4	7.9	1,055	1.5	4.9	19.2
En Route End	1	419	270.2	19.3	11.4	8.2	947	0.6	2.8	17.5
En Route End	2	415	273.7	17.2	9.2	5.9	856	0.7	2.5	18.3
En Route End	3	418	274.6	20.4	12.4	8.8	950	0.7	2.9	17.8
En Route End	4	414	245.9	19.7	12.4	9.1	936	0.6	2.9	18.1
En Route End	5	468	301.5	26.6	17.8	13.6	1,439	0.6	3.4	16.6
En Route End	6	409	283.0	18.1	9.7	6.5	859	0.7	2.7	18.2
En Route End	7	415	266.6	18.0	10.2	7.1	923	0.6	2.6	18.5
En Route End	8	434	287.8	20.6	12.2	8.7	1,009	0.7	2.8	17.6
En Route End	9	417	269.5	19.6	11.7	8.4	986	0.6	2.8	18.0
En Route End	10	420	280.9	19.1	10.8	7.5	932	0.7	2.7	17.9
Missed	1	1	0.6	0.2	0.2	0.2	10	0.6	13.8	2.6
Missed	2	--	--	--	--	--	--	--		--
Missed	3	--	--	--	--	--	--	--		--
Missed	4	1	2.6	0.1	0.0	0.0	3	2.6	6.5	23.9
Missed	5	7	3.2	0.5	0.4	0.4	33	0.5	4.6	8.5
Missed	6	1	1.7	0.1	0.1	0.0	6	1.7	5.5	18.1
Missed	7	--	--	--	--	--	--	--		--

Missed	8	1	0.6	0.0	0.0	0.0	1	0.6	1.7	22.0
Missed	9	2	1.7	0.4	0.3	0.3	9	0.9	10.9	8.6
Missed	10	--	--	--	--	--	--	--		--
Unserved	1	1	0.0	0.0	0.0	0.0	0	0.0	0.0	--
Unserved	2	--	--	--	--	--	--	--		--
Unserved	3	2	0.0	0.0	0.0	0.0	0	0.0	0.2	0.0
Unserved	4	3	0.0	0.0	0.0	0.0	0	0.0	0.4	--
Unserved	5	--	--	--	--	--	--	--		--
Unserved	6	--	--	--	--	--	--	--		--
Unserved	7	1	0.0	0.0	0.0	0.0	0	0.0	0.0	3.9
Unserved	8	--	--	--	--	--	--	--		--
Unserved	9	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Unserved	10	--	--	--	--	--	--	--		--
12:15 PM	Avg	5,595	6,549.7	383.5	198.7	121.3	15,520	1.2	4.1	18.8
En Route Start	Avg	367	545.5	29.5	14.1	7.8	1,025	1.5	4.8	19.6
En Route End	Avg	423	275.4	19.9	11.8	8.4	984	0.7	2.8	17.9
Missed	Avg	1	1.0	0.1	0.2	0.1	10	1.2	4.3	14.0
Unserved	Avg	1	0.0	0.0	0.0	0.0	0	0.0	0.1	1.3

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,595.0	18.7	5,545.0	5,610.0	10
En Route Start	367.0	7.4	356.0	381.0	10
En Route End	422.9	17.1	409.0	468.0	10
Missed	1.3	2.1	1.0	7.0	10
Unserved	0.8	1.0	1.0	3.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	6,549.7	22.9	6,491.8	6,569.6	10
En Route Start	545.5	12.4	528.1	567.6	10
En Route End	275.4	14.7	245.9	301.5	10
Missed	1.0	1.2	0.6	3.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	383.5	7.4	372.9	396.8	10
En Route Start	29.5	0.7	28.4	30.8	10
En Route End	19.9	2.6	17.2	26.6	10
Missed	0.1	0.2	0.0	0.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	198.7	7.8	187.8	213.6	10
En Route Start	14.1	0.5	13.6	15.0	10
En Route End	11.8	2.4	9.2	17.8	10
Missed	0.1	0.2	0.0	0.4	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	121.3	7.4	111.1	136.4	10
En Route Start	7.8	0.6	7.1	9.0	10
En Route End	8.4	2.1	5.9	13.6	10
Missed	0.1	0.1	0.0	0.4	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	15,519.9	235.4	15,249.0	15,923.0	10
En Route Start	1,024.8	18.3	994.0	1,055.0	10
En Route End	983.7	167.0	856.0	1,439.0	10
Missed	6.2	10.2	1.0	33.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.0	1.5	1.5	10
En Route End	0.7	0.1	0.6	0.7	10
Missed	0.7	0.9	0.5	2.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	4.1	0.1	4.0	4.3	10
En Route Start	4.8	0.1	4.7	5.0	10
En Route End	2.8	0.2	2.5	3.4	10
Missed	4.3	5.0	1.7	13.8	10
Unserved	0.1	0.1	0.0	0.4	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	18.8	0.2	18.5	19.1	10
En Route Start	19.6	0.2	19.2	19.8	10
En Route End	17.9	0.5	16.6	18.5	10
Missed	8.4	9.6	2.6	23.9	10
Unserved	0.4	1.2	0.0	3.9	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
4:30 PM	1	7,817	8,942.6	595.7	343.7	214.6	23,815	1.1	4.6	16.8
4:30 PM	2	7,823	8,948.8	596.9	344.8	218.3	24,637	1.1	4.6	16.8
4:30 PM	3	7,775	8,882.8	598.2	348.1	219.1	24,437	1.1	4.6	16.8
4:30 PM	4	7,790	8,914.8	587.0	336.0	210.4	23,981	1.1	4.5	16.9
4:30 PM	5	7,824	8,924.3	590.1	338.8	213.3	24,115	1.1	4.5	16.9
4:30 PM	6	7,850	8,992.3	585.5	332.2	203.2	24,155	1.1	4.5	17.0
4:30 PM	7	7,811	8,915.5	592.0	341.0	216.4	24,723	1.1	4.5	16.8
4:30 PM	8	7,782	8,875.4	595.2	345.2	216.1	24,589	1.1	4.6	16.7
4:30 PM	9	7,791	8,919.6	595.5	344.4	219.0	24,551	1.1	4.6	16.8
4:30 PM	10	7,775	8,902.6	594.7	344.0	214.8	24,582	1.1	4.6	16.8
En Route Start	1	532	747.6	43.9	22.7	13.0	1,625	1.4	4.9	17.9
En Route Start	2	522	745.8	43.9	22.7	13.2	1,642	1.4	5.0	18.0
En Route Start	3	541	774.1	46.0	24.1	14.3	1,766	1.4	5.1	17.7
En Route Start	4	538	754.9	44.9	23.5	13.6	1,701	1.4	5.0	17.7
En Route Start	5	524	746.8	43.4	22.2	12.5	1,603	1.4	5.0	18.1
En Route Start	6	500	707.8	40.4	20.4	11.8	1,511	1.4	4.9	18.5
En Route Start	7	520	740.4	42.9	22.0	12.7	1,664	1.4	4.9	18.3
En Route Start	8	503	728.7	41.8	21.1	12.1	1,570	1.4	5.0	18.3
En Route Start	9	506	715.1	41.0	20.7	11.6	1,473	1.4	4.9	18.3
En Route Start	10	516	734.2	43.1	22.3	12.9	1,544	1.4	5.0	17.9
En Route End	1	667	469.1	42.4	28.3	20.8	1,664	0.7	3.8	15.0
En Route End	2	673	457.1	42.0	28.2	20.1	1,791	0.7	3.7	14.8
En Route End	3	699	486.7	49.7	35.1	23.9	1,909	0.7	4.3	14.3
En Route End	4	701	480.3	46.4	31.9	23.5	1,660	0.7	4.0	14.6
En Route End	5	679	471.1	47.7	33.5	24.7	1,852	0.7	4.2	14.1
En Route End	6	643	457.8	37.4	23.6	17.0	1,408	0.7	3.5	15.4
En Route End	7	702	482.3	47.6	33.0	23.9	1,797	0.7	4.1	14.2
En Route End	8	718	510.3	47.3	32.0	22.9	1,952	0.7	4.0	14.3
En Route End	9	690	495.2	46.9	31.9	22.5	1,784	0.7	4.1	14.6
En Route End	10	703	464.5	48.3	34.1	23.3	1,867	0.7	4.1	14.0
Missed	1	1	1.9	0.2	0.2	0.1	12	1.9	13.3	8.7
Missed	2	1	2.1	0.2	0.1	0.1	8	2.1	12.1	10.4
Missed	3	1	1.7	0.2	0.2	0.2	9	1.7	13.7	7.3
Missed	4	1	2.4	0.2	0.1	0.1	10	2.4	9.7	14.8
Missed	5	--	--	--	--	--	--	--		--
Missed	6	--	--	--	--	--	--	--		--
Missed	7	1	1.7	0.1	0.1	0.0	4	1.7	6.1	16.2

Missed	8	--	--	--	--	--	--	--		--
Missed	9	--	--	--	--	--	--	--		--
Missed	10	--	--	--	--	--	--	--		--
Unserved	1	67	0.0	19.1	19.1	0.0	0	0.0	17.1	--
Unserved	2	55	0.0	11.8	11.8	0.0	0	0.0	12.9	0.0
Unserved	3	77	0.0	19.4	19.4	0.0	0	0.0	15.1	--
Unserved	4	60	0.0	14.0	14.0	0.0	0	0.0	14.0	--
Unserved	5	49	0.0	9.2	9.2	0.0	0	0.0	11.3	--
Unserved	6	59	0.0	15.4	15.4	0.0	0	0.0	15.6	--
Unserved	7	38	0.0	5.8	5.8	0.0	0	0.0	9.1	--
Unserved	8	52	0.0	12.5	12.5	0.0	0	0.0	14.4	--
Unserved	9	71	0.0	17.0	17.0	0.0	0	0.0	14.4	--
Unserved	10	74	0.0	20.9	20.9	0.0	0	0.0	17.0	--
4:30 PM	Avg	7,804	8,921.9	593.1	341.8	214.5	24,359	1.1	4.6	16.8
En Route Start	Avg	520	739.5	43.1	22.2	12.8	1,610	1.4	5.0	18.1
En Route End	Avg	688	477.4	45.6	31.2	22.3	1,768	0.7	4.0	14.5
Missed	Avg	1	1.0	0.1	0.1	0.1	9	2.0	5.5	11.5
Unserved	Avg	60	0.0	14.5	14.5	0.0	0	0.0	14.1	0.0

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	7,803.8	25.0	7,775.0	7,850.0	10
En Route Start	520.2	14.3	500.0	541.0	10
En Route End	687.5	22.1	643.0	718.0	10
Missed	0.5	0.5	1.0	1.0	10
Unserved	60.2	12.2	38.0	77.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	8,921.9	33.8	8,875.4	8,992.3	10
En Route Start	739.5	19.3	707.8	774.1	10
En Route End	477.4	17.0	457.1	510.3	10
Missed	1.0	1.1	1.7	2.4	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	593.1	4.3	585.5	598.2	10
En Route Start	43.1	1.7	40.4	46.0	10
En Route End	45.6	3.8	37.4	49.7	10
Missed	0.1	0.1	0.1	0.2	10
Unserved	14.5	4.8	5.8	20.9	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	341.8	4.8	332.2	348.1	10
En Route Start	22.2	1.2	20.4	24.1	10
En Route End	31.2	3.5	23.6	35.1	10
Missed	0.1	0.1	0.1	0.2	10
Unserved	14.5	4.8	5.8	20.9	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	214.5	4.8	203.2	219.1	10
En Route Start	12.8	0.8	11.6	14.3	10
En Route End	22.3	2.3	17.0	24.7	10
Missed	0.1	0.1	0.0	0.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	24,358.5	315.4	23,815.0	24,723.0	10
En Route Start	1,609.9	89.0	1,473.0	1,766.0	10
En Route End	1,768.4	157.9	1,408.0	1,952.0	10
Missed	4.3	4.9	4.0	12.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	1.1	0.0	1.1	1.1	10
En Route Start	1.4	0.0	1.4	1.4	10
En Route End	0.7	0.0	0.7	0.7	10
Missed	1.0	1.1	1.7	2.4	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	4.6	0.1	4.5	4.6	10
En Route Start	5.0	0.1	4.9	5.1	10
En Route End	4.0	0.2	3.5	4.3	10
Missed	5.5	6.2	6.1	13.7	10
Unserved	14.1	2.5	9.1	17.1	10

Project: BuildAlt1_2050_Morgantown
Scenario: 2050_B_Alt1_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	16.8	0.1	16.7	17.0	10
En Route Start	18.1	0.3	17.7	18.5	10
En Route End	14.5	0.4	14.0	15.4	10
Missed	5.7	6.6	7.3	16.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
12:15 PM	1	5,150	5,975.7	327.5	161.9	89.5	13,268	1.2	3.8	19.8
12:15 PM	2	5,147	5,986.1	325.9	160.2	87.9	13,146	1.2	3.8	19.9
12:15 PM	3	5,163	5,999.5	323.5	157.5	85.2	13,138	1.2	3.8	19.9
12:15 PM	4	5,147	5,968.4	326.3	160.9	89.6	13,071	1.2	3.8	19.9
12:15 PM	5	5,110	5,928.9	320.7	156.6	85.4	12,941	1.2	3.8	20.0
12:15 PM	6	5,168	6,009.5	325.6	159.1	85.9	13,227	1.2	3.8	20.0
12:15 PM	7	5,150	5,989.2	324.9	159.0	87.1	13,042	1.2	3.8	19.9
12:15 PM	8	5,147	5,981.2	334.5	169.0	95.8	13,471	1.2	3.9	19.5
12:15 PM	9	5,154	5,990.5	325.4	159.7	87.9	13,027	1.2	3.8	19.9
12:15 PM	10	5,138	5,969.8	321.9	156.7	85.9	13,030	1.2	3.8	20.0
En Route Start	1	314	482.9	25.3	11.9	6.3	898	1.5	4.8	20.2
En Route Start	2	328	493.0	27.7	14.0	7.8	938	1.5	5.1	19.2
En Route Start	3	337	509.3	26.9	12.8	6.5	1,030	1.5	4.8	19.8
En Route Start	4	323	491.5	26.4	12.7	6.7	985	1.5	4.9	19.7
En Route Start	5	330	504.3	26.9	12.9	6.9	1,026	1.5	4.9	19.6
En Route Start	6	319	488.9	25.7	12.1	6.2	982	1.5	4.8	20.0
En Route Start	7	317	475.4	26.0	12.7	6.8	917	1.5	4.9	19.5
En Route Start	8	329	490.3	26.3	12.8	6.7	1,001	1.5	4.8	19.6
En Route Start	9	337	508.9	27.3	13.3	7.0	997	1.5	4.9	19.5
En Route Start	10	332	495.3	26.1	12.3	6.1	916	1.5	4.7	19.9
En Route End	1	358	270.7	15.8	8.1	4.6	734	0.8	2.6	19.4
En Route End	2	364	252.4	14.1	7.0	4.2	608	0.7	2.3	20.6
En Route End	3	348	250.5	14.5	7.4	4.4	645	0.7	2.5	19.8
En Route End	4	365	269.8	16.4	8.7	5.0	747	0.7	2.7	18.7
En Route End	5	401	263.6	21.2	13.4	9.8	901	0.7	3.2	17.5
En Route End	6	342	224.3	13.8	7.4	4.7	627	0.7	2.4	19.4
En Route End	7	362	272.0	15.8	8.1	4.7	746	0.8	2.6	19.4
En Route End	8	363	259.4	16.0	8.5	5.4	766	0.7	2.6	18.6
En Route End	9	357	258.6	15.9	8.5	5.3	747	0.7	2.7	18.5
En Route End	10	374	261.7	16.3	8.9	5.7	788	0.7	2.6	18.7
Missed	1	4	7.8	0.5	0.3	0.2	27	1.9	7.3	16.2
Missed	2	2	4.2	0.3	0.2	0.1	12	2.1	8.5	14.8
Missed	3	2	3.2	0.1	0.1	0.0	4	1.6	4.3	22.4
Missed	4	1	1.2	0.1	0.1	0.0	4	1.2	5.6	12.7
Missed	5	--	--	--	--	--	--	--		--
Missed	6	3	6.3	0.4	0.2	0.2	20	2.1	8.1	16.4
Missed	7	1	2.1	0.1	0.1	0.0	4	2.1	7.1	17.4

Missed	8	3	5.0	0.3	0.2	0.1	15	1.7	6.3	15.8
Missed	9	2	3.8	0.2	0.1	0.1	11	1.9	6.9	16.8
Missed	10	1	2.4	0.1	0.0	0.0	3	2.4	5.8	25.0
Unserved	1	1	0.0	0.0	0.0	0.0	0	0.0	0.0	--
Unserved	2	--	--	--	--	--	--	--		--
Unserved	3	--	--	--	--	--	--	--		--
Unserved	4	--	--	--	--	--	--	--		--
Unserved	5	2	0.0	0.0	0.0	0.0	0	0.0	0.7	--
Unserved	6	--	--	--	--	--	--	--		--
Unserved	7	--	--	--	--	--	--	--		--
Unserved	8	--	--	--	--	--	--	--		--
Unserved	9	--	--	--	--	--	--	--		--
Unserved	10	--	--	--	--	--	--	--		--
12:15 PM	Avg	5,147	5,979.9	325.6	160.1	88.0	13,136	1.2	3.8	19.9
En Route Start	Avg	327	494.0	26.5	12.7	6.7	969	1.5	4.9	19.7
En Route End	Avg	363	258.3	16.0	8.6	5.4	731	0.7	2.6	19.1
Missed	Avg	2	3.6	0.2	0.1	0.1	11	1.9	6.0	17.5
Unserved	Avg	0	0.0	0.0	0.0	0.0	0	0.0	0.1	--

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,147.4	15.7	5,110.0	5,168.0	10
En Route Start	326.6	8.1	314.0	337.0	10
En Route End	363.4	16.0	342.0	401.0	10
Missed	1.9	1.2	1.0	4.0	10
Unserved	0.3	0.7	1.0	2.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,979.9	22.0	5,928.9	6,009.5	10
En Route Start	494.0	11.0	475.4	509.3	10
En Route End	258.3	14.0	224.3	272.0	10
Missed	3.6	2.4	1.2	7.8	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	325.6	3.7	320.7	334.5	10
En Route Start	26.5	0.8	25.3	27.7	10
En Route End	16.0	2.1	13.8	21.2	10
Missed	0.2	0.2	0.1	0.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	160.1	3.6	156.6	169.0	10
En Route Start	12.7	0.6	11.9	14.0	10
En Route End	8.6	1.8	7.0	13.4	10
Missed	0.1	0.1	0.0	0.3	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	88.0	3.2	85.2	95.8	10
En Route Start	6.7	0.5	6.1	7.8	10
En Route End	5.4	1.6	4.2	9.8	10
Missed	0.1	0.1	0.0	0.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	13,136.1	153.6	12,941.0	13,471.0	10
En Route Start	969.0	48.0	898.0	1,030.0	10
En Route End	730.9	86.6	608.0	901.0	10
Missed	10.0	8.7	3.0	27.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.0	1.5	1.5	10
En Route End	0.7	0.0	0.7	0.8	10
Missed	1.7	0.7	1.2	2.4	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	3.8	0.0	3.8	3.9	10
En Route Start	4.9	0.1	4.7	5.1	10
En Route End	2.6	0.2	2.3	3.2	10
Missed	6.0	2.4	4.3	8.5	10
Unserved	0.1	0.2	0.0	0.7	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	19.9	0.1	19.5	20.0	10
En Route Start	19.7	0.3	19.2	20.2	10
En Route End	19.1	0.8	17.5	20.6	10
Missed	15.8	6.6	12.7	25.0	10
Unserved	0.0	0.0			10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
4:30 PM	1	7,233	8,251.7	589.0	359.5	237.4	24,790	1.1	4.9	16.2
4:30 PM	2	7,304	8,361.7	544.1	311.7	191.1	23,114	1.1	4.5	17.1
4:30 PM	3	7,317	8,393.1	567.6	334.3	210.9	24,573	1.1	4.7	16.6
4:30 PM	4	7,290	8,358.8	558.0	325.6	202.5	23,801	1.1	4.6	16.6
4:30 PM	5	7,259	8,299.1	564.9	334.0	211.6	24,508	1.1	4.7	16.5
4:30 PM	6	7,290	8,360.8	561.3	328.8	208.3	23,565	1.1	4.6	16.7
4:30 PM	7	7,276	8,328.4	554.1	322.4	200.6	23,378	1.1	4.6	16.8
4:30 PM	8	7,224	8,252.1	585.5	356.0	233.1	24,621	1.1	4.9	16.3
4:30 PM	9	7,292	8,346.8	559.6	327.3	205.6	23,706	1.1	4.6	16.7
4:30 PM	10	7,225	8,250.2	572.1	342.7	219.1	24,908	1.1	4.8	16.3
En Route Start	1	490	720.6	41.0	20.9	11.5	1,546	1.5	5.0	18.5
En Route Start	2	519	751.5	44.7	23.9	13.6	1,718	1.4	5.2	17.9
En Route Start	3	494	716.6	42.1	22.2	13.1	1,617	1.5	5.1	18.1
En Route Start	4	500	729.3	42.9	22.7	12.7	1,609	1.5	5.1	18.0
En Route Start	5	490	715.7	39.9	20.0	10.7	1,499	1.5	4.9	18.9
En Route Start	6	501	730.1	44.0	23.7	13.7	1,631	1.5	5.3	17.6
En Route Start	7	499	723.2	41.4	21.3	11.4	1,541	1.4	5.0	18.3
En Route Start	8	499	730.6	41.7	21.4	11.7	1,566	1.5	5.0	18.4
En Route Start	9	493	718.1	41.8	21.8	12.1	1,598	1.5	5.1	18.0
En Route Start	10	499	728.8	42.7	22.5	12.8	1,675	1.5	5.1	18.0
En Route End	1	668	462.2	47.6	34.0	26.5	1,753	0.7	4.3	14.9
En Route End	2	605	424.2	31.7	19.4	12.9	1,420	0.7	3.1	16.0
En Route End	3	586	410.5	30.2	18.2	12.1	1,410	0.7	3.1	16.3
En Route End	4	613	433.0	32.9	20.3	13.5	1,596	0.7	3.2	15.3
En Route End	5	648	471.4	37.7	24.0	16.0	1,794	0.7	3.5	15.0
En Route End	6	608	399.0	32.3	20.7	14.8	1,523	0.7	3.2	15.4
En Route End	7	629	439.7	34.2	21.4	14.5	1,566	0.7	3.3	15.5
En Route End	8	678	435.1	46.8	34.0	26.4	1,901	0.6	4.1	14.2
En Route End	9	617	422.7	35.7	23.4	17.0	1,458	0.7	3.5	15.3
En Route End	10	682	465.2	43.6	30.0	22.3	1,890	0.7	3.8	14.1
Missed	1	12	10.5	1.1	0.8	0.6	54	0.9	5.4	10.6
Missed	2	4	5.5	0.5	0.3	0.2	17	1.4	7.2	14.0
Missed	3	9	8.5	0.9	0.7	0.5	45	0.9	5.9	9.8
Missed	4	9	13.6	1.3	1.0	0.7	65	1.5	8.8	10.8
Missed	5	6	8.8	0.7	0.5	0.3	40	1.5	7.2	12.7
Missed	6	14	19.6	1.5	1.0	0.6	87	1.4	6.5	13.5
Missed	7	8	8.3	0.7	0.4	0.3	31	1.0	4.9	13.1

Missed	8	11	10.0	0.7	0.4	0.3	40	0.9	3.9	14.6
Missed	9	4	3.4	0.3	0.2	0.1	17	0.9	4.1	12.9
Missed	10	6	6.5	0.6	0.4	0.3	33	1.1	5.6	11.9
Unserved	1	--	--	--	--	--	--	--		--
Unserved	2	--	--	--	--	--	--	--		--
Unserved	3	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Unserved	4	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Unserved	5	--	--	--	--	--	--	--		--
Unserved	6	--	--	--	--	--	--	--		--
Unserved	7	--	--	--	--	--	--	--		--
Unserved	8	--	--	--	--	--	--	--		--
Unserved	9	--	--	--	--	--	--	--		--
Unserved	10	--	--	--	--	--	--	--		--
4:30 PM	Avg	7,271	8,320.3	565.6	334.2	212.0	24,096	1.1	4.7	16.6
En Route Start	Avg	498	726.5	42.2	22.0	12.3	1,600	1.5	5.1	18.2
En Route End	Avg	633	436.3	37.3	24.5	17.6	1,631	0.7	3.5	15.2
Missed	Avg	8	9.5	0.8	0.6	0.4	43	1.2	6.0	12.4
Unserved	Avg	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	7,271.0	33.8	7,224.0	7,317.0	10
En Route Start	498.4	8.3	490.0	519.0	10
En Route End	633.4	33.6	586.0	682.0	10
Missed	8.3	3.4	4.0	14.0	10
Unserved	0.2	0.4	1.0	1.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	8,320.3	53.4	8,250.2	8,393.1	10
En Route Start	726.5	10.5	715.7	751.5	10
En Route End	436.3	23.9	399.0	471.4	10
Missed	9.5	4.5	3.4	19.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	565.6	13.7	544.1	589.0	10
En Route Start	42.2	1.4	39.9	44.7	10
En Route End	37.3	6.5	30.2	47.6	10
Missed	0.8	0.4	0.3	1.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	334.2	14.9	311.7	359.5	10
En Route Start	22.0	1.2	20.0	23.9	10
En Route End	24.5	6.0	18.2	34.0	10
Missed	0.6	0.3	0.2	1.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	212.0	14.4	191.1	237.4	10
En Route Start	12.3	1.0	10.7	13.7	10
En Route End	17.6	5.5	12.1	26.5	10
Missed	0.4	0.2	0.1	0.7	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	24,096.4	651.1	23,114.0	24,908.0	10
En Route Start	1,600.0	65.5	1,499.0	1,718.0	10
En Route End	1,631.1	189.1	1,410.0	1,901.0	10
Missed	42.9	21.5	17.0	87.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	1.1	0.0	1.1	1.1	10
En Route Start	1.5	0.0	1.4	1.5	10
En Route End	0.7	0.0	0.6	0.7	10
Missed	1.2	0.3	0.9	1.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	4.7	0.1	4.5	4.9	10
En Route Start	5.1	0.1	4.9	5.3	10
En Route End	3.5	0.4	3.1	4.3	10
Missed	6.0	1.5	3.9	8.8	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt2_2050_Morgantown
Scenario: 2050_B_Alt2_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	16.6	0.3	16.2	17.1	10
En Route Start	18.2	0.4	17.6	18.9	10
En Route End	15.2	0.7	14.1	16.3	10
Missed	12.4	1.6	9.8	14.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
12:15 PM	1	5,639	6,583.6	381.2	195.7	117.1	16,000	1.2	4.1	18.8
12:15 PM	2	5,617	6,563.0	375.0	190.2	111.3	15,632	1.2	4.0	19.0
12:15 PM	3	5,612	6,548.9	377.3	192.8	114.5	15,598	1.2	4.0	19.0
12:15 PM	4	5,640	6,588.9	376.9	191.2	111.8	15,510	1.2	4.0	19.0
12:15 PM	5	5,613	6,554.3	378.9	194.2	115.4	15,632	1.2	4.1	18.9
12:15 PM	6	5,623	6,567.0	379.8	194.7	116.0	15,842	1.2	4.1	18.9
12:15 PM	7	5,633	6,583.8	380.1	194.4	115.4	15,746	1.2	4.0	19.0
12:15 PM	8	5,636	6,583.7	377.9	192.4	113.8	15,879	1.2	4.0	19.0
12:15 PM	9	5,627	6,581.0	378.8	193.3	115.8	15,759	1.2	4.0	19.0
12:15 PM	10	5,612	6,544.1	376.9	192.5	114.5	15,679	1.2	4.0	18.9
En Route Start	1	378	551.2	32.4	16.9	10.3	1,121	1.5	5.1	18.2
En Route Start	2	364	522.8	29.0	14.3	8.1	1,005	1.4	4.8	19.4
En Route Start	3	364	523.6	30.0	15.3	9.3	1,071	1.4	4.9	18.5
En Route Start	4	381	550.3	32.6	17.1	10.3	1,065	1.4	5.1	18.4
En Route Start	5	363	530.5	29.0	14.0	7.8	970	1.5	4.8	19.6
En Route Start	6	360	517.1	29.3	14.7	8.6	986	1.4	4.9	19.2
En Route Start	7	369	541.5	29.8	14.5	8.2	1,002	1.5	4.8	19.3
En Route Start	8	360	528.1	29.6	14.7	8.5	1,084	1.5	4.9	19.1
En Route Start	9	350	510.6	27.4	13.0	7.4	922	1.5	4.7	19.7
En Route Start	10	372	537.4	30.2	15.1	8.4	1,009	1.4	4.9	19.0
En Route End	1	385	258.3	15.8	8.2	5.3	817	0.7	2.5	18.9
En Route End	2	407	273.7	17.9	10.0	6.5	911	0.7	2.6	18.0
En Route End	3	411	266.9	17.5	9.6	6.4	935	0.6	2.6	17.7
En Route End	4	384	255.0	15.8	8.3	5.5	821	0.7	2.5	18.5
En Route End	5	408	277.8	17.5	9.3	6.2	869	0.7	2.6	18.3
En Route End	6	401	270.7	16.7	8.8	5.6	849	0.7	2.5	18.6
En Route End	7	390	253.8	16.0	8.7	5.6	824	0.7	2.5	18.2
En Route End	8	387	253.2	15.5	8.0	5.1	749	0.7	2.4	18.7
En Route End	9	397	256.6	16.1	8.6	5.5	786	0.6	2.4	18.6
En Route End	10	412	262.3	17.3	9.6	6.5	857	0.6	2.5	17.8
Missed	1	--	--	--	--	--	--	--		--
Missed	2	--	--	--	--	--	--	--		--
Missed	3	1	0.3	0.2	0.2	0.1	5	0.3	9.4	1.7
Missed	4	--	--	--	--	--	--	--		--
Missed	5	2	5.5	0.4	0.2	0.1	14	2.8	10.4	15.9
Missed	6	--	--	--	--	--	--	--		--
Missed	7	1	3.0	0.2	0.1	0.1	6	3.0	10.6	16.9

Missed	8	1	2.3	0.1	0.1	0.0	4	2.3	7.1	19.0
Missed	9	--	--	--	--	--	--	--		--
Missed	10	--	--	--	--	--	--	--		--
Unserved	1	--	--	--	--	--	--	--		--
Unserved	2	--	--	--	--	--	--	--		--
Unserved	3	--	--	--	--	--	--	--		--
Unserved	4	--	--	--	--	--	--	--		--
Unserved	5	1	0.0	0.0	0.0	0.0	0	0.0	0.0	--
Unserved	6	--	--	--	--	--	--	--		--
Unserved	7	--	--	--	--	--	--	--		--
Unserved	8	--	--	--	--	--	--	--		--
Unserved	9	--	--	--	--	--	--	--		--
Unserved	10	--	--	--	--	--	--	--		--
12:15 PM	Avg	5,625	6,569.8	378.3	193.1	114.6	15,728	1.2	4.0	19.0
En Route Start	Avg	366	531.3	29.9	14.9	8.7	1,024	1.5	4.9	19.0
En Route End	Avg	398	262.8	16.6	8.9	5.8	842	0.7	2.5	18.3
Missed	Avg	1	1.1	0.1	0.1	0.1	7	2.1	3.8	13.4
Unserved	Avg	0	0.0	0.0	0.0	0.0	0	0.0	0.0	--

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,625.2	11.4	5,612.0	5,640.0	10
En Route Start	366.1	9.2	350.0	381.0	10
En Route End	398.2	11.1	384.0	412.0	10
Missed	0.5	0.7	1.0	2.0	10
Unserved	0.1	0.3	1.0	1.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	6,569.8	16.5	6,544.1	6,588.9	10
En Route Start	531.3	13.6	510.6	551.2	10
En Route End	262.8	8.9	253.2	277.8	10
Missed	1.1	1.9	0.3	5.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	378.3	1.8	375.0	381.2	10
En Route Start	29.9	1.6	27.4	32.6	10
En Route End	16.6	0.9	15.5	17.9	10
Missed	0.1	0.1	0.1	0.4	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	193.1	1.7	190.2	195.7	10
En Route Start	14.9	1.2	13.0	17.1	10
En Route End	8.9	0.7	8.0	10.0	10
Missed	0.1	0.1	0.1	0.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	114.6	1.8	111.3	117.1	10
En Route Start	8.7	1.0	7.4	10.3	10
En Route End	5.8	0.5	5.1	6.5	10
Missed	0.0	0.1	0.0	0.1	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	15,727.7	147.7	15,510.0	16,000.0	10
En Route Start	1,023.5	60.3	922.0	1,121.0	10
En Route End	841.8	55.4	749.0	935.0	10
Missed	2.9	4.6	4.0	14.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.1	1.4	1.5	10
En Route End	0.7	0.0	0.6	0.7	10
Missed	0.8	1.3	0.3	3.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	4.0	0.0	4.0	4.1	10
En Route Start	4.9	0.1	4.7	5.1	10
En Route End	2.5	0.1	2.4	2.6	10
Missed	3.8	4.9	7.1	10.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	19.0	0.1	18.8	19.0	10
En Route Start	19.0	0.5	18.2	19.7	10
En Route End	18.3	0.4	17.7	18.9	10
Missed	5.4	8.3	1.7	19.0	10
Unserved	0.0	0.0			10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
4:30 PM	1	7,508	8,448.1	680.6	443.4	310.4	26,851	1.1	5.4	15.5
4:30 PM	2	7,591	8,590.5	645.3	403.8	273.1	25,580	1.1	5.1	16.2
4:30 PM	3	7,620	8,610.7	665.3	423.2	289.2	27,060	1.1	5.2	15.7
4:30 PM	4	7,592	8,580.0	648.4	407.2	273.7	26,246	1.1	5.1	15.9
4:30 PM	5	7,625	8,625.5	646.0	403.7	271.7	26,209	1.1	5.1	16.1
4:30 PM	6	7,563	8,538.3	676.0	435.8	304.8	26,913	1.1	5.4	15.5
4:30 PM	7	7,647	8,655.9	642.1	398.7	267.4	25,771	1.1	5.0	16.2
4:30 PM	8	7,492	8,443.4	643.4	406.2	277.3	25,758	1.1	5.2	16.1
4:30 PM	9	7,597	8,568.9	659.1	418.3	287.6	26,657	1.1	5.2	15.9
4:30 PM	10	7,652	8,654.4	641.5	398.0	264.7	25,394	1.1	5.0	16.4
En Route Start	1	552	789.1	52.8	30.5	20.0	1,847	1.4	5.7	16.5
En Route Start	2	534	749.9	47.5	26.3	16.7	1,736	1.4	5.3	17.1
En Route Start	3	541	767.2	48.7	26.9	16.7	1,723	1.4	5.4	17.1
En Route Start	4	502	728.1	46.2	25.7	16.3	1,601	1.5	5.5	17.2
En Route Start	5	536	761.2	49.6	28.0	18.0	1,715	1.4	5.5	16.7
En Route Start	6	522	738.1	47.2	26.3	17.2	1,728	1.4	5.4	17.1
En Route Start	7	536	760.1	47.9	26.4	16.3	1,781	1.4	5.4	17.1
En Route Start	8	512	731.0	46.0	25.4	16.2	1,680	1.4	5.4	17.2
En Route Start	9	544	771.0	49.3	27.5	17.5	1,780	1.4	5.4	16.9
En Route Start	10	520	743.5	46.4	25.3	15.7	1,680	1.4	5.4	17.3
En Route End	1	955	590.1	107.8	89.1	74.1	3,066	0.6	6.8	11.0
En Route End	2	870	560.5	83.2	65.6	52.1	2,710	0.6	5.7	11.9
En Route End	3	834	549.7	83.0	65.9	52.1	2,715	0.7	6.0	12.0
En Route End	4	879	567.4	79.5	62.1	50.0	2,910	0.6	5.4	11.7
En Route End	5	852	566.1	83.1	65.9	52.4	2,701	0.7	5.9	12.1
En Route End	6	901	572.7	84.9	67.1	53.8	2,963	0.6	5.7	11.7
En Route End	7	823	551.5	76.9	60.4	44.9	2,675	0.7	5.6	12.4
En Route End	8	958	592.6	102.6	84.3	69.2	2,918	0.6	6.4	10.9
En Route End	9	873	569.0	91.2	73.8	59.6	2,561	0.7	6.3	11.5
En Route End	10	819	536.9	87.8	71.7	57.7	2,633	0.7	6.4	12.3
Missed	1	8	14.8	1.1	0.7	0.5	59	1.9	8.1	13.9
Missed	2	2	3.9	0.5	0.4	0.3	28	2.0	13.9	8.8
Missed	3	2	3.5	0.3	0.2	0.1	10	1.8	7.5	14.4
Missed	4	9	14.2	1.4	1.0	0.8	61	1.6	9.1	11.2
Missed	5	1	2.2	0.2	0.1	0.1	7	2.2	9.9	13.3
Missed	6	18	29.6	2.5	1.7	1.2	117	1.6	8.2	12.8
Missed	7	6	9.4	0.8	0.5	0.4	40	1.6	7.5	13.0

Missed	8	19	32.4	2.6	1.8	1.2	141	1.7	8.2	13.1
Missed	9	--	--	--	--	--	--	--		--
Missed	10	1	1.4	0.1	0.0	0.0	2	1.4	3.0	27.9
Unserved	1	82	0.0	13.5	13.5	0.0	0	0.0	9.9	--
Unserved	2	90	0.0	15.5	15.5	0.0	0	0.0	10.3	--
Unserved	3	97	0.0	19.5	19.5	0.0	0	0.0	12.1	--
Unserved	4	73	0.0	13.3	13.3	0.0	0	0.0	11.0	--
Unserved	5	75	0.0	14.4	14.4	0.0	0	0.0	11.5	--
Unserved	6	71	0.0	11.6	11.6	0.0	0	0.0	9.8	--
Unserved	7	77	0.0	14.8	14.8	0.0	0	0.0	11.6	--
Unserved	8	84	0.0	14.5	14.5	0.0	0	0.0	10.4	0.0
Unserved	9	83	0.0	16.0	16.0	0.0	0	0.0	11.6	--
Unserved	10	81	0.0	16.4	16.4	0.0	0	0.0	12.1	--
4:30 PM	Avg	7,589	8,571.6	654.8	413.8	282.0	26,244	1.1	5.2	16.0
En Route Start	Avg	530	753.9	48.1	26.8	17.1	1,727	1.4	5.4	17.0
En Route End	Avg	876	565.7	88.0	70.6	56.6	2,785	0.7	6.0	11.8
Missed	Avg	7	11.1	0.9	0.7	0.5	52	1.8	7.5	14.3
Unserved	Avg	81	0.0	15.0	15.0	0.0	0	0.0	11.0	0.0

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	7,588.7	54.1	7,492.0	7,652.0	10
En Route Start	529.9	15.5	502.0	552.0	10
En Route End	876.4	49.5	819.0	958.0	10
Missed	6.6	7.0	1.0	19.0	10
Unserved	81.3	7.9	71.0	97.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	8,571.6	75.7	8,443.4	8,655.9	10
En Route Start	753.9	19.3	728.1	789.1	10
En Route End	565.7	17.3	536.9	592.6	10
Missed	11.1	11.7	1.4	32.4	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	654.8	14.6	641.5	680.6	10
En Route Start	48.1	2.1	46.0	52.8	10
En Route End	88.0	10.0	76.9	107.8	10
Missed	0.9	1.0	0.1	2.6	10
Unserved	15.0	2.1	11.6	19.5	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	413.8	15.8	398.0	443.4	10
En Route Start	26.8	1.6	25.3	30.5	10
En Route End	70.6	9.4	60.4	89.1	10
Missed	0.6	0.7	0.0	1.8	10
Unserved	15.0	2.1	11.6	19.5	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	282.0	15.6	264.7	310.4	10
En Route Start	17.1	1.2	15.7	20.0	10
En Route End	56.6	8.9	44.9	74.1	10
Missed	0.4	0.5	0.0	1.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	26,243.9	603.4	25,394.0	27,060.0	10
En Route Start	1,727.1	67.2	1,601.0	1,847.0	10
En Route End	2,785.2	165.6	2,561.0	3,066.0	10
Missed	46.5	49.1	2.0	141.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	1.1	0.0	1.1	1.1	10
En Route Start	1.4	0.0	1.4	1.5	10
En Route End	0.7	0.1	0.6	0.7	10
Missed	1.6	0.6	1.4	2.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	5.2	0.1	5.0	5.4	10
En Route Start	5.4	0.1	5.3	5.7	10
En Route End	6.0	0.4	5.4	6.8	10
Missed	7.5	3.8	3.0	13.9	10
Unserved	11.0	0.9	9.8	12.1	10

Project: BuildAlt3_2050_Morgantown
Scenario: 2050_B_Alt3_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	16.0	0.3	15.5	16.4	10
En Route Start	17.0	0.2	16.5	17.3	10
En Route End	11.8	0.5	10.9	12.4	10
Missed	12.8	6.8	8.8	27.9	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
12:15 PM	1	5,620	6,558.0	384.5	199.6	120.2	15,436	1.2	4.1	18.7
12:15 PM	2	5,633	6,577.9	381.4	196.0	116.7	15,594	1.2	4.1	18.8
12:15 PM	3	5,622	6,555.8	385.2	200.5	122.5	15,493	1.2	4.1	18.7
12:15 PM	4	5,624	6,559.5	376.1	191.2	112.3	15,421	1.2	4.0	19.0
12:15 PM	5	5,649	6,594.5	380.6	194.7	114.3	15,713	1.2	4.0	18.8
12:15 PM	6	5,634	6,575.0	377.1	191.8	112.3	15,282	1.2	4.0	19.0
12:15 PM	7	5,659	6,613.8	382.0	195.6	116.4	15,466	1.2	4.0	18.9
12:15 PM	8	5,633	6,578.2	388.0	202.4	121.7	15,720	1.2	4.1	18.6
12:15 PM	9	5,629	6,577.9	371.8	186.4	107.6	15,052	1.2	4.0	19.1
12:15 PM	10	5,624	6,557.3	368.5	183.8	106.9	15,224	1.2	3.9	19.3
En Route Start	1	352	532.1	28.1	13.1	6.8	917	1.5	4.8	19.9
En Route Start	2	366	542.4	28.5	13.3	7.0	981	1.5	4.7	19.9
En Route Start	3	349	509.6	27.0	12.7	6.8	947	1.5	4.6	19.9
En Route Start	4	366	542.3	29.5	14.2	7.9	1,048	1.5	4.8	19.4
En Route Start	5	383	573.2	32.2	15.9	8.5	1,064	1.5	5.0	18.8
En Route Start	6	352	515.9	27.2	12.7	6.9	946	1.5	4.6	19.8
En Route Start	7	346	510.3	27.2	12.9	6.9	945	1.5	4.7	19.7
En Route Start	8	344	506.7	26.9	12.7	6.8	928	1.5	4.7	19.9
En Route Start	9	342	503.8	26.7	12.5	6.7	882	1.5	4.7	19.8
En Route Start	10	360	531.3	27.9	12.9	6.8	982	1.5	4.6	20.1
En Route End	1	425	270.5	19.0	11.0	7.9	913	0.6	2.7	18.4
En Route End	2	414	277.7	18.5	10.3	7.0	934	0.7	2.7	18.3
En Route End	3	424	277.1	20.5	12.3	8.9	986	0.7	2.9	17.9
En Route End	4	423	285.7	19.2	10.8	7.2	957	0.7	2.7	18.0
En Route End	5	398	264.0	17.8	10.1	6.9	817	0.7	2.7	18.3
En Route End	6	412	277.9	17.9	9.7	6.3	875	0.7	2.6	18.6
En Route End	7	386	255.4	15.5	8.0	5.0	763	0.7	2.4	19.1
En Route End	8	414	278.2	17.5	9.4	6.2	892	0.7	2.5	18.4
En Route End	9	417	271.3	17.5	9.6	6.3	900	0.7	2.5	18.2
En Route End	10	423	287.8	19.2	10.9	7.2	924	0.7	2.7	17.9
Missed	1	3	2.9	0.6	0.5	0.5	20	1.0	12.0	7.6
Missed	2	1	0.5	0.0	0.0	0.0	3	0.5	2.2	14.7
Missed	3	--	--	--	--	--	--	--		--
Missed	4	1	0.6	0.2	0.1	0.1	6	0.6	9.7	3.7
Missed	5	1	2.2	0.2	0.1	0.1	8	2.2	8.7	14.8
Missed	6	2	2.8	0.2	0.1	0.0	13	1.4	4.6	17.9
Missed	7	3	5.0	0.5	0.3	0.2	26	1.7	9.2	15.1

Missed	8	1	2.5	0.1	0.1	0.0	6	2.5	7.0	21.6
Missed	9	2	2.7	0.2	0.1	0.1	7	1.3	5.2	16.4
Missed	10	--	--	--	--	--	--	--		--
Unserved	1	--	--	--	--	--	--	--		--
Unserved	2	--	--	--	--	--	--	--		--
Unserved	3	2	0.0	0.0	0.0	0.0	0	0.0	0.2	--
Unserved	4	--	--	--	--	--	--	--		--
Unserved	5	--	--	--	--	--	--	--		--
Unserved	6	--	--	--	--	--	--	--		--
Unserved	7	--	--	--	--	--	--	--		--
Unserved	8	--	--	--	--	--	--	--		--
Unserved	9	--	--	--	--	--	--	--		--
Unserved	10	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
12:15 PM	Avg	5,633	6,574.8	379.5	194.2	115.1	15,440	1.2	4.0	18.9
En Route Start	Avg	356	526.8	28.1	13.3	7.1	964	1.5	4.7	19.7
En Route End	Avg	414	274.6	18.3	10.2	6.9	896	0.7	2.6	18.3
Missed	Avg	1	1.9	0.2	0.2	0.1	11	1.4	5.9	14.0
Unserved	Avg	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,632.7	12.5	5,620.0	5,659.0	10
En Route Start	356.0	12.8	342.0	383.0	10
En Route End	413.6	12.6	386.0	425.0	10
Missed	1.4	1.1	1.0	3.0	10
Unserved	0.3	0.7	1.0	2.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	6,574.8	18.6	6,555.8	6,613.8	10
En Route Start	526.8	21.9	503.8	573.2	10
En Route End	274.6	9.7	255.4	287.8	10
Missed	1.9	1.6	0.5	5.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	379.5	6.1	368.5	388.0	10
En Route Start	28.1	1.7	26.7	32.2	10
En Route End	18.3	1.4	15.5	20.5	10
Missed	0.2	0.2	0.0	0.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	194.2	6.0	183.8	202.4	10
En Route Start	13.3	1.0	12.5	15.9	10
En Route End	10.2	1.1	8.0	12.3	10
Missed	0.1	0.2	0.0	0.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	115.1	5.5	106.9	122.5	10
En Route Start	7.1	0.6	6.7	8.5	10
En Route End	6.9	1.1	5.0	8.9	10
Missed	0.1	0.1	0.0	0.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	15,440.1	211.5	15,052.0	15,720.0	10
En Route Start	964.0	56.6	882.0	1,064.0	10
En Route End	896.1	65.6	763.0	986.0	10
Missed	8.9	8.5	3.0	26.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.0	1.5	1.5	10
En Route End	0.7	0.0	0.6	0.7	10
Missed	1.1	0.9	0.5	2.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	4.0	0.1	3.9	4.1	10
En Route Start	4.7	0.1	4.6	5.0	10
En Route End	2.6	0.1	2.4	2.9	10
Missed	5.9	4.2	2.2	12.0	10
Unserved	0.0	0.1	0.0	0.2	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	18.9	0.2	18.6	19.3	10
En Route Start	19.7	0.4	18.8	20.1	10
En Route End	18.3	0.4	17.9	19.1	10
Missed	11.2	7.8	3.7	21.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
4:30 PM	1	7,555	8,506.3	659.7	420.7	284.6	26,966	1.1	5.2	16.2
4:30 PM	2	7,580	8,548.9	679.0	438.9	298.4	27,909	1.1	5.4	15.9
4:30 PM	3	7,524	8,449.8	664.0	426.8	297.7	26,717	1.1	5.3	16.1
4:30 PM	4	7,618	8,600.9	649.2	407.6	274.1	27,114	1.1	5.1	16.3
4:30 PM	5	7,567	8,521.4	656.9	417.5	282.7	27,369	1.1	5.2	16.0
4:30 PM	6	7,613	8,595.8	668.5	427.0	289.1	27,464	1.1	5.3	16.0
4:30 PM	7	7,546	8,507.6	683.3	444.3	310.5	27,564	1.1	5.4	15.8
4:30 PM	8	7,613	8,594.2	660.6	419.2	284.2	27,615	1.1	5.2	16.1
4:30 PM	9	7,606	8,595.5	667.0	425.5	292.2	27,905	1.1	5.3	15.9
4:30 PM	10	7,558	8,521.6	657.7	418.3	286.4	26,650	1.1	5.2	16.1
En Route Start	1	512	741.0	49.7	28.6	18.5	1,804	1.4	5.8	16.9
En Route Start	2	535	784.1	53.3	31.1	20.6	1,928	1.5	6.0	16.7
En Route Start	3	502	736.7	47.5	26.7	17.1	1,700	1.5	5.7	17.1
En Route Start	4	499	729.9	48.9	28.3	18.8	1,640	1.5	5.9	17.2
En Route Start	5	530	764.6	49.2	27.5	17.1	1,769	1.4	5.6	17.0
En Route Start	6	533	767.5	50.6	28.8	18.2	1,858	1.4	5.7	16.8
En Route Start	7	525	758.7	50.0	28.5	18.6	1,768	1.4	5.7	17.3
En Route Start	8	513	757.7	48.5	27.0	16.8	1,691	1.5	5.7	17.1
En Route Start	9	517	756.8	48.7	27.2	17.0	1,771	1.5	5.7	17.1
En Route Start	10	532	778.9	50.7	28.5	18.0	1,770	1.5	5.7	17.0
En Route End	1	923	552.0	118.3	100.8	85.8	2,899	0.6	7.7	10.9
En Route End	2	909	548.7	112.7	95.8	80.8	2,696	0.6	7.4	11.7
En Route End	3	946	585.1	131.6	113.5	94.9	3,259	0.6	8.3	10.9
En Route End	4	907	563.5	104.6	87.2	74.2	2,659	0.6	6.9	11.8
En Route End	5	952	603.7	106.5	87.8	72.3	3,200	0.6	6.7	10.7
En Route End	6	887	567.4	99.4	81.9	66.9	2,727	0.6	6.7	11.6
En Route End	7	960	572.3	105.9	88.2	73.9	3,094	0.6	6.6	10.4
En Route End	8	900	570.8	97.1	79.5	66.7	2,882	0.6	6.5	11.5
En Route End	9	898	538.6	98.3	81.2	66.7	2,963	0.6	6.6	11.1
En Route End	10	909	558.9	114.2	96.6	78.3	2,819	0.6	7.5	11.6
Missed	1	3	2.0	0.1	0.1	0.0	10	0.7	2.3	18.1
Missed	2	2	4.1	0.3	0.2	0.1	15	2.1	7.8	15.9
Missed	3	1	0.8	0.2	0.1	0.1	1	0.8	9.0	5.3
Missed	4	2	2.6	0.1	0.1	0.0	11	1.3	4.3	18.3
Missed	5	3	2.9	0.2	0.1	0.1	16	1.0	4.5	13.5
Missed	6	2	3.3	0.4	0.3	0.3	22	1.6	13.0	9.5
Missed	7	--	--	--	--	--	--	--		--

Missed	8	3	3.1	0.2	0.1	0.1	18	1.0	4.4	14.3
Missed	9	4	6.5	0.4	0.2	0.1	36	1.6	6.1	16.0
Missed	10	6	8.2	0.8	0.6	0.4	41	1.4	7.8	12.8
Unserved	1	110	0.0	16.0	16.0	0.0	0	0.0	8.7	--
Unserved	2	99	0.0	14.5	14.5	0.0	0	0.0	8.8	--
Unserved	3	120	0.0	17.8	17.8	0.0	0	0.0	8.9	--
Unserved	4	64	0.0	10.5	10.5	0.0	0	0.0	9.8	--
Unserved	5	69	0.0	12.2	12.2	0.0	0	0.0	10.6	--
Unserved	6	89	0.0	14.2	14.2	0.0	0	0.0	9.6	--
Unserved	7	85	0.0	15.0	15.0	0.0	0	0.0	10.6	--
Unserved	8	75	0.0	12.0	12.0	0.0	0	0.0	9.6	0.0
Unserved	9	83	0.0	14.0	14.0	0.0	0	0.0	10.1	--
Unserved	10	118	0.0	15.3	15.3	0.0	0	0.0	7.8	--
4:30 PM	Avg	7,578	8,544.2	664.6	424.6	290.0	27,327	1.1	5.3	16.0
En Route Start	Avg	520	757.6	49.7	28.2	18.1	1,770	1.5	5.8	17.0
En Route End	Avg	919	566.1	108.9	91.3	76.1	2,920	0.6	7.1	11.2
Missed	Avg	3	3.4	0.3	0.2	0.1	19	1.3	5.9	13.7
Unserved	Avg	91	0.0	14.1	14.1	0.0	0	0.0	9.5	0.0

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	7,578.0	33.0	7,524.0	7,618.0	10
En Route Start	519.8	13.1	499.0	535.0	10
En Route End	919.1	25.1	887.0	960.0	10
Missed	2.6	1.6	1.0	6.0	10
Unserved	91.2	19.9	64.0	120.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	8,544.2	51.4	8,449.8	8,600.9	10
En Route Start	757.6	17.6	729.9	784.1	10
En Route End	566.1	18.7	538.6	603.7	10
Missed	3.4	2.5	0.8	8.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	664.6	10.3	649.2	683.3	10
En Route Start	49.7	1.6	47.5	53.3	10
En Route End	108.9	10.7	97.1	131.6	10
Missed	0.3	0.2	0.1	0.8	10
Unserved	14.1	2.1	10.5	17.8	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	424.6	10.7	407.6	444.3	10
En Route Start	28.2	1.3	26.7	31.1	10
En Route End	91.3	10.5	79.5	113.5	10
Missed	0.2	0.2	0.1	0.6	10
Unserved	14.1	2.1	10.5	17.8	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	290.0	10.2	274.1	310.5	10
En Route Start	18.1	1.2	16.8	20.6	10
En Route End	76.1	9.2	66.7	94.9	10
Missed	0.1	0.1	0.0	0.4	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	27,327.3	452.0	26,650.0	27,909.0	10
En Route Start	1,769.9	82.9	1,640.0	1,928.0	10
En Route End	2,919.8	209.0	2,659.0	3,259.0	10
Missed	17.0	13.3	1.0	41.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	1.1	0.0	1.1	1.1	10
En Route Start	1.5	0.1	1.4	1.5	10
En Route End	0.6	0.0	0.6	0.6	10
Missed	1.2	0.6	0.7	2.1	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	5.3	0.1	5.1	5.4	10
En Route Start	5.8	0.1	5.6	6.0	10
En Route End	7.1	0.6	6.5	8.3	10
Missed	5.9	3.7	2.3	13.0	10
Unserved	9.5	0.9	7.8	10.6	10

Project: BuildAlt4A_2050_Morgantown
Scenario: 2050_B_Alt4A_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	16.0	0.2	15.8	16.3	10
En Route Start	17.0	0.2	16.7	17.3	10
En Route End	11.2	0.5	10.4	11.8	10
Missed	12.4	5.9	5.3	18.3	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
12:15 PM	1	5,648	6,633.3	382.9	196.1	116.7	15,685	1.2	4.1	18.8
12:15 PM	2	5,683	6,678.9	379.7	191.6	113.2	15,400	1.2	4.0	19.0
12:15 PM	3	5,660	6,635.7	386.8	199.7	119.3	15,994	1.2	4.1	18.6
12:15 PM	4	5,667	6,646.9	383.4	196.1	116.1	15,393	1.2	4.1	18.8
12:15 PM	5	5,652	6,624.9	385.9	199.2	118.9	15,671	1.2	4.1	18.7
12:15 PM	6	5,672	6,660.2	385.8	197.9	116.7	15,641	1.2	4.1	18.8
12:15 PM	7	5,684	6,677.2	387.2	199.0	118.2	15,694	1.2	4.1	18.7
12:15 PM	8	5,678	6,674.1	386.6	198.4	116.9	15,947	1.2	4.1	18.7
12:15 PM	9	5,651	6,629.8	382.3	195.4	115.2	15,645	1.2	4.1	18.7
12:15 PM	10	5,664	6,640.3	389.1	201.8	120.3	15,868	1.2	4.1	18.6
En Route Start	1	358	526.4	27.8	13.0	6.9	950	1.5	4.7	19.9
En Route Start	2	370	545.7	29.5	14.2	7.9	1,062	1.5	4.8	19.5
En Route Start	3	386	565.0	32.8	16.9	9.9	1,158	1.5	5.1	18.5
En Route Start	4	384	567.5	30.6	14.7	8.1	1,069	1.5	4.8	19.4
En Route Start	5	372	552.1	31.3	15.8	9.1	1,108	1.5	5.0	18.6
En Route Start	6	346	511.4	27.6	13.2	7.7	933	1.5	4.8	19.6
En Route Start	7	358	522.5	29.2	14.5	8.3	1,044	1.5	4.9	19.0
En Route Start	8	358	533.7	29.5	14.4	7.8	983	1.5	4.9	19.0
En Route Start	9	371	549.8	30.5	15.1	8.7	1,111	1.5	4.9	19.2
En Route Start	10	349	521.0	28.1	13.4	7.4	969	1.5	4.8	19.5
En Route End	1	443	289.7	20.3	11.7	7.9	979	0.7	2.8	17.5
En Route End	2	407	269.8	17.8	9.9	6.6	882	0.7	2.6	18.0
En Route End	3	432	305.6	20.4	11.4	7.7	966	0.7	2.8	17.6
En Route End	4	423	281.4	19.1	10.8	7.5	909	0.7	2.7	18.2
En Route End	5	436	288.8	20.3	11.8	8.4	1,012	0.7	2.8	17.9
En Route End	6	416	272.2	17.9	9.8	6.7	848	0.7	2.6	18.0
En Route End	7	406	260.6	17.7	10.0	6.8	892	0.6	2.6	18.0
En Route End	8	412	274.7	17.3	9.2	6.1	823	0.7	2.5	18.9
En Route End	9	440	290.1	20.0	11.5	7.9	976	0.7	2.7	17.8
En Route End	10	428	288.1	19.2	10.8	7.6	828	0.7	2.7	18.4
Missed	1	1	1.3	0.1	0.1	0.0	4	1.3	4.9	15.5
Missed	2	1	0.6	0.0	0.0	0.0	3	0.6	2.0	19.1
Missed	3	--	--	--	--	--	--	--		--
Missed	4	2	2.8	0.2	0.1	0.0	8	1.4	4.6	18.3
Missed	5	4	5.7	0.3	0.2	0.1	15	1.4	4.6	19.7
Missed	6	3	3.9	0.5	0.3	0.3	22	1.3	9.1	12.2
Missed	7	2	2.1	0.2	0.1	0.1	12	1.1	5.2	12.3

Missed	8	2	4.2	0.3	0.2	0.1	10	2.1	7.9	17.1
Missed	9	1	0.6	0.1	0.1	0.1	6	0.6	8.6	4.2
Missed	10	--	--	--	--	--	--	--		--
Unserved	1	--	--	--	--	--	--	--		--
Unserved	2	1	0.0	0.0	0.0	0.0	0	0.0	0.0	--
Unserved	3	--	--	--	--	--	--	--		--
Unserved	4	--	--	--	--	--	--	--		--
Unserved	5	--	--	--	--	--	--	--		--
Unserved	6	1	0.0	0.0	0.0	0.0	0	0.0	0.0	--
Unserved	7	--	--	--	--	--	--	--		--
Unserved	8	--	--	--	--	--	--	--		--
Unserved	9	--	--	--	--	--	--	--		--
Unserved	10	--	--	--	--	--	--	--		--
12:15 PM	Avg	5,666	6,650.1	385.0	197.5	117.1	15,694	1.2	4.1	18.7
En Route Start	Avg	365	539.5	29.7	14.5	8.2	1,039	1.5	4.9	19.2
En Route End	Avg	424	282.1	19.0	10.7	7.3	912	0.7	2.7	18.0
Missed	Avg	2	2.1	0.2	0.1	0.1	10	1.2	4.7	14.8
Unserved	Avg	0	0.0	0.0	0.0	0.0	0	0.0	0.0	--

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,665.9	13.2	5,648.0	5,684.0	10
En Route Start	365.2	13.6	346.0	386.0	10
En Route End	424.3	13.6	406.0	443.0	10
Missed	1.6	1.3	1.0	4.0	10
Unserved	0.2	0.4	1.0	1.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	6,650.1	20.8	6,624.9	6,678.9	10
En Route Start	539.5	19.3	511.4	567.5	10
En Route End	282.1	13.0	260.6	305.6	10
Missed	2.1	2.0	0.6	5.7	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	385.0	2.8	379.7	389.1	10
En Route Start	29.7	1.6	27.6	32.8	10
En Route End	19.0	1.2	17.3	20.4	10
Missed	0.2	0.1	0.0	0.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	197.5	2.8	191.6	201.8	10
En Route Start	14.5	1.2	13.0	16.9	10
En Route End	10.7	0.9	9.2	11.8	10
Missed	0.1	0.1	0.0	0.3	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	117.1	2.1	113.2	120.3	10
En Route Start	8.2	0.9	6.9	9.9	10
En Route End	7.3	0.7	6.1	8.4	10
Missed	0.1	0.1	0.0	0.3	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	15,693.8	202.0	15,393.0	15,994.0	10
En Route Start	1,038.7	76.6	933.0	1,158.0	10
En Route End	911.5	68.2	823.0	1,012.0	10
Missed	8.0	7.0	3.0	22.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.0	1.5	1.5	10
En Route End	0.7	0.0	0.6	0.7	10
Missed	1.0	0.7	0.6	2.1	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	4.1	0.0	4.0	4.1	10
En Route Start	4.9	0.1	4.7	5.1	10
En Route End	2.7	0.1	2.5	2.8	10
Missed	4.7	3.3	2.0	9.1	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	18.7	0.1	18.6	19.0	10
En Route Start	19.2	0.4	18.5	19.9	10
En Route End	18.0	0.4	17.5	18.9	10
Missed	11.8	7.7	4.2	19.7	10
Unserved	0.0	0.0			10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
4:30 PM	1	7,454	8,398.3	704.0	468.5	331.4	29,073	1.1	5.7	15.3
4:30 PM	2	7,524	8,490.7	686.1	447.7	312.2	29,059	1.1	5.5	15.7
4:30 PM	3	7,652	8,716.7	685.3	440.3	301.2	29,373	1.1	5.4	15.7
4:30 PM	4	7,618	8,649.0	645.0	402.2	268.6	27,266	1.1	5.1	16.4
4:30 PM	5	7,531	8,516.8	683.2	444.2	305.2	28,316	1.1	5.4	15.7
4:30 PM	6	7,516	8,477.0	705.7	468.0	335.0	28,630	1.1	5.6	15.5
4:30 PM	7	7,562	8,560.5	670.7	430.5	292.7	28,329	1.1	5.3	15.8
4:30 PM	8	7,635	8,674.5	688.4	444.5	302.2	28,067	1.1	5.4	15.7
4:30 PM	9	7,607	8,609.3	659.5	417.6	283.6	27,330	1.1	5.2	16.2
4:30 PM	10	7,556	8,592.1	675.6	434.3	295.0	28,263	1.1	5.4	16.0
En Route Start	1	522	759.0	48.7	27.1	17.0	1,733	1.5	5.6	17.1
En Route Start	2	511	741.6	47.6	26.6	16.9	1,715	1.5	5.6	17.2
En Route Start	3	502	725.4	44.6	24.1	14.8	1,593	1.4	5.3	17.7
En Route Start	4	504	737.5	46.8	25.9	15.9	1,658	1.5	5.6	17.2
En Route Start	5	528	752.5	46.5	25.1	15.2	1,665	1.4	5.3	17.7
En Route Start	6	518	759.5	47.9	26.4	16.3	1,735	1.5	5.5	17.4
En Route Start	7	531	761.0	48.3	26.7	17.0	1,828	1.4	5.5	17.4
En Route Start	8	523	762.8	48.0	26.4	16.4	1,678	1.5	5.5	17.5
En Route Start	9	540	780.3	49.1	27.0	16.9	1,759	1.4	5.5	17.5
En Route Start	10	501	724.9	46.0	25.4	15.9	1,557	1.4	5.5	17.6
En Route End	1	1,081	624.5	148.1	128.4	105.4	4,910	0.6	8.2	8.5
En Route End	2	1,055	614.0	128.4	109.4	89.2	4,138	0.6	7.3	8.8
En Route End	3	945	580.2	98.1	80.3	62.9	3,054	0.6	6.2	10.6
En Route End	4	961	585.0	112.7	94.4	79.0	3,173	0.6	7.0	10.1
En Route End	5	1,042	626.5	130.2	111.0	92.7	3,869	0.6	7.5	9.7
En Route End	6	1,054	643.3	138.6	118.6	100.4	4,380	0.6	7.9	9.6
En Route End	7	1,006	625.4	118.3	98.9	81.4	4,015	0.6	7.1	9.4
En Route End	8	935	590.2	104.6	86.2	68.9	3,132	0.6	6.7	10.6
En Route End	9	979	617.5	115.5	96.1	80.1	3,526	0.6	7.1	9.9
En Route End	10	1,014	593.6	116.4	97.7	78.8	3,421	0.6	6.9	9.7
Missed	1	5	4.6	0.6	0.4	0.3	28	0.9	6.8	9.7
Missed	2	5	3.4	0.2	0.1	0.1	18	0.7	2.9	14.8
Missed	3	1	0.5	0.0	0.0	0.0	3	0.5	1.9	16.8
Missed	4	5	5.6	0.9	0.7	0.6	30	1.1	10.6	9.7
Missed	5	6	5.4	0.4	0.3	0.2	27	0.9	4.1	13.9
Missed	6	7	4.2	0.8	0.6	0.6	28	0.6	6.4	8.5
Missed	7	6	6.2	0.5	0.3	0.2	37	1.0	5.3	12.8

Missed	8	3	1.6	0.2	0.1	0.1	14	0.5	3.0	13.8
Missed	9	3	3.1	0.4	0.3	0.3	19	1.0	8.1	10.9
Missed	10	3	3.9	0.4	0.3	0.2	28	1.3	7.4	11.1
Unserved	1	122	0.0	17.4	17.4	0.0	0	0.0	8.6	--
Unserved	2	78	0.0	10.4	10.4	0.0	0	0.0	8.0	--
Unserved	3	64	0.0	10.2	10.2	0.0	0	0.0	9.6	--
Unserved	4	78	0.0	15.2	15.2	0.0	0	0.0	11.7	--
Unserved	5	83	0.0	16.0	16.0	0.0	0	0.0	11.6	--
Unserved	6	85	0.0	12.1	12.1	0.0	0	0.0	8.5	--
Unserved	7	88	0.0	19.4	19.4	0.0	0	0.0	13.2	--
Unserved	8	89	0.0	19.4	19.4	0.0	0	0.0	13.1	--
Unserved	9	73	0.0	12.8	12.8	0.0	0	0.0	10.5	0.0
Unserved	10	89	0.0	19.7	19.7	0.0	0	0.0	13.3	0.0
4:30 PM	Avg	7,566	8,568.5	680.4	439.8	302.7	28,371	1.1	5.4	15.8
En Route Start	Avg	518	750.5	47.3	26.1	16.2	1,692	1.5	5.5	17.4
En Route End	Avg	1,007	610.0	121.1	102.1	83.9	3,762	0.6	7.2	9.7
Missed	Avg	4	3.9	0.4	0.3	0.2	23	0.9	5.7	12.2
Unserved	Avg	85	0.0	15.3	15.3	0.0	0	0.0	10.8	0.0

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	7,565.5	62.1	7,454.0	7,652.0	10
En Route Start	518.0	13.3	501.0	540.0	10
En Route End	1,007.2	50.8	935.0	1,081.0	10
Missed	4.4	1.8	1.0	7.0	10
Unserved	84.9	15.3	64.0	122.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	8,568.5	98.9	8,398.3	8,716.7	10
En Route Start	750.5	17.8	724.9	780.3	10
En Route End	610.0	21.3	580.2	643.3	10
Missed	3.9	1.8	0.5	6.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	680.4	18.7	645.0	705.7	10
En Route Start	47.3	1.4	44.6	49.1	10
En Route End	121.1	15.3	98.1	148.1	10
Missed	0.4	0.3	0.0	0.9	10
Unserved	15.3	3.7	10.2	19.7	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	439.8	20.4	402.2	468.5	10
En Route Start	26.1	0.9	24.1	27.1	10
En Route End	102.1	14.7	80.3	128.4	10
Missed	0.3	0.2	0.0	0.7	10
Unserved	15.3	3.7	10.2	19.7	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	302.7	20.1	268.6	335.0	10
En Route Start	16.2	0.8	14.8	17.0	10
En Route End	83.9	13.2	62.9	105.4	10
Missed	0.2	0.2	0.0	0.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	28,370.6	703.2	27,266.0	29,373.0	10
En Route Start	1,692.1	79.7	1,557.0	1,828.0	10
En Route End	3,761.8	608.6	3,054.0	4,910.0	10
Missed	23.2	9.8	3.0	37.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	1.1	0.0	1.1	1.1	10
En Route Start	1.5	0.1	1.4	1.5	10
En Route End	0.6	0.0	0.6	0.6	10
Missed	0.9	0.3	0.5	1.3	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	5.4	0.2	5.1	5.7	10
En Route Start	5.5	0.1	5.3	5.6	10
En Route End	7.2	0.6	6.2	8.2	10
Missed	5.7	2.7	1.9	10.6	10
Unserved	10.8	2.1	8.0	13.3	10

Project: BuildAlt4B_2050_Morgantown
Scenario: 2050_B_Alt4B_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	15.8	0.3	15.3	16.4	10
En Route Start	17.4	0.2	17.1	17.7	10
En Route End	9.7	0.7	8.5	10.6	10
Missed	12.2	2.6	8.5	16.8	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
12:15 PM	1	5,638	6,648.2	358.4	170.5	88.3	15,375	1.2	3.8	20.0
12:15 PM	2	5,635	6,651.2	356.5	168.6	85.5	15,229	1.2	3.8	20.0
12:15 PM	3	5,638	6,651.5	357.5	169.8	88.2	15,218	1.2	3.8	20.1
12:15 PM	4	5,644	6,664.6	355.7	167.4	84.4	15,202	1.2	3.8	20.1
12:15 PM	5	5,629	6,635.8	357.8	170.4	87.3	15,038	1.2	3.8	20.0
12:15 PM	6	5,624	6,644.4	353.7	166.0	83.5	15,024	1.2	3.8	20.2
12:15 PM	7	5,656	6,679.7	358.8	170.1	85.7	15,503	1.2	3.8	20.0
12:15 PM	8	5,633	6,653.3	356.7	168.7	85.8	15,076	1.2	3.8	20.1
12:15 PM	9	5,630	6,633.0	357.0	169.7	87.2	14,925	1.2	3.8	20.1
12:15 PM	10	5,644	6,657.5	354.4	166.4	85.2	15,013	1.2	3.8	20.1
En Route Start	1	323	478.7	23.8	10.3	4.3	930	1.5	4.4	21.0
En Route Start	2	331	494.2	24.6	10.6	4.4	835	1.5	4.5	20.9
En Route Start	3	335	494.3	24.4	10.4	4.2	847	1.5	4.4	21.1
En Route Start	4	334	490.3	24.0	10.1	4.5	870	1.5	4.3	21.4
En Route Start	5	341	505.5	25.7	11.4	5.0	923	1.5	4.5	20.5
En Route Start	6	361	529.2	26.3	11.4	5.1	901	1.5	4.4	21.2
En Route Start	7	343	514.5	25.9	11.3	5.1	961	1.5	4.5	20.7
En Route Start	8	347	522.3	25.5	10.7	4.6	927	1.5	4.4	21.3
En Route Start	9	323	484.4	23.7	10.0	4.4	845	1.5	4.4	21.4
En Route Start	10	340	501.5	24.3	10.2	4.3	851	1.5	4.3	21.5
En Route End	1	382	265.5	15.3	7.5	4.3	745	0.7	2.4	19.6
En Route End	2	385	254.3	14.7	7.2	4.2	750	0.7	2.3	20.0
En Route End	3	380	260.6	15.3	7.7	4.5	765	0.7	2.4	19.5
En Route End	4	373	247.6	14.1	6.9	3.8	669	0.7	2.3	19.9
En Route End	5	389	271.8	16.4	8.4	5.1	858	0.7	2.5	19.2
En Route End	6	395	261.9	15.4	7.8	4.6	836	0.7	2.3	19.4
En Route End	7	361	233.8	14.0	7.1	4.3	732	0.6	2.3	19.5
En Route End	8	387	266.0	15.4	7.6	4.3	762	0.7	2.4	19.4
En Route End	9	387	274.4	16.3	8.2	4.8	838	0.7	2.5	19.0
En Route End	10	375	256.8	15.0	7.4	4.6	711	0.7	2.4	19.8
Missed	1	--	--	--	--	--	--	--		--
Missed	2	--	--	--	--	--	--	--		--
Missed	3	2	3.8	0.2	0.1	0.1	11	1.9	7.1	16.4
Missed	4	3	2.8	0.2	0.1	0.0	8	0.9	3.0	19.4
Missed	5	2	2.7	0.2	0.1	0.1	9	1.3	5.6	14.4
Missed	6	1	0.6	0.1	0.0	0.0	3	0.6	3.0	12.2
Missed	7	3	3.9	0.3	0.2	0.1	16	1.3	5.4	14.7

Missed	8	--	--	--	--	--	--	--		--
Missed	9	2	2.8	0.3	0.2	0.2	13	1.4	8.2	19.3
Missed	10	--	--	--	--	--	--	--		--
Unserved	1	--	--	--	--	--	--	--		--
Unserved	2	--	--	--	--	--	--	--		--
Unserved	3	--	--	--	--	--	--	--		--
Unserved	4	--	--	--	--	--	--	--		--
Unserved	5	--	--	--	--	--	--	--		--
Unserved	6	--	--	--	--	--	--	--		--
Unserved	7	--	--	--	--	--	--	--		--
Unserved	8	--	--	--	--	--	--	--		--
Unserved	9	1	0.0	0.0	0.0	0.0	0	0.0	0.0	--
Unserved	10	1	0.0	0.0	0.0	0.0	0	0.0	0.0	--
12:15 PM	Avg	5,637	6,651.9	356.6	168.8	86.1	15,160	1.2	3.8	20.1
En Route Start	Avg	338	501.5	24.8	10.6	4.6	889	1.5	4.4	21.1
En Route End	Avg	381	259.3	15.2	7.6	4.4	767	0.7	2.4	19.5
Missed	Avg	1	1.7	0.1	0.1	0.1	10	1.2	3.2	16.1
Unserved	Avg	0	0.0	0.0	0.0	0.0	0	0.0	0.0	--

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,637.1	9.2	5,624.0	5,656.0	10
En Route Start	337.8	11.4	323.0	361.0	10
En Route End	381.4	9.7	361.0	395.0	10
Missed	1.3	1.3	1.0	3.0	10
Unserved	0.2	0.4	1.0	1.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	6,651.9	13.6	6,633.0	6,679.7	10
En Route Start	501.5	16.4	478.7	529.2	10
En Route End	259.3	12.0	233.8	274.4	10
Missed	1.7	1.7	0.6	3.9	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	356.6	1.6	353.7	358.8	10
En Route Start	24.8	1.0	23.7	26.3	10
En Route End	15.2	0.8	14.0	16.4	10
Missed	0.1	0.1	0.1	0.3	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	168.8	1.7	166.0	170.5	10
En Route Start	10.6	0.5	10.0	11.4	10
En Route End	7.6	0.5	6.9	8.4	10
Missed	0.1	0.1	0.0	0.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	86.1	1.6	83.5	88.3	10
En Route Start	4.6	0.4	4.2	5.1	10
En Route End	4.4	0.4	3.8	5.1	10
Missed	0.0	0.1	0.0	0.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	15,160.3	179.8	14,925.0	15,503.0	10
En Route Start	889.0	44.8	835.0	961.0	10
En Route End	766.6	60.4	669.0	858.0	10
Missed	6.0	6.1	3.0	16.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.0	1.5	1.5	10
En Route End	0.7	0.0	0.6	0.7	10
Missed	0.7	0.7	0.6	1.9	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	3.8	0.0	3.8	3.8	10
En Route Start	4.4	0.1	4.3	4.5	10
En Route End	2.4	0.1	2.3	2.5	10
Missed	3.2	3.2	3.0	8.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	20.1	0.1	20.0	20.2	10
En Route Start	21.1	0.3	20.5	21.5	10
En Route End	19.5	0.3	19.0	20.0	10
Missed	9.6	8.6	12.2	19.4	10
Unserved	0.0	0.0			10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
4:30 PM	1	7,831	9,076.4	614.9	358.3	214.5	29,492	1.2	4.7	16.5
4:30 PM	2	7,867	9,132.1	609.8	351.6	212.4	28,988	1.2	4.7	16.8
4:30 PM	3	7,874	9,130.4	593.2	335.0	197.6	28,744	1.2	4.5	16.9
4:30 PM	4	7,840	9,103.9	590.5	333.1	194.6	28,205	1.2	4.5	16.9
4:30 PM	5	7,833	9,076.3	600.7	344.0	207.3	29,397	1.2	4.6	16.5
4:30 PM	6	7,812	9,062.1	608.0	351.8	213.1	29,451	1.2	4.7	16.6
4:30 PM	7	7,841	9,106.1	604.1	346.7	207.6	29,746	1.2	4.6	16.5
4:30 PM	8	7,845	9,106.8	596.7	339.2	201.5	29,236	1.2	4.6	16.7
4:30 PM	9	7,850	9,090.3	599.2	342.1	205.1	28,882	1.2	4.6	16.7
4:30 PM	10	7,804	9,039.5	612.6	357.2	218.0	29,622	1.2	4.7	16.5
En Route Start	1	492	703.7	38.3	18.3	9.0	1,419	1.4	4.7	19.2
En Route Start	2	485	705.3	38.1	18.1	8.8	1,414	1.5	4.7	19.4
En Route Start	3	485	692.5	38.0	18.3	8.8	1,474	1.4	4.7	19.0
En Route Start	4	502	720.6	39.3	18.9	9.3	1,539	1.4	4.7	19.2
En Route Start	5	499	730.3	39.8	19.1	9.7	1,579	1.5	4.8	19.2
En Route Start	6	518	738.6	40.2	19.3	9.4	1,570	1.4	4.7	19.2
En Route Start	7	491	697.3	38.6	18.9	9.3	1,533	1.4	4.7	18.9
En Route Start	8	508	727.3	39.2	18.6	9.2	1,496	1.4	4.6	19.4
En Route Start	9	500	726.5	39.2	18.5	8.9	1,496	1.5	4.7	19.3
En Route Start	10	502	723.6	40.1	19.5	9.7	1,470	1.4	4.8	18.9
En Route End	1	697	450.3	39.8	26.6	17.1	2,087	0.6	3.4	14.8
En Route End	2	673	429.9	37.1	24.5	16.0	1,767	0.6	3.3	15.5
En Route End	3	666	427.7	38.8	26.3	15.4	1,780	0.6	3.5	15.2
En Route End	4	686	441.9	38.4	25.5	16.7	1,964	0.6	3.4	15.5
En Route End	5	698	459.9	38.7	25.3	17.4	2,030	0.7	3.3	14.5
En Route End	6	700	440.3	40.9	28.0	17.1	2,057	0.6	3.5	14.8
En Route End	7	686	434.6	36.2	23.4	15.2	1,900	0.6	3.2	15.7
En Route End	8	686	446.0	36.9	23.8	15.9	1,970	0.7	3.2	15.5
En Route End	9	682	454.1	35.4	22.1	14.0	1,711	0.7	3.1	15.5
En Route End	10	717	461.1	41.5	27.8	18.6	2,106	0.6	3.5	14.9
Missed	1	14	22.1	1.4	0.8	0.4	71	1.6	6.1	16.3
Missed	2	9	11.3	0.8	0.4	0.3	35	1.3	5.0	16.2
Missed	3	12	16.1	1.0	0.5	0.2	58	1.3	4.8	17.2
Missed	4	11	13.1	0.8	0.5	0.2	46	1.2	4.5	16.8
Missed	5	16	23.7	1.5	0.8	0.4	69	1.5	5.7	16.1
Missed	6	9	12.8	0.7	0.3	0.1	25	1.4	4.3	19.9
Missed	7	12	17.2	1.0	0.5	0.2	44	1.4	5.1	17.3

Missed	8	12	16.2	0.9	0.4	0.2	48	1.3	4.5	18.4
Missed	9	20	30.8	1.9	1.0	0.5	82	1.5	5.8	16.8
Missed	10	22	25.1	1.7	1.0	0.6	90	1.1	4.7	15.8
Unserved	1	10	0.0	0.0	0.0	0.0	0	0.0	0.2	--
Unserved	2	3	0.0	0.0	0.0	0.0	0	0.0	0.1	0.0
Unserved	3	--	--	--	--	--	--	--		--
Unserved	4	15	0.0	0.1	0.1	0.0	0	0.0	0.5	--
Unserved	5	5	0.0	0.0	0.0	0.0	0	0.0	0.1	--
Unserved	6	31	0.0	0.5	0.5	0.0	0	0.0	1.0	--
Unserved	7	12	0.0	0.1	0.1	0.0	0	0.0	0.4	--
Unserved	8	9	0.0	0.0	0.0	0.0	0	0.0	0.2	--
Unserved	9	--	--	--	--	--	--	--		--
Unserved	10	9	0.0	0.1	0.1	0.0	0	0.0	0.4	--
4:30 PM	Avg	7,840	9,092.4	603.0	345.9	207.2	29,176	1.2	4.6	16.7
En Route Start	Avg	498	716.6	39.1	18.7	9.2	1,499	1.4	4.7	19.2
En Route End	Avg	689	444.6	38.4	25.3	16.3	1,937	0.6	3.3	15.2
Missed	Avg	14	18.8	1.2	0.6	0.3	57	1.4	5.1	17.1
Unserved	Avg	9	0.0	0.1	0.1	0.0	0	0.0	0.3	0.0

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	7,839.7	21.7	7,804.0	7,874.0	10
En Route Start	498.2	10.3	485.0	518.0	10
En Route End	689.1	14.6	666.0	717.0	10
Missed	13.7	4.4	9.0	22.0	10
Unserved	9.4	9.1	3.0	31.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	9,092.4	29.4	9,039.5	9,132.1	10
En Route Start	716.6	15.6	692.5	738.6	10
En Route End	444.6	11.8	427.7	461.1	10
Missed	18.8	6.3	11.3	30.8	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	603.0	8.3	590.5	614.9	10
En Route Start	39.1	0.8	38.0	40.2	10
En Route End	38.4	2.0	35.4	41.5	10
Missed	1.2	0.4	0.7	1.9	10
Unserved	0.1	0.2	0.0	0.5	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	345.9	8.8	333.1	358.3	10
En Route Start	18.7	0.5	18.1	19.5	10
En Route End	25.3	1.9	22.1	28.0	10
Missed	0.6	0.3	0.3	1.0	10
Unserved	0.1	0.2	0.0	0.5	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	207.2	7.6	194.6	218.0	10
En Route Start	9.2	0.3	8.8	9.7	10
En Route End	16.3	1.3	14.0	18.6	10
Missed	0.3	0.1	0.1	0.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	29,176.3	471.8	28,205.0	29,746.0	10
En Route Start	1,499.0	57.1	1,414.0	1,579.0	10
En Route End	1,937.2	142.2	1,711.0	2,106.0	10
Missed	56.8	20.9	25.0	90.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.4	0.0	1.4	1.5	10
En Route End	0.6	0.0	0.6	0.7	10
Missed	1.4	0.2	1.1	1.6	10
Unserved	0.0	0.0	0.0	0.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	4.6	0.1	4.5	4.7	10
En Route Start	4.7	0.1	4.6	4.8	10
En Route End	3.3	0.1	3.1	3.5	10
Missed	5.1	0.6	4.3	6.1	10
Unserved	0.3	0.3	0.1	1.0	10

Project: BuildAlt5_2050_Morgantown
Scenario: 2050_B_Alt5_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	16.7	0.2	16.5	16.9	10
En Route Start	19.2	0.2	18.9	19.4	10
En Route End	15.2	0.4	14.5	15.7	10
Missed	17.1	1.2	15.8	19.9	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
12:15 PM	1	5,181	6,007.9	330.1	163.8	91.1	13,378	1.2	3.8	19.7
12:15 PM	2	5,159	5,977.9	327.5	161.8	88.9	13,215	1.2	3.8	19.7
12:15 PM	3	5,179	6,014.7	327.9	161.3	89.2	13,270	1.2	3.8	20.0
12:15 PM	4	5,182	6,005.7	327.2	160.9	89.6	13,244	1.2	3.8	19.9
12:15 PM	5	5,174	6,011.3	332.4	166.0	93.5	13,337	1.2	3.9	19.6
12:15 PM	6	5,158	5,979.5	335.8	170.2	97.5	13,705	1.2	3.9	19.4
12:15 PM	7	5,180	6,011.7	333.0	166.5	93.3	13,221	1.2	3.9	19.6
12:15 PM	8	5,173	5,999.6	332.9	166.7	92.0	13,663	1.2	3.9	19.5
12:15 PM	9	5,166	5,984.1	332.9	167.2	94.1	13,485	1.2	3.9	19.5
12:15 PM	10	5,167	5,981.9	322.3	156.7	85.7	12,925	1.2	3.7	20.0
En Route Start	1	346	510.7	29.3	15.1	8.7	1,035	1.5	5.1	18.5
En Route Start	2	339	507.3	27.9	13.8	7.8	946	1.5	4.9	19.3
En Route Start	3	347	517.0	28.3	14.0	7.4	1,010	1.5	4.9	19.4
En Route Start	4	338	498.8	26.3	12.4	6.6	927	1.5	4.7	20.2
En Route Start	5	334	486.8	26.9	13.4	7.9	930	1.5	4.8	19.6
En Route Start	6	347	506.9	29.1	15.0	8.8	1,034	1.5	5.0	18.9
En Route Start	7	342	502.7	30.7	16.7	10.1	1,064	1.5	5.4	18.0
En Route Start	8	349	505.7	28.2	14.1	8.1	989	1.4	4.8	19.3
En Route Start	9	340	502.5	28.6	14.6	8.7	992	1.5	5.0	19.1
En Route Start	10	352	520.0	28.8	14.3	8.2	1,027	1.5	4.9	19.2
En Route End	1	349	242.0	14.2	7.3	4.4	690	0.7	2.4	19.2
En Route End	2	369	246.7	15.0	7.9	4.8	779	0.7	2.4	19.0
En Route End	3	350	225.4	13.4	7.0	4.3	685	0.6	2.3	19.5
En Route End	4	346	230.0	13.8	7.1	4.4	698	0.7	2.4	19.4
En Route End	5	351	232.3	13.7	7.0	4.2	654	0.7	2.3	19.3
En Route End	6	368	255.6	16.1	8.8	5.5	735	0.7	2.6	18.8
En Route End	7	349	230.9	14.1	7.4	4.8	727	0.7	2.4	19.2
En Route End	8	354	246.2	14.2	7.0	4.2	692	0.7	2.4	19.6
En Route End	9	363	250.3	15.6	8.4	5.5	789	0.7	2.6	18.9
En Route End	10	362	241.1	15.6	8.5	5.5	720	0.7	2.6	18.9
Missed	1	--	--	--	--	--	--	--		--
Missed	2	2	4.7	0.3	0.1	0.1	12	2.4	7.9	18.5
Missed	3	1	1.8	0.1	0.0	0.0	3	1.8	5.4	19.5
Missed	4	2	3.3	0.2	0.1	0.1	12	1.7	5.9	17.1
Missed	5	5	8.2	0.6	0.4	0.2	27	1.6	6.9	14.5
Missed	6	4	7.6	0.5	0.3	0.2	28	1.9	8.0	15.1
Missed	7	1	2.1	0.2	0.1	0.1	7	2.1	8.9	14.1

Missed	8	3	5.4	0.3	0.2	0.1	18	1.8	6.5	17.9
Missed	9	1	1.4	0.1	0.1	0.1	5	1.4	7.2	11.8
Missed	10	1	1.9	0.1	0.0	0.0	6	1.9	5.7	20.5
12:15 PM	Avg	5,172	5,997.4	330.2	164.1	91.5	13,344	1.2	3.8	19.7
En Route Start	Avg	343	505.8	28.4	14.3	8.2	995	1.5	5.0	19.2
En Route End	Avg	356	240.1	14.5	7.6	4.8	717	0.7	2.4	19.2
Missed	Avg	2	3.6	0.2	0.2	0.1	13	1.8	6.2	16.6

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,171.9	9.0	5,158.0	5,182.0	10
En Route Start	343.4	5.7	334.0	352.0	10
En Route End	356.1	8.6	346.0	369.0	10
Missed	2.0	1.6	1.0	5.0	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,997.4	14.9	5,977.9	6,014.7	10
En Route Start	505.8	9.3	486.8	520.0	10
En Route End	240.1	10.0	225.4	255.6	10
Missed	3.6	2.7	1.4	8.2	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	330.2	4.0	322.3	335.8	10
En Route Start	28.4	1.2	26.3	30.7	10
En Route End	14.5	0.9	13.4	16.1	10
Missed	0.2	0.2	0.1	0.6	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	164.1	4.0	156.7	170.2	10
En Route Start	14.3	1.1	12.4	16.7	10
En Route End	7.6	0.7	7.0	8.8	10
Missed	0.1	0.1	0.0	0.4	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	91.5	3.3	85.7	97.5	10
En Route Start	8.2	1.0	6.6	10.1	10
En Route End	4.8	0.5	4.2	5.5	10
Missed	0.1	0.1	0.0	0.2	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	13,344.3	230.0	12,925.0	13,705.0	10
En Route Start	995.4	47.6	927.0	1,064.0	10
En Route End	716.9	42.4	654.0	789.0	10
Missed	11.8	9.7	3.0	28.0	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.0	1.4	1.5	10
En Route End	0.7	0.0	0.6	0.7	10
Missed	1.7	0.6	1.4	2.4	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	3.8	0.1	3.7	3.9	10
En Route Start	5.0	0.2	4.7	5.4	10
En Route End	2.4	0.1	2.3	2.6	10
Missed	6.2	2.5	5.4	8.9	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	19.7	0.2	19.4	20.0	10
En Route Start	19.2	0.6	18.0	20.2	10
En Route End	19.2	0.3	18.8	19.6	10
Missed	14.9	5.9	11.8	20.5	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
4:30 PM	1	7,186	8,334.7	628.6	396.3	252.8	25,149	1.2	5.2	15.7
4:30 PM	2	7,227	8,400.6	558.1	323.6	201.5	23,473	1.2	4.6	16.6
4:30 PM	3	7,231	8,407.8	544.8	310.3	191.8	23,070	1.2	4.5	17.0
4:30 PM	4	7,177	8,314.2	576.5	344.5	221.9	23,673	1.2	4.8	16.6
4:30 PM	5	7,237	8,382.3	548.4	314.4	195.2	23,150	1.2	4.5	16.9
4:30 PM	6	7,208	8,392.1	555.3	321.1	200.4	23,492	1.2	4.6	16.8
4:30 PM	7	7,233	8,398.0	541.6	307.1	187.0	23,212	1.2	4.5	17.0
4:30 PM	8	7,268	8,460.2	548.4	312.2	191.7	23,135	1.2	4.5	17.0
4:30 PM	9	7,196	8,309.7	556.3	324.3	202.3	23,612	1.2	4.6	16.6
4:30 PM	10	7,188	8,347.3	589.3	356.6	230.7	24,540	1.2	4.9	16.3
En Route Start	1	484	697.1	39.2	19.8	10.6	1,512	1.4	4.9	18.7
En Route Start	2	507	729.6	42.6	22.3	12.6	1,692	1.4	5.0	17.9
En Route Start	3	474	698.1	39.2	19.8	11.0	1,513	1.5	5.0	18.7
En Route Start	4	492	710.3	40.1	20.3	11.1	1,508	1.4	4.9	18.7
En Route Start	5	465	682.1	38.5	19.6	10.8	1,454	1.5	5.0	18.7
En Route Start	6	487	708.8	40.6	20.8	11.5	1,530	1.5	5.0	18.4
En Route Start	7	508	737.2	42.9	22.4	12.5	1,686	1.5	5.1	17.9
En Route Start	8	481	694.7	40.4	21.0	11.6	1,584	1.4	5.0	18.2
En Route Start	9	463	675.2	39.4	20.6	11.6	1,520	1.5	5.1	18.0
En Route Start	10	455	666.1	38.5	19.9	11.2	1,454	1.5	5.1	18.4
En Route End	1	699	489.9	43.4	28.7	21.4	2,019	0.7	3.7	13.7
En Route End	2	664	469.7	40.3	26.7	19.6	1,774	0.7	3.6	14.5
En Route End	3	651	466.6	37.8	24.2	17.7	1,690	0.7	3.5	15.4
En Route End	4	716	512.5	48.4	33.4	24.0	2,044	0.7	4.1	13.9
En Route End	5	649	496.9	40.8	26.5	19.1	1,803	0.8	3.8	15.3
En Route End	6	678	479.3	40.4	26.2	19.2	1,861	0.7	3.6	14.9
En Route End	7	642	473.0	38.6	25.0	18.0	1,757	0.7	3.6	15.4
En Route End	8	619	454.4	36.1	22.9	16.7	1,532	0.7	3.5	15.8
En Route End	9	689	517.5	45.0	29.8	21.1	2,217	0.8	3.9	13.9
En Route End	10	708	498.6	44.1	29.6	20.4	2,083	0.7	3.7	14.0
Missed	1	41	68.5	5.3	3.5	2.4	283	1.7	7.7	14.1
Missed	2	34	61.0	4.5	2.9	1.9	250	1.8	7.9	13.9
Missed	3	44	80.8	6.0	3.8	2.5	338	1.8	8.1	14.5
Missed	4	33	60.4	4.5	2.9	1.8	275	1.8	8.1	13.8
Missed	5	40	74.9	5.1	3.2	1.9	292	1.9	7.6	15.0
Missed	6	40	71.7	5.4	3.5	2.3	305	1.8	8.1	13.9
Missed	7	51	88.7	7.2	4.9	3.3	443	1.7	8.5	12.8

Missed	8	38	63.5	4.8	3.2	2.0	273	1.7	7.5	14.1
Missed	9	41	71.8	5.5	3.7	2.4	321	1.8	8.1	13.5
Missed	10	27	45.9	3.4	2.3	1.5	208	1.7	7.6	13.9
Unserved	1	--	--	--	--	--	--	--		--
Unserved	2	1	0.0	0.0	0.0	0.0	0	0.0	0.0	--
Unserved	3	--	--	--	--	--	--	--		--
Unserved	4	--	--	--	--	--	--	--		--
Unserved	5	--	--	--	--	--	--	--		--
Unserved	6	--	--	--	--	--	--	--		--
Unserved	7	--	--	--	--	--	--	--		--
Unserved	8	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Unserved	9	--	--	--	--	--	--	--		--
Unserved	10	3	0.0	0.0	0.0	0.0	0	0.0	0.6	--
4:30 PM	Avg	7,215	8,374.7	564.7	331.1	207.5	23,651	1.2	4.7	16.7
En Route Start	Avg	482	699.9	40.1	20.6	11.4	1,545	1.5	5.0	18.4
En Route End	Avg	672	485.8	41.5	27.3	19.7	1,878	0.7	3.7	14.7
Missed	Avg	39	68.7	5.2	3.4	2.2	299	1.8	7.9	14.0
Unserved	Avg	1	0.0	0.0	0.0	0.0	0	0.0	0.1	0.0

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	7,215.1	28.8	7,177.0	7,268.0	10
En Route Start	481.6	17.9	455.0	508.0	10
En Route End	671.5	31.7	619.0	716.0	10
Missed	38.9	6.5	27.0	51.0	10
Unserved	0.5	1.0	1.0	3.0	10

Trip Statistics Report - VMT

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	8,374.7	47.4	8,309.7	8,460.2	10
En Route Start	699.9	22.5	666.1	737.2	10
En Route End	485.8	20.7	454.4	517.5	10
Missed	68.7	11.9	45.9	88.7	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	564.7	26.9	541.6	628.6	10
En Route Start	40.1	1.6	38.5	42.9	10
En Route End	41.5	3.7	36.1	48.4	10
Missed	5.2	1.0	3.4	7.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	331.1	27.7	307.1	396.3	10
En Route Start	20.6	1.0	19.6	22.4	10
En Route End	27.3	3.1	22.9	33.4	10
Missed	3.4	0.7	2.3	4.9	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	207.5	21.0	187.0	252.8	10
En Route Start	11.4	0.7	10.6	12.6	10
En Route End	19.7	2.1	16.7	24.0	10
Missed	2.2	0.5	1.5	3.3	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	23,650.6	678.3	23,070.0	25,149.0	10
En Route Start	1,545.3	84.3	1,454.0	1,692.0	10
En Route End	1,878.0	208.4	1,532.0	2,217.0	10
Missed	298.8	62.4	208.0	443.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.1	1.4	1.5	10
En Route End	0.7	0.0	0.7	0.8	10
Missed	1.8	0.1	1.7	1.9	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	4.7	0.2	4.5	5.2	10
En Route Start	5.0	0.1	4.9	5.1	10
En Route End	3.7	0.2	3.5	4.1	10
Missed	7.9	0.3	7.5	8.5	10
Unserved	0.1	0.2	0.0	0.6	10

Project: Build_Alt6_2050_Morgantown
Scenario: 2050_B_Alt6_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	16.7	0.4	15.7	17.0	10
En Route Start	18.4	0.3	17.9	18.7	10
En Route End	14.7	0.8	13.7	15.8	10
Missed	14.0	0.6	12.8	15.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
12:15 PM	1	5,157	6,043.0	336.9	169.7	91.5	13,428	1.2	3.9	19.2
12:15 PM	2	5,161	6,049.4	339.4	172.0	94.3	13,624	1.2	3.9	19.1
12:15 PM	3	5,158	6,031.4	334.0	167.0	88.3	13,118	1.2	3.9	19.3
12:15 PM	4	5,156	6,041.1	337.9	170.6	91.5	13,534	1.2	3.9	19.1
12:15 PM	5	5,157	6,036.0	338.2	171.2	93.2	13,437	1.2	3.9	19.1
12:15 PM	6	5,168	6,048.0	340.9	173.5	93.2	13,586	1.2	4.0	19.0
12:15 PM	7	5,176	6,063.6	340.3	172.5	93.0	13,555	1.2	3.9	19.1
12:15 PM	8	5,168	6,048.8	335.7	168.3	90.3	13,446	1.2	3.9	19.3
12:15 PM	9	5,164	6,055.4	342.4	174.6	94.4	13,762	1.2	4.0	19.0
12:15 PM	10	5,172	6,050.7	338.0	170.5	91.9	13,291	1.2	3.9	19.2
En Route Start	1	367	551.9	30.7	15.5	8.1	1,159	1.5	5.0	19.0
En Route Start	2	350	527.9	29.8	15.2	7.9	1,099	1.5	5.1	18.7
En Route Start	3	347	520.2	28.1	13.7	7.2	1,024	1.5	4.9	19.7
En Route Start	4	370	550.4	30.8	15.5	8.1	1,134	1.5	5.0	18.9
En Route Start	5	371	566.2	32.4	16.6	8.6	1,135	1.5	5.2	18.4
En Route Start	6	358	538.6	30.2	15.3	7.9	1,093	1.5	5.1	18.8
En Route Start	7	366	553.1	31.2	15.9	8.2	1,170	1.5	5.1	18.7
En Route Start	8	350	524.8	29.4	14.9	7.7	1,094	1.5	5.0	18.7
En Route Start	9	347	524.6	29.1	14.6	7.4	1,030	1.5	5.0	19.0
En Route Start	10	343	520.2	29.1	14.7	7.7	1,091	1.5	5.1	18.8
En Route End	1	384	260.2	16.6	9.3	5.8	778	0.7	2.6	18.2
En Route End	2	380	264.6	16.3	8.7	5.1	809	0.7	2.6	18.4
En Route End	3	383	268.5	16.5	8.8	5.2	795	0.7	2.6	18.7
En Route End	4	382	253.2	16.5	9.3	5.9	804	0.7	2.6	18.0
En Route End	5	384	276.1	17.7	9.8	5.7	854	0.7	2.8	17.8
En Route End	6	372	260.2	16.2	8.7	5.3	773	0.7	2.6	18.9
En Route End	7	364	242.2	15.0	8.0	4.8	692	0.7	2.5	18.7
En Route End	8	372	260.2	16.2	8.8	5.1	784	0.7	2.6	18.5
En Route End	9	378	263.9	16.2	8.8	5.3	816	0.7	2.6	18.5
En Route End	10	369	265.6	16.2	8.6	5.1	757	0.7	2.6	18.7
Missed	1	2	5.9	0.4	0.2	0.1	18	3.0	12.0	14.9
Missed	2	2	4.2	0.3	0.2	0.1	11	2.1	8.8	14.3
Missed	3	2	4.9	0.3	0.2	0.1	14	2.5	9.1	16.2
Missed	4	4	8.8	0.5	0.2	0.1	24	2.2	7.4	18.1
Missed	5	1	3.0	0.2	0.1	0.1	9	3.0	11.9	14.9
Missed	6	3	7.6	0.5	0.3	0.2	22	2.5	10.1	15.1
Missed	7	3	8.5	0.5	0.2	0.1	16	2.8	9.4	18.4

Missed	8	2	4.7	0.3	0.2	0.1	16	2.4	9.4	15.1
Missed	9	1	3.0	0.2	0.1	0.1	10	3.0	12.0	14.8
Missed	10	2	4.0	0.3	0.2	0.1	14	2.0	8.4	15.0
Unserved	1	--	--	--	--	--	--	--		--
Unserved	2	--	--	--	--	--	--	--		--
Unserved	3	--	--	--	--	--	--	--		--
Unserved	4	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Unserved	5	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Unserved	6	--	--	--	--	--	--	--		--
Unserved	7	--	--	--	--	--	--	--		--
Unserved	8	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Unserved	9	--	--	--	--	--	--	--		--
Unserved	10	--	--	--	--	--	--	--		--
12:15 PM	Avg	5,164	6,046.7	338.4	171.0	92.1	13,478	1.2	3.9	19.1
En Route Start	Avg	357	537.8	30.1	15.2	7.9	1,103	1.5	5.1	18.9
En Route End	Avg	377	261.5	16.3	8.9	5.3	786	0.7	2.6	18.4
Missed	Avg	2	5.5	0.3	0.2	0.1	15	2.6	9.9	15.7
Unserved	Avg	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	5,163.7	7.0	5,156.0	5,176.0	10
En Route Start	356.9	10.8	343.0	371.0	10
En Route End	376.8	7.1	364.0	384.0	10
Missed	2.2	0.9	1.0	4.0	10
Unserved	0.3	0.5	1.0	1.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	6,046.7	9.3	6,031.4	6,063.6	10
En Route Start	537.8	16.5	520.2	566.2	10
En Route End	261.5	9.1	242.2	276.1	10
Missed	5.5	2.2	3.0	8.8	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	338.4	2.5	334.0	342.4	10
En Route Start	30.1	1.2	28.1	32.4	10
En Route End	16.3	0.7	15.0	17.7	10
Missed	0.3	0.1	0.2	0.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	171.0	2.3	167.0	174.6	10
En Route Start	15.2	0.8	13.7	16.6	10
En Route End	8.9	0.5	8.0	9.8	10
Missed	0.2	0.1	0.1	0.3	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	92.1	1.9	88.3	94.4	10
En Route Start	7.9	0.4	7.2	8.6	10
En Route End	5.3	0.4	4.8	5.9	10
Missed	0.1	0.0	0.1	0.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	13,478.1	180.3	13,118.0	13,762.0	10
En Route Start	1,102.9	48.9	1,024.0	1,170.0	10
En Route End	786.2	42.7	692.0	854.0	10
Missed	15.4	4.9	9.0	24.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.0	1.5	1.5	10
En Route End	0.7	0.0	0.7	0.7	10
Missed	2.6	0.4	2.0	3.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	3.9	0.0	3.9	4.0	10
En Route Start	5.1	0.1	4.9	5.2	10
En Route End	2.6	0.1	2.5	2.8	10
Missed	9.9	1.6	7.4	12.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_MD
Run(s): Batch (10 runs)
Simulated: Various
Time: 12:15:00 - 13:15:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
12:15 PM	19.1	0.1	19.0	19.3	10
En Route Start	18.9	0.3	18.4	19.7	10
En Route End	18.4	0.3	17.8	18.9	10
Missed	15.7	1.4	14.3	18.4	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Overview

Interval	Run	Number of Trips	Vehicle Miles Traveled (VMT)	Veh Hours Traveled (VHT)	Total Delay (hr)	Total Stopped Time (hr)	Total Number of Stops	Avg Trip Length (mi)	Avg Travel Time (min)	Avg Speed (mph)
4:30 PM	1	7,354	8,494.6	550.4	314.5	181.4	22,641	1.2	4.5	17.1
4:30 PM	2	7,373	8,514.0	522.3	286.0	158.3	21,193	1.2	4.3	17.6
4:30 PM	3	7,376	8,526.3	532.3	295.7	164.3	22,009	1.2	4.3	17.4
4:30 PM	4	7,330	8,462.0	522.5	287.7	160.6	21,366	1.2	4.3	17.6
4:30 PM	5	7,359	8,504.9	541.9	306.0	173.2	22,570	1.2	4.4	17.3
4:30 PM	6	7,358	8,503.5	532.2	296.1	165.3	21,881	1.2	4.3	17.3
4:30 PM	7	7,366	8,510.4	531.9	295.5	167.0	21,992	1.2	4.3	17.4
4:30 PM	8	7,366	8,510.6	526.8	290.5	160.4	21,971	1.2	4.3	17.4
4:30 PM	9	7,380	8,537.5	543.2	306.2	172.4	22,885	1.2	4.4	17.2
4:30 PM	10	7,364	8,502.3	542.2	306.2	175.5	22,758	1.2	4.4	17.1
En Route Start	1	496	722.0	43.5	23.4	12.5	1,665	1.5	5.3	17.5
En Route Start	2	489	702.0	41.3	21.7	11.1	1,520	1.4	5.1	17.9
En Route Start	3	547	802.1	50.4	28.1	15.6	1,952	1.5	5.5	16.9
En Route Start	4	490	703.7	42.1	22.5	12.3	1,650	1.4	5.2	17.8
En Route Start	5	492	713.7	42.5	22.6	12.4	1,693	1.5	5.2	17.8
En Route Start	6	510	732.0	44.0	23.5	12.7	1,769	1.4	5.2	17.5
En Route Start	7	505	735.4	44.9	24.3	13.4	1,780	1.5	5.3	17.3
En Route Start	8	524	762.3	46.0	24.7	12.9	1,768	1.5	5.3	17.4
En Route Start	9	502	725.4	46.0	25.7	14.6	1,873	1.4	5.5	16.8
En Route Start	10	507	728.3	44.7	24.5	13.8	1,696	1.4	5.3	17.2
En Route End	1	599	405.4	31.1	19.4	12.0	1,399	0.7	3.1	15.5
En Route End	2	580	415.5	28.1	16.1	9.8	1,177	0.7	2.9	16.9
En Route End	3	576	400.7	27.4	15.9	9.3	1,288	0.7	2.9	16.5
En Route End	4	624	426.3	34.7	22.4	15.2	1,584	0.7	3.3	15.4
En Route End	5	593	410.5	30.2	18.5	11.2	1,319	0.7	3.1	16.1
En Route End	6	591	420.0	29.6	17.5	10.1	1,328	0.7	3.0	16.1
En Route End	7	588	416.3	29.7	17.8	10.8	1,458	0.7	3.0	16.2
En Route End	8	586	411.6	28.6	16.8	9.5	1,333	0.7	2.9	16.2
En Route End	9	572	384.6	27.1	16.1	9.5	1,211	0.7	2.8	16.4
En Route End	10	587	406.0	29.2	17.7	10.3	1,389	0.7	3.0	15.7
Missed	1	1	1.9	0.2	0.1	0.1	7	1.9	9.5	12.2
Missed	2	--	--	--	--	--	--	--		--
Missed	3	2	2.1	0.2	0.1	0.1	12	1.1	5.2	12.4
Missed	4	--	--	--	--	--	--	--		--
Missed	5	2	1.2	0.2	0.1	0.1	6	0.6	5.3	12.0
Missed	6	5	3.0	0.3	0.2	0.1	15	0.6	3.4	11.8
Missed	7	--	--	--	--	--	--	--		--

Missed	8	2	1.3	0.1	0.1	0.1	8	0.6	3.4	12.8
Missed	9	1	2.2	0.2	0.1	0.0	6	2.2	8.8	15.2
Missed	10	2	3.0	0.2	0.1	0.1	9	1.5	5.8	18.6
Unserved	1	--	--	--	--	--	--	--		--
Unserved	2	1	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0
Unserved	3	--	--	--	--	--	--	--		--
Unserved	4	--	--	--	--	--	--	--		--
Unserved	5	--	--	--	--	--	--	--		--
Unserved	6	--	--	--	--	--	--	--		--
Unserved	7	--	--	--	--	--	--	--		--
Unserved	8	--	--	--	--	--	--	--		--
Unserved	9	1	0.0	0.0	0.0	0.0	0	0.0	0.0	--
Unserved	10	1	0.0	0.0	0.0	0.0	0	0.0	0.0	--
4:30 PM	Avg	7,363	8,506.6	534.6	298.5	167.8	22,127	1.2	4.4	17.3
En Route Start	Avg	506	732.7	44.5	24.1	13.1	1,737	1.5	5.3	17.4
En Route End	Avg	590	409.7	29.6	17.8	10.8	1,349	0.7	3.0	16.1
Missed	Avg	2	1.5	0.1	0.1	0.1	9	1.2	4.1	13.6
Unserved	Avg	0	0.0	0.0	0.0	0.0	0	0.0	0.0	0.0

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Num Trips

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	7,362.6	14.1	7,330.0	7,380.0	10
En Route Start	506.2	17.9	489.0	547.0	10
En Route End	589.6	14.5	572.0	624.0	10
Missed	1.5	1.5	1.0	5.0	10
Unserved	0.3	0.5	1.0	1.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VMT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	8,506.6	20.0	8,462.0	8,537.5	10
En Route Start	732.7	29.9	702.0	802.1	10
En Route End	409.7	11.6	384.6	426.3	10
Missed	1.5	1.2	1.2	3.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - VHT

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	534.6	9.5	522.3	550.4	10
En Route Start	44.5	2.6	41.3	50.4	10
En Route End	29.6	2.2	27.1	34.7	10
Missed	0.1	0.1	0.1	0.3	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Delay

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	298.5	9.4	286.0	314.5	10
En Route Start	24.1	1.8	21.7	28.1	10
En Route End	17.8	1.9	15.9	22.4	10
Missed	0.1	0.1	0.1	0.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Stopped Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	167.8	7.5	158.3	181.4	10
En Route Start	13.1	1.3	11.1	15.6	10
En Route End	10.8	1.8	9.3	15.2	10
Missed	0.1	0.0	0.0	0.1	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Total Num Stops

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	22,126.6	577.5	21,193.0	22,885.0	10
En Route Start	1,736.6	121.1	1,520.0	1,952.0	10
En Route End	1,348.6	117.9	1,177.0	1,584.0	10
Missed	6.3	5.1	6.0	15.0	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Trip Length

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	1.2	0.0	1.2	1.2	10
En Route Start	1.5	0.1	1.4	1.5	10
En Route End	0.7	0.0	0.7	0.7	10
Missed	0.9	0.8	0.6	2.2	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Travel Time

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	4.4	0.1	4.3	4.5	10
En Route Start	5.3	0.1	5.1	5.5	10
En Route End	3.0	0.1	2.8	3.3	10
Missed	4.1	3.5	3.4	9.5	10
Unserved	0.0	0.0	0.0	0.0	10

Project: Build_Alt7_2050_Morgantown
Scenario: 2050_B_Alt7_PM
Run(s): Batch (10 runs)
Simulated: Various
Time: 16:30:00 - 17:30:00
Interval: Summary
Selection: --

Trip Statistics Report - Avg Speed

Interval	Average	Standard Deviation	Minimum	Maximum	Number of Samples
4:30 PM	17.3	0.2	17.1	17.6	10
En Route Start	17.4	0.4	16.8	17.9	10
En Route End	16.1	0.5	15.4	16.9	10
Missed	9.5	6.9	11.8	18.6	10
Unserved	0.0	0.0	0.0	0.0	10

Appendix F - TDM Diversion Table

Travel Diversion - Alternative Vs. 2050 NB										
TransModeler Node ID	TransCAD Link ID	Road	ALT 1	ALT 2	ALT 3	ALT 4A	ALT 4B	ALT 5	ALT 6	ALT 7
1	1561	US 119 Beechurst S	0%	-3%	0%	0%	0%	0%	-3%	-3%
2	1519	Dorsey Ave S	0%	-2%	-5%	0%	0%	0%	-5%	-3%
6	1463	Grand St	0%	-10%	0%	0%	0%	0%	-10%	-10%
9	1319	Brockway Ave E	0%	0%	0%	0%	0%	0%	0%	0%
15	1323	Richwood Ave E	0%	-7%	0%	0%	0%	0%	-18%	-7%
17	994	Willey St N	0%	19%	0%	0%	0%	0%	19%	19%
19	1091	High St	0%	0%	0%	0%	0%	0%	0%	0%
20	986	College Ave N	0%	-100%	0%	0%	0%	0%	-100%	-100%
23	769	Stewart St N	0%	-10%	0%	0%	0%	0%	-10%	-10%
24	820	Willowdale Rd N	0%	-4%	0%	0%	0%	0%	-4%	-4%
29	818	Grove St N	0%	0%	0%	0%	0%	0%	0%	0%
35	693	University Ave N	0%	-12%	0%	0%	0%	0%	-12%	-12%
33	806	US 19 N	0%	10%	0%	0%	0%	0%	10%	10%
8	1176	US 19 Bridge	0%	0%	0%	0%	0%	0%	0%	0%
5	1394	High St S	0%	-6%	5%	0%	0%	0%	0%	-5%

Note: Travel diversion was calculated from the travel demand model and engineering judgement

Note: Alternatives 1, 3, 4A, 4B, and 5 did not have travel demand model differences