FINAL

FOCUSED ENVIRONMENTAL ASSESSMENT

For

CONSTRUCTION OF AMBULATORY CARE CENTER

At

MARINE CORPS AIR STATION BEAUFORT, SOUTH CAROLINA

May 2022

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Abstract

Designation:	Focused Environmental Assessment
Title of Proposed Action:	Construction of Ambulatory Care Center
Project Location:	Marine Corps Air Station Beaufort, South Carolina
Lead Agency for the EA:	U.S. Marine Corps
Cooperating Agency:	Defense Health Agency
Affected Region:	Beaufort, South Carolina
Action Proponent:	Marine Corps Air Station Beaufort and Defense Health Agency
Point of Contact:	BFRT_JPAO@usmc.mil
Date:	May 2022

Marine Corps Air Station Beaufort has prepared this focused Environmental Assessment in accordance with the National Environmental Policy Act, as implemented by the Council on Environmental Quality Regulations, and U.S. Marine Corps regulations for implementing the National Environmental Policy Act. The United States Marine Corps and Defense Health Agency propose to construct a new Ambulatory Care Center at Marine Corps Air Station Beaufort in Beaufort County, South Carolina. This focused Environmental Assessment evaluates the potential environmental impacts associated with two action alternatives and the No Action Alternative to the following resource areas: biological resources and traffic and transportation.

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Executive Summary

ES.1 Proposed Action

The United States Marine Corps and Defense Health Agency (DHA) propose to construct a new Ambulatory Care Center (ACC) at Marine Corps Air Station (MCAS) Beaufort. Construction would include a two-story, 155,189 square foot (SF) structure. The facility would provide 323 spaces for staff parking and 237 spaces for patient parking in two separate lots. The site proposed for the ACC is approximately 26.3 acres in size; 24.2 acres of the total are forested, and 2.1 acres are developed. Approximately 14.7 acres within the site would be cleared and utilized to construct the ACC project components; 13.6 acres to be cleared are forested and 1.1 acres are developed.

Patient services provided at the new ACC would include primary care, flight medicine, dental, behavioral health, orthopedics/podiatry, physical therapy, occupational health/audiology, optometry, clinical laboratory, pharmacy, radiology, outpatient ambulatory surgery, and healthcare administration. It is anticipated that in Fiscal Year 2028, a total of 11,885 eligible beneficiaries would be enrolled for care at the new ACC, which would require a total staff of 382.

This project would provide Antiterrorism/ Force Protection (AT/FP) features and comply with AT/FP regulations and physical security mitigation in accordance with Unified Facilities Criteria (UFC) 4-020-01 Department of Defense Security Engineering Facilities Planning Manual.

Demolition under the Proposed Action would include the following buildings at the existing MCAS Beaufort Branch Health Clinic (BHC): Building 598 (21,747 SF); Building 707 (4,855 SF); Building 895 (1,207 SF); Building 940 (732 SF), and Building 1033 (225 SF). After demolition, the BHC site and associated parking (6.2 total acres) would be replanted with vegetation and left in a natural state.

ES.2 Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to provide a facility in which DHA and Naval Hospital Beaufort may meet their mission to achieve medical readiness, improve the health of our people, enhance the experience of care, and lower healthcare costs. The Proposed Action would replace the existing MCAS Beaufort BHC facility and would increase the capabilities and modernize outpatient care support for active-duty personnel, family members, and other eligible beneficiaries, which may include retirees and retiree family members, within the Beaufort military community.

The Proposed Action is needed because existing MCAS Beaufort buildings facilitating the medical mission are in poor condition. Building maintenance is becoming unreasonably burdensome and facilities are likely to fail to meet clinically necessary conditions. In addition to there being no space for expansion, current room configurations do not meet functional layout needs. Without intervention, the future quality of patient care and access is projected to decline in existing MCAS Beaufort health care facilities.

ES.3 Alternatives Considered

The National Environmental Policy Act's implementing regulations provide guidance on the consideration of alternatives to a federally proposed action and require rigorous exploration and objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable and to meet the purpose and need require detailed analysis.

In order to meet the purpose and need, potential alternatives were required to provide a new ACC that would:

- serve as the premier area healthcare facility,
- foster a safe and secure medical campus environment,
- provide sustainable, innovative, and flexible infrastructure,
- provide secure facility access, and
- minimize environmental impacts to the greatest extent practicable.

In support of the above, potential alternatives must additionally meet the following requirements:

- UFC 4-020-01 Department of Defense Security Engineering Facilities Planning Manual,
- UFC 4-510-01 Design: Military Medical Facilities, and
- Navy/Marine Corps AT/FP requirements.

Under the No Action Alternative, the Marine Corps would not construct a new ACC at MCAS Beaufort. While, the No Action Alternative would not meet the purpose and need, and is not considered a reasonable alternative, it is required by the Council on Environmental Quality (CEQ) and Marine Corps Order 5090.2. Also, the No Action Alternative is included as a baseline to compare potential impacts of the Proposed Action. Therefore, this alternative was carried forward for analysis.

Under Alternative 1, the Marine Corps would construct a new ACC at MCAS Beaufort. Buildings 598, 707, 895, 940, and 1033 at the existing BHC would be demolished. The traffic network at MCAS Beaufort would remain unchanged under Alternative 1.

Under Alternative 2 (Preferred Alternative), the Marine Corps would construct a new ACC at MCAS Beaufort. Buildings 598, 707, 895, 940, and 1033 at the existing BHC would be demolished.

The Preferred Alternative would also include upgrades to the MCAS Beaufort Traffic network. Two options for traffic upgrades will be analyzed in this focused Environmental Assessment (EA). The first option would include installation of traffic signals at the intersections of Geiger Boulevard and Drayton Street and Geiger Boulevard and Elrod Street. Left turn lanes would be added to southbound Drayton Street onto Delalio Street.

The second option for traffic network upgrades would include changes at the same intersections; however, traffic circles would be installed instead of stop lights. Option 2 would also include the addition of southbound left turn lanes at Drayton Street and Delalio Street. It is anticipated that each traffic circle would have a diameter of 180 feet and a total footprint of approximately 0.6 acres.

ES.4 Summary of Environmental Resources Evaluated in the EA

CEQ regulations, the National Environmental Policy Act (NEPA), and Navy and U.S. Marine Corps instructions for implementing NEPA, specify that an EA should address those resource areas potentially subject to impacts. The following resource areas have been addressed in this EA: biological resources and traffic and transportation. Because potential impacts were considered to be negligible or non-existent, the following resource areas were not evaluated in this EA: airspace, air quality, noise, land use, hazardous materials and wastes, socioeconomics and environmental justice, infrastructure, cultural resources, geological resources, water resources, and health and safety.

ES.5 Public and Agency Participation and Intergovernmental Coordination

For this project, which will affect lands within the boundaries of MCAS Beaufort, the Draft focused EA was published to the base website and public notices were published in local newspapers. A public

meeting was held at Tabby Place in Beaufort, South Carolina on April 12, 2022. Copies of the Draft focused EA were made available at the following public libraries: Beaufort Branch Library, Lobeco Branch Library, and the St. Helena Branch Library. The Marine Corps solicited public comments on the Draft EA for 30 days, from March 28, 2022 through April 27, 2022.

The Final focused EA was published to the base website and public notices were published in the Beaufort Gazette. Questions pertaining to the Final focused EA can be directed to the Marine Corps at the following address: BFRT_JPAO@usmc.mil.

The U.S. Marine Corps has coordinated or consulted with the U.S. Fish and Wildlife Service, the South Carolina Department of Health and Environmental Control, the State Historic Preservation Office, and Tribal Historic Preservation Offices regarding the Preferred Alternative.

ES.6 Summary of Potential Environmental Consequences of the Action Alternatives

Table ES-1 provides a tabular summary for the potential impacts to the resources associated with each of the action alternatives analyzed.

Table ES-1. Summary of Potential Impacts to Resource Areas

Resource Area	*No Action Alternative*	*Alternative 1*	*Alternative 2 (Preferred Alternative)*
Biological Resources	• The No Action Alternative would have no significant impacts to biological resources.	• Temporary impacts to nearby wildlife from demolition and construction noise. • Clearance of 13.6 acres of forested habitat. • Project *may affect, but not likely to adversely* affect northern long-eared bats. • With proposed mitigations, there would be no significant impact on threatened and endangered species.	• Temporary impacts to nearby wildlife from demolition and construction noise. • Clearance of 13.6 acres of forested habitat. • Project *may affect, but not likely to adversely* affect northern long-eared bats. • With proposed mitigations, there would be no significant impact on threatened and endangered species.
Traffic and Transportation	• The No Action Alternative would have no significant impacts to traffic and transportation.	• *Short-term, negligible adverse* impacts due to construction-related traffic. Construction-related impacts would be less than under Alternative 2. • *Long-term, less-than-significant adverse* impacts due to degradation of level of service (LOS) for Intersections 1, 4, and 5. • *Long-term, beneficial* impact due to improved LOS for Intersection 2 during the AM peak hour. • There would be no changes during AM or PM peak hours for Intersection 6.	• *Short-term, less-than-significant adverse* impacts due to construction-related traffic and potential lane/road closures during intersection upgrades. Construction-related impacts would be greater than under Alternative 1. • Long-term impacts to Intersections 1, 4, and 6 would be the same as under Alternative 1. • *Long-term, less-than-significant adverse* impacts due to degradation of LOS for Intersection 5. This impact would be less than under Alternative 1. • *Long-term, beneficial* impacts due to improved LOS for Intersections 2 and 3.

Final
Focused Environmental Assessment for Construction of Ambulatory Care Center at Marine Corps Air Station Beaufort, South Carolina

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Abbreviations and Acronyms

Acronym	Definition
ACC	Ambulatory Care Center
AT/FP	Antiterrorism Force Protection
BGEPA	Bald and Golden Eagle Protection Act
BHC	Branch Health Clinic
BMP	best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DHA	Defense Health Agency
DoD	Department of Defense
EA	Environmental Assessment
EO	Executive Order
ESA	Endangered Species Act
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MCAS	Marine Corps Air Station
MCO	Marine Corps Order
mph	miles per hour
NEPA	National Environmental Policy Act
ROI	Region of Influence
SCDNR	South Carolina Department of Natural Resources
SCDOT	South Carolina Department of Transportation
SF	square feet
UFC	Unified Facilities Criteria
U.S.	United States
U.S.C.	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service

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1 Purpose of and Need for the Proposed Action

1.1 Introduction

The United States (U.S.) Marine Corps and Defense Health Agency (DHA) propose to construct a new Ambulatory Care Center (ACC) at Marine Corps Air Station (MCAS) Beaufort in Beaufort County, South Carolina. An ACC is defined as any military medical facility providing outpatient care. This may include ambulatory surgery and urgent care. An ACC is distinct from a military hospital or medical center as a defined type of medical facility.

This focused Environmental Assessment (EA) has been prepared in accordance with the requirements of the National Environmental Policy Act (NEPA) (42 United States Code [U.S.C.] section 4321 et seq.); the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 Code of Federal Regulations [CFR] 1500-1508); Marine Corps Order (MCO) 5090.2, Volume 12; and all other applicable laws, regulations, Executive Orders (EOs), and instructions.

1.2 Purpose of and Need for the Proposed Action

The purpose of the Proposed Action is to provide a facility in which DHA and Naval Hospital Beaufort may meet their mission to achieve medical readiness, improve the health of our people, enhance the experience of care, and lower healthcare costs. The Proposed Action would replace the existing MCAS Beaufort Branch Health Clinic (BHC) facility and would increase the capabilities and modernize outpatient care support for active-duty personnel, family members, and other eligible beneficiaries, which may include retirees and retiree family members, within the Beaufort military community (**Figure 1.2-1**).

The Proposed Action is needed because existing MCAS Beaufort buildings facilitating the medical mission are in poor condition. Building maintenance is becoming unreasonably burdensome and facilities are likely to fail to meet clinically necessary conditions. In addition to there being no space for expansion, current room configurations do not meet functional layout needs. Without intervention, the future quality of patient care and access is projected to decline in existing MCAS Beaufort health care facilities.

1.3 Scope of Environmental Analysis

This focused EA includes an analysis of potential environmental impacts associated with the action alternatives and the No Action Alternative. The environmental resource areas analyzed in this EA include: biological resources and traffic and transportation. The study area for each resource analyzed may differ due to how the alternatives interact with or impact the resource.

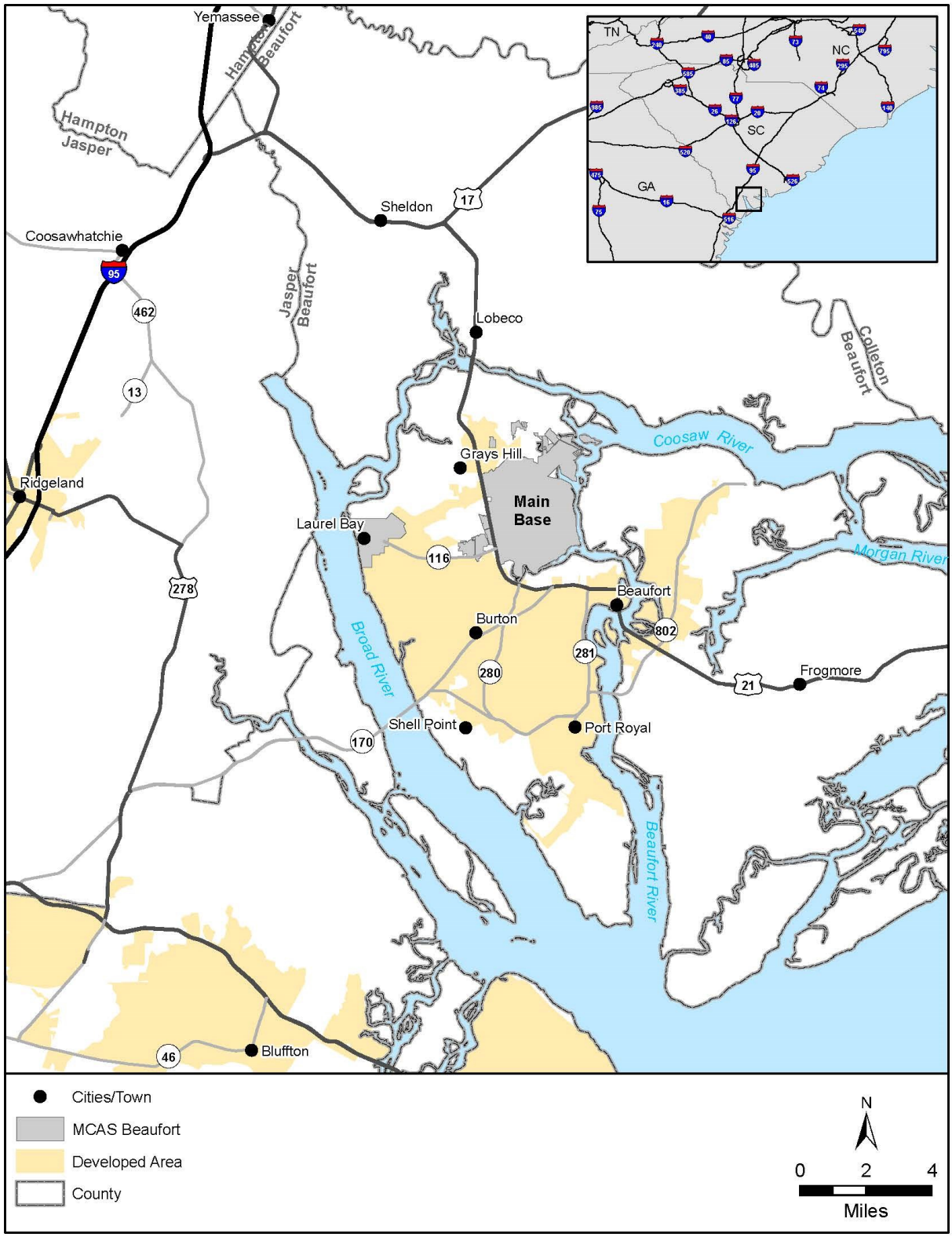

Figure 1.2-1. MCAS Beaufort Location

1.4 Relevant Laws and Regulations

This focused EA has been prepared in accordance with federal and state laws, statutes, regulations, and policies pertinent to the implementation of the Proposed Action, including the following:

- NEPA (42 U.S.C. sections 4321–4370h)
- CEQ Regulations for Implementing the Procedural Provisions of NEPA (40 CFR 1500-1508)
- Navy regulations for implementing NEPA (32 CFR 775)
- MCO 5090.2, Volume 12, Environmental Planning and Review
- National Historic Preservation Act (54 U.S.C. section 306108 et seq.)
- Endangered Species Act (ESA) (16 U.S.C. section 1531 et seq.)
- Clean Water Act (33 U.S.C. section 1251, et seq.)
- Coastal Zone Management Act (16 U.S.C. section 1451 et seq.)

A description of the Proposed Action's consistency with these laws, policies and regulations, as well as the names of regulatory agencies responsible for their implementation, is presented in Chapter 5 (**Table 5.1-1**).

1.5 Public and Agency Participation and Intergovernmental Coordination

For this project, which will affect lands within the boundaries of MCAS Beaufort, the Draft focused EA was published to the base website and public notices were published in local newspapers. A public meeting was held at Tabby Place in Beaufort, South Carolina on April 12, 2022. Copies of the Draft focused EA were made available at the following public libraries: Beaufort Branch Library, Lobeco Branch Library, and the St. Helena Branch Library. The Marine Corps solicited public comments on the Draft EA for 30 days, from March 28, 2022 through April 27, 2022.

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The U.S. Marine Corps has coordinated or consulted with the U.S. Fish and Wildlife Service (USFWS), the South Carolina Department of Health and Environmental Control, the State Historic Preservation Office, and Tribal Historic Preservation Offices regarding the Preferred Alternative.

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2 Proposed Action and Alternatives

2.1 Proposed Action

The Proposed Action is to construct a new ACC at MCAS Beaufort. Construction would include a two-story, 155,189 square foot (SF) structure. The facility would provide 323 spaces for staff parking and 237 spaces for patient parking in two separate lots. The site proposed for the ACC is approximately 26.3 acres in size; 24.2 acres of the total are forested, and 2.1 acres are developed. Approximately 14.7 acres within the site would be cleared and utilized to construct the ACC project components; 13.6 acres to be cleared are forested and 1.1 acres are developed (**Figure 2.3-1**). Final project design could include construction of a parking garage instead of the two surface lots, which would reduce the overall project footprint. To be conservative, analysis in this focused EA includes construction of two separate parking lots as a worst-case scenario.

Patient services provided at the new ACC would include primary care, flight medicine, dental, behavioral health, orthopedics/podiatry, physical therapy, occupational health/audiology, optometry, clinical laboratory, pharmacy, radiology, outpatient ambulatory surgery, and healthcare administration. It is anticipated that in Fiscal Year 2028, a total of 11,885 eligible beneficiaries would be enrolled for care at the new ACC, which would require a total staff of 382 (DHA 2020a).

This project would provide Antiterrorism/ Force Protection (AT/FP) features and comply with AT/FP regulations and physical security mitigation in accordance with Unified Facilities Criteria (UFC) 4-020-01 Department of Defense Security Engineering Facilities Planning Manual.

Demolition under the Proposed Action would include the following buildings at the existing BHC (**Figure 2.3-2**): Building 598 (21,747 SF); Building 707 (4,855 SF); Building 895 (1,207 SF); Building 940 (732 SF), and Building 1033 (225 SF). After demolition, the BHC site and associated parking (6.2 total acres) would be replanted with vegetation and left in a natural state.

2.2 Screening Factors

NEPA's implementing regulations provide guidance on the consideration of alternatives to a federally proposed action and require rigorous exploration and objective evaluation of reasonable alternatives. Only those alternatives determined to be reasonable and to meet the purpose and need require detailed analysis.

In order to meet the purpose and need, potential alternatives were required to provide a new ACC that would:

- serve as the premier area healthcare facility,
- foster a safe and secure medical campus environment,
- provide sustainable, innovative, and flexible infrastructure,
- provide secure facility access, and
- minimize environmental impacts to the greatest extent practicable.

In support of the above, potential alternatives must additionally meet the following requirements:

- UFC 4-020-01 Department of Defense Security Engineering Facilities Planning Manual,
- UFC 4-510-01 Design: Military Medical Facilities, and
- Navy/Marine Corps AT/FP requirements.

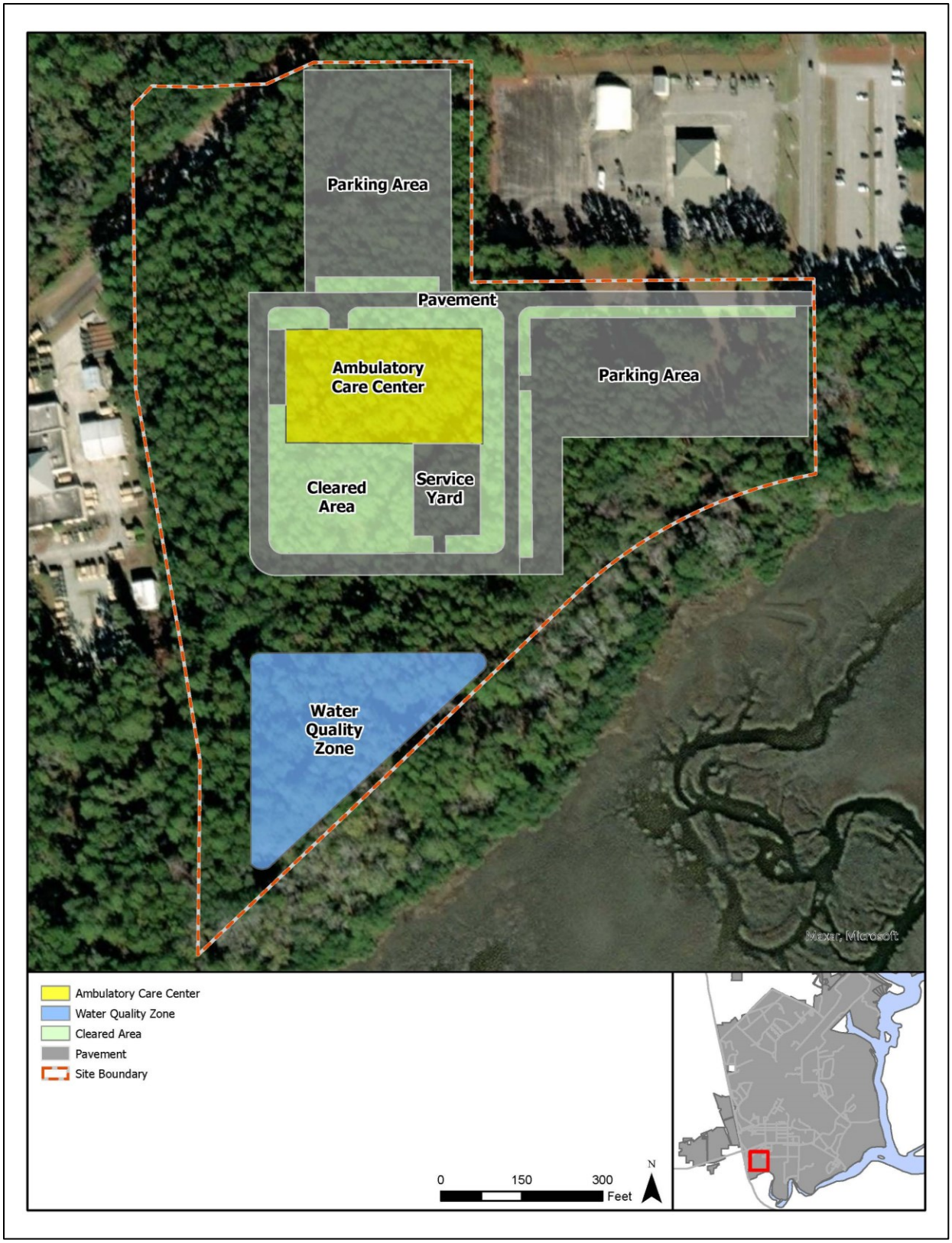

Figure 2.3-1. ACC Layout under Alternatives 1 and 2

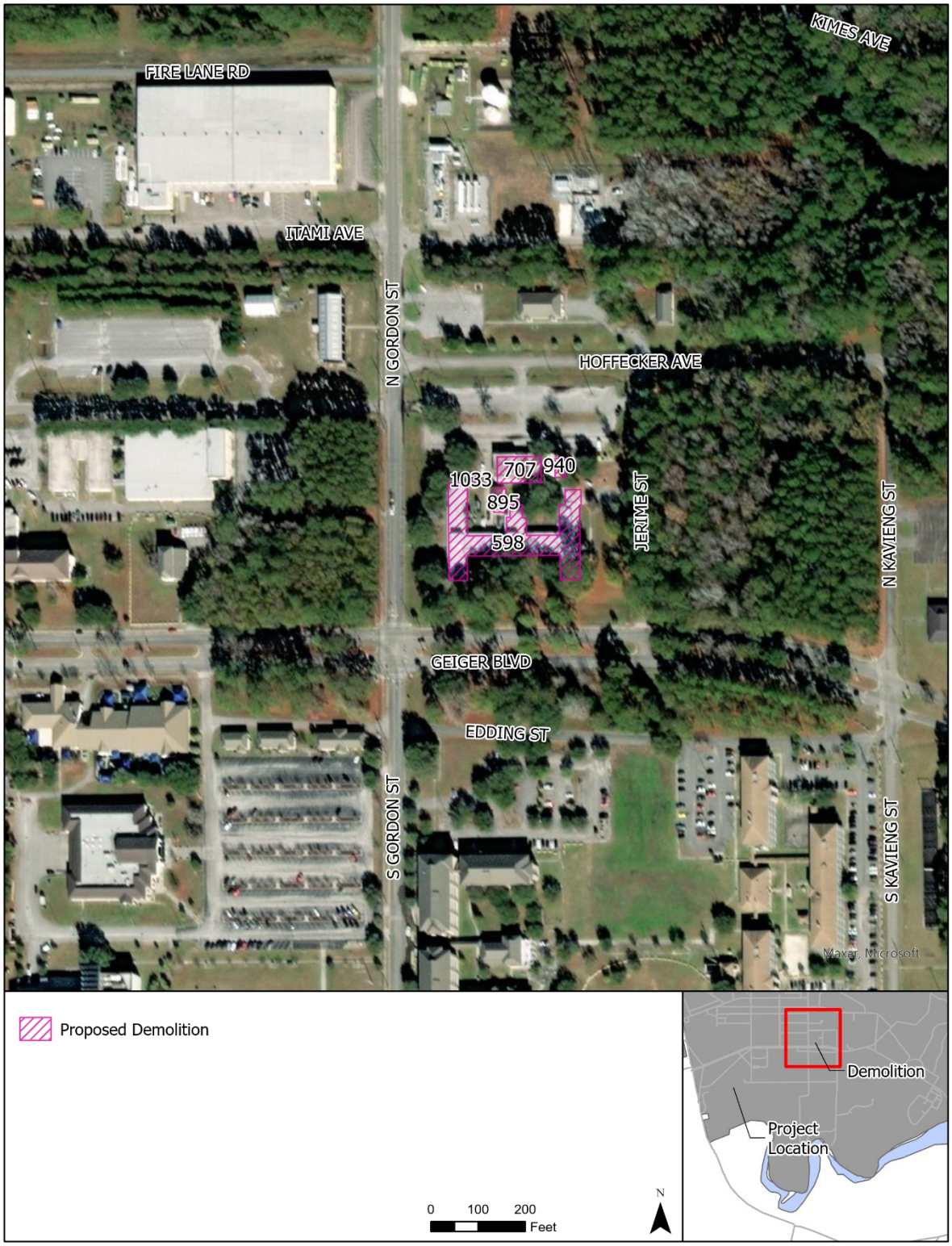

Figure 2.3-2. Proposed Demolition under Alternatives 1 and 2

2.3 Alternatives Carried Forward for Analysis

Based on the reasonable alternative screening factors and meeting the purpose and need for the Proposed Action, two reasonable action alternatives for construction of the ACC at MCAS Beaufort will be carried forward for analysis in this focused EA.

2.3.1 No Action Alternative

Under the No Action Alternative, the Marine Corps would not construct a new ACC at MCAS Beaufort. While, the No Action Alternative would not meet the purpose and need as described in **Section 1.4**, and is not considered a reasonable alternative, it is required by the CEQ and MCO 5090.2. Also, the No Action Alternative is included as a baseline to compare potential impacts of the Proposed Action. Therefore, this alternative was carried forward for analysis.

2.3.2 Alternative 1

Under Alternative 1, the Marine Corps would construct a new ACC at MCAS Beaufort (**Figure 2.3-1**). Buildings 598, 707, 895, 940, and 1033 at the existing BHC would be demolished (**Figure 2.3-2**). The traffic network at MCAS Beaufort would remain unchanged under Alternative 1. See **Section 2.1, Proposed Action** for more information.

2.3.3 Alternative 2 (Preferred Alternative)

Under Alternative 2 (Preferred Alternative), the Marine Corps would construct a new ACC at MCAS Beaufort (**Figure 2.3-1**). Buildings 598, 707, 895, 940, and 1033 at the existing BHC would be demolished (**Figure 2.3-2**). See **Section 2.1, Proposed Action** for more information.

The Preferred Alternative would also include upgrades to the MCAS Beaufort Traffic network. Two options for traffic upgrades will be analyzed in this focused EA. The first option would include installation of traffic signals at the intersections of Geiger Boulevard and Drayton Street and Geiger Boulevard and Elrod Street. Left turn lanes would be added to southbound Drayton Street onto Delalio Street (**Figure 2.3-3**).

The second option for traffic network upgrades would include changes at the same intersections; however, traffic circles would be installed instead of stop lights. Option 2 would also include the addition of southbound left turn lanes at Drayton Street and Delalio Street (**Figure 2.3-4**). It is anticipated that each traffic circle would have a diameter of 180 feet and a total footprint of approximately 0.6 acres.

2.4 Alternatives Considered but not Carried Forward for Detailed Analysis

The following alternatives were considered, but not carried forward for detailed analysis in this focused EA as they did not meet the purpose and need for the project and did not satisfy the reasonable alternative screening factors presented in **Section 2.2**.

MCAS Beaufort considered constructing the new ACC adjacent to the existing BHC. This site is located within the accident potential zone and noise zone and is not suitable for development as it would not foster a safe and secure medical campus environment. Therefore, this alternative does not meet the project screening criteria and will not be carried forward for analysis in this focused EA.

Figure 2.3-3. Preferred Alternative – Traffic Upgrades Option 1

Figure 2.3-4. Preferred Alternative – Traffic Upgrades Option 2

MCAS Beaufort also considered constructing the new ACC near the existing Sportsman's club. This alternative would have required the creation of a new entry gate or construction of an entry road to connect the ACC to a main roadway. This alternative would have required more extensive habitat clearance and wetland impacts and would not minimize environmental impacts; therefore, it will not be carried forward for analysis in this focused EA.

MCAS Beaufort considered constructing the new ACC within the Laurel Bay Housing area. Laurel Bay Housing is currently under a 50-year public-private venture lease. In order to facilitate entry to the new ACC, a new gate would need to be constructed to separate housing traffic from ACC traffic. An off-base location for the ACC would also make access more difficult for active-duty personal and therefore does not support military readiness. Therefore, this alternative will not be carried forward for analysis in this focused EA.

2.5 Best Management Practices Included in the Proposed Action

This section presents an overview of the best management practices (BMPs) that are incorporated into the Proposed Action in this document. BMPs are existing policies, practices, and measures that the U.S. Marine Corps would adopt to reduce the environmental impacts of designated activities, functions, or processes. Although BMPs mitigate potential impacts by avoiding, minimizing or reducing/eliminating impacts, BMPs are distinguished from potential mitigation measures because BMPs are (1) existing requirements for the Proposed Action, (2) ongoing, regularly occurring practices, or (3) not unique to this Proposed Action. In other words, the BMPs identified in this document are inherently part of the Proposed Action and are not potential mitigation measures proposed as a function of the NEPA environmental review process for the Proposed Action. **Table 2.5-1** includes a list of BMPs.

Table 2.5-1. Best Management Practices for the Proposed Action

BMP	*Description*	*Impacts Reduced/Avoided*
Erosion and Sediment Control Plan	The Erosion and Sediment Control Plan would identify site-specific BMPs to implement during construction and demolition activities.	Reduce erosion at construction and demolition site. Minimize impacts on nearby water resources from sedimentation.
Stormwater Pollution Prevention Plan	A Stormwater Pollution Prevention Plan would be prepared in accordance with a National Pollutant Discharge Elimination System permit. This plan would contain an erosion and sedimentation control plan. The plan would incorporate BMPs for erosion and sedimentation control, including techniques to diffuse and slow the velocity of stormwater runoff.	Reduce erosion, sedimentation, and stormwater runoff. Minimize impacts to nearby surface water resources.
Equipment cleaning and access, fill quality	Construction equipment and vehicles would be thoroughly cleaned before brought on site. All fill material brought to the construction site from off site would be checked to ensure that it is free from contaminants and does not contain any seeds or plant materials from non-native or invasive species. All mechanized clearing and grading, vehicle traffic, equipment staging, and the deposition of soil would be confined to the temporary and/or permanent project footprint or to other disturbed or developed land.	Reduce the potential for impacts from invasive/non-native plants and animals. Minimize soil disturbance footprint.

Table 2.5-1. Best Management Practices for the Proposed Action		
BMP	***Description***	***Impacts Reduced/Avoided***
Fire Prevention Measures	The use of shields, protective mats, or other fire prevention equipment during grinding and welding to prevent or minimize the potential for fire. Vehicles would not be driven or parked in areas where catalytic converters could ignite dry vegetation. No smoking or disposal of cigarette butts would take place within vegetated areas.	Minimize the potential for fire.
Low Impact Development design features	Low Impact Development design features (e.g. bioswales and a dry retention pond) would be implemented to minimize the potential impacts to soils from stormwater runoff.	Reduce erosion, sedimentation, and stormwater runoff. Minimize impacts to nearby surface water resources.
Traffic and Transportation	To the extent possible, establish construction activity hours such that construction workers and trucks would not travel during the peak hours of the region of influence (i.e., 6:30 to 7:30 AM and 4:00 to 5:00 PM). Truck traffic would be spread across the entire workday, minimizing impacts on local peak hours and traffic conditions. In the event through traffic must be halted at any point during construction, establish adequate and well-marked detours to fully accommodate local traffic.	Reduce impacts to traffic during construction and demolition associated with the Proposed Action.

3 Affected Environment and Environmental Consequences

This chapter presents a description of the environmental resources and baseline conditions that could be affected from implementing any of the alternatives and an analysis of the potential direct and indirect effects of each alternative.

All potentially relevant environmental resource areas were initially considered for analysis in this EA. In compliance with NEPA, CEQ, and Department of Navy and Marine Corps guidelines: the discussion of the affected environment (i.e., existing conditions) focuses only on those resource areas potentially subject to impacts. Additionally, the level of detail used in describing a resource is commensurate with the anticipated level of potential environmental impact.

"Significantly," as used in NEPA, requires considerations of both context and intensity. Context means that the significance of an action must be analyzed in several contexts such as society as a whole (e.g., human, national), the affected region, the affected interests, and the locality. Significance varies with the setting of a proposed action. For instance, in the case of a site-specific action, significance would usually depend on the effects in the locale rather than in the world as a whole. Both short- and long-term effects are relevant. Intensity refers to the severity or extent of the potential environmental impact, which can be thought of in terms of the potential amount of the likely change. In general, the more sensitive the context, the less intense a potential impact needs to be in order to be considered significant. Likewise, the less sensitive the context, the more intense a potential impact would be expected to be significant.

This section includes biological resources and traffic and transportation. Resources that have little to no potential for impact have been eliminated from further evaluation. These include:

Airspace: The Proposed Action does not alter, use, or have the potential to affect airspace at the installation.

Air Quality: Impacts to air quality from the Proposed Action would be temporary and would not exceed any pollutant thresholds.

Water Resources: The Proposed Action would not directly impact any wetland, surface water, or groundwater resources at MCAS Beaufort. Based on a recent wetland delineation and site visits, it was determined that the project site does not contain any wetlands. Project design would include an Erosion and Sediment Control Plan, a Stormwater Pollution Prevention Plan, and Low Impact Design features (e.g., bioswales and a dry retention pond) intended to reduce erosion, sedimentation, and stormwater runoff. The Water Quality Zone depicted in **Figure 2.3-1** would be utilized as stormwater management infrastructure and converted into a normally dry retention pond intended to limit runoff from the site. These project elements would minimize impacts to nearby surface waters and wetlands, and the Proposed Action would be consistent with coastal zone policies under state coastal management programs.

Noise: Impacts to noise from the Proposed Action would be temporary and localized to the project area.

Land Use: In order to complete construction, approximately 13.6 acres of forested habitat would need to be cleared. While this does result in a loss of natural habitat, it does not represent a significant loss of the total forested land at MCAS Beaufort, nor will it have a significant impact on the wildlife species residing there.

Hazardous Materials and Wastes: The Proposed Action would not introduce any new hazardous materials in the environment. All hazardous wastes generated by construction and demolition activities would be handled under the existing Resource Conservation and Recovery Act -compliant waste management programs and MCAS Beaufort Standard Operating Procedures. All hazardous waste generated from day-to-day clinic operations would be disposed in accordance with all applicable laws and regulations.

Socioeconomics and Environmental Justice: The proposed construction and demolition activities could generate short-term employment and income to civilian contractors, as well as temporary beneficial impacts in the local economy, resulting from an increase in demand for goods and services. The Proposed Action would not change the local, regional, or statewide economics or social conditions or affect any specific population or demographic group. No impacts to socioeconomics and environmental justice would be expected.

Infrastructure: It is not anticipated that there would be any changes to personnel loading, operations, or training activities as a result of the Proposed Action. It is anticipated that the ACC would receive an average of 582 visits per day (DHA 2020b). Local utility capacity (i.e., potable water, wastewater, electrical) is sufficient to meet this increased demand. During construction and demolition activities, contractors are responsible for the removal of construction debris. The Proposed Action would include the addition of stormwater management infrastructure in the project area.

Health and Safety: It is not anticipated that there would be any changes to personnel loading, operations, or training activities as a result of the Proposed Action. Construction and demolition activities occurring at MCAS Beaufort are required to be conducted in a manner that is consistent with all federal regulations, including all applicable Occupational Safety and Health Administration and Marine Corps requirements.

Cultural Resources: There are no known cultural resources within the project area. Ground disturbing activities during demolition and construction could unearth an unknown or unmapped cultural resource. In an event such as this, all work would cease and the MCAS Beaufort Cultural Resources Manager would be notified. MCAS Beaufort consulted with the South Carolina State Historic Preservation Office and Tribal Historic Preservation Offices regarding the Proposed Action, which concurred that it was unlikely to affect cultural resources.

Geological Resources: Project design would include an Erosion and Sediment Control Plan, a Stormwater Pollution Prevention Plan, and Low Impact Design features intended to reduce erosion, sedimentation, and stormwater runoff. These project elements would minimize impacts to soils.

3.1 Biological Resources

Biological resources include living, native, or naturalized plant and animal species and the habitats within which they occur. This section will focus on threatened and endangered species that may utilize the project area and vicinity.

3.1.1 Regulatory Setting

Special-status species, for the purposes of this assessment, are those species listed as threatened or endangered under the ESA as well as species afforded federal protection under the Bald and Golden Eagle Protection Act (BGEPA).

The purpose of the ESA is to conserve the ecosystems upon which threatened and endangered species depend and to conserve and recover listed species. Section 7 of the ESA requires action proponents to consult with USFWS or National Oceanic and Atmospheric Administration National Marine Fisheries Service to ensure that their actions are not likely to jeopardize the continued existence of federally listed threatened or endangered species, or result in the destruction or adverse modification of designated critical habitat. Critical habitat is an area protected by ESA that contains features essential to the conservation of an endangered or threatened species and that may require special management and protection. Critical habitat cannot be designated on any areas owned, controlled, or designated for use by the Department of Defense (DoD) where an Integrated Natural Resources Management Plan has been developed that, as determined by the Department of Interior or Department of Commerce Secretary, provides a benefit to the species subject to critical habitat designation.

Bald and golden eagles are protected by the BGEPA. This Act prohibits anyone, without a permit issued by the Secretary of the Interior, from taking bald eagles, including their parts, nests, or eggs. The Act defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb."

Birds, both migratory and most native-resident bird species, are protected under the Migratory Bird Treaty Act (MBTA). Under the MBTA it is unlawful by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill, [or] possess migratory birds or their nests or eggs at any time, unless permitted by regulation.

3.1.2 Affected Environment

The proposed project area consists of approximately 26.3 acres of mostly undeveloped forested land located due south of the main Entry Control Point on MCAS Beaufort. The site is bounded to the west by the Army National Guard facility, to the south and east by marine wetlands, and to the north by Angel One Road (which is closed). The sites for the two traffic circle upgrades each consist of approximately 0.6 acres of previously disturbed land.

3.1.2.1 Threatened and Endangered Species

Based on a review of site conditions and existing records for MCAS Beaufort, the northern long-eared bat (*Myotis septentrionalis*) is the only threatened and endangered species to potentially occur within the project area. The northern long-eared bat is listed as threatened under the ESA.

A review of the biology, status, and management of the northern long-eared bat is presented in the project's Biological Assessment (**Appendix A**). The northern long-eared bat has never been observed on MCAS Beaufort; however, it has recently been observed within Beaufort County, South Carolina.

3.1.2.2 Wildlife

Common mammals found at MCAS Beaufort include shrews, moles, red bat (*Lasiurus borealis*), evening bat (*Nycticeius humeralis*), gray squirrel (*Sciurus carolinensis*), mice, rats, gray fox (*Urocyon cinereoargenteus*), river otter (*Lontra canadensis*), bobcat (*Lynx rufus*), and white-tailed deer (*Odocoileus virginianus*) (MCAS Beaufort 2013).

Common birds found at MCAS Beaufort include pied-billed grebe (*Podilymbus Podiceps*), double-crested cormorant (*Phalacrocorax auritus*), herons, egrets, wood duck (*Aix sponsa*), osprey (*Pandion haliaetus*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), clapper rail (*Rallus longirostris*), killdeer (*Charadrius vociferus*), laughing gull (*Leucophaeus atricilla*), ring-billed gull (*Larus delawarensis*),

mourning dove (*Zenaida macroura*), chimney swift (*Chaetura pelagica*), belted kingfisher (*Megaceryle alcyon*), red-bellied woodpecker (*Melanerpes carolinus*), downy woodpecker (*Picoides pubescens*), Northern flicker (*Colaptes auratus*), Eastern wood-peewee (*Contopus virens*), great-crested flycatcher (*Myiarchus crinitus*), Eastern kingbird (*Tyrannus tyrannus*), white-eyed vireo (*Vireo griseus*), red-eyed vireo (*Vireo olivaceus*), blue jay (*Cyanocitta cristata*), American crow (*Corvus brachyrhynchos*), fish crow (*Corvus ossifragus*), purple martin (*Progne subis*), tree swallow (*Tachycineta bicolor*), barn swallow (*Hirundo rustica*), Carolina chickadee (*Poecile carolinensis*), tufted titmouse (*Baeolophus bicolor*), brown-headed nuthatch (*Sitta pusilla*), Carolina wren (*Thryothorus ludovicianus*), wood thrush (*Hylocichla mustelina*), hermit thrush (*Catharus guttatus*), brown thrasher (*Toxostoma rufum*), Northern mockingbird (*Mimus polyglottos*), European starling (*Sturnus vulgaris*), American pipit (*Anthus rubescens*), yellow-rumped warbler (*Dendroica coronate*), yellow-throated warbler (*Dendroica dominica*), pine warbler (*Dendroica pinus*), summer tanager (*Piranga rubra*), Eastern towhee (*Pipilo erythrophthalmus*), white-throated sparrow (*Zonotrichia albicollis*), northern cardinal (*Cardinalis cardinalis*), red-winged blackbird (*Agelaius phoeniceus*), and common grackle (*Quiscalus quiscula*) (MCAS Beaufort 2013).

Common amphibians found at MCAS Beaufort include slimy salamander (*Plethodon variolatus*), dwarf salamander (*Eurycea quadridigitata*), mole salamander (*Ambystoma talpoideum*), green treefrog (*Hyla cinerea*), pinewoods treefrog (*Hyla squirella*), spring peeper (*Pseudacris crucifer*), ornate chorus frog (*Pseudacris ornate*), Southern toad (*Bufo terrestris*), Eastern spadefoot toad (*Scaphiopus holbrookii holbrookii*), and Eastern narrowmouth toad (*Gastrophryne carolinensis*), and Southern leopard frog (*Rana utricularia*). Common reptiles found at MCAS Beaufort include turtles, green anole (*Anolis carolinensis*), Southeastern five-lined skink (*Eumeces inexpectatus*), broadhead skink (*Eumeces laticeps*), ground skink (*Scincella lateralis*), Eastern glass lizard (*Ophisaurus ventralis*), black racer (*Coluber constrictor Priapus*), and banded water snake (*Nerodia fasciata fasciata*) (MCAS Beaufort 2013).

3.1.2.3 Vegetation

Based on land cover data available from MCAS Beaufort, the project area includes approximately 24.2 acres of forested land and 2.1 acres of urban area. The forested area is composed of mixed pine-hardwood forest habitat and loblolly pine habitat. This habitat is composed mostly of loblolly pine (*Pinus taeda*) and hardwood species, including water oak (*Quercus nigra*), live oak (*Quercus virginiana*), willow oak (*Quercus phellos*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), pecan (*Carya illinoinensis*), and black cherry (*Prunus serotina*) (MCAS Beaufort 2013). Both freshwater and marine wetlands are present adjacent to the proposed project area; however, no wetlands are present within the project site.

3.1.3 Environmental Consequences

3.1.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to existing biological resources. While, the No Action Alternative would not meet the purpose and need as described in **Section 1.4**, and is not considered a reasonable alternative, it is required by the CEQ and MCO 5090.2. Also, the No Action Alternative is included as a baseline to compare potential impacts of the Proposed Action.

Therefore, no significant impacts to biological resources would occur with implementation of the No Action Alternative.

3.1.3.2 Alternative 1

Threatened and Endangered Species

Under Alternative 1, the Marine Corps would construct a new ACC at MCAS Beaufort. Buildings 598, 707, 895, 940, and 1033 at the existing BHC would be demolished. The traffic network at MCAS Beaufort would remain unchanged.

In order to complete construction of the ACC, approximately 13.6 acres of forested habitat would need to be cleared. The mixed loblolly pine-hardwood habitat at the site has hardwood trees suitable for roosting male northern long-eared bats. There is no habitat present on the site that is suitable for roosting females based on a recent South Carolina Department of Natural Resources study (SCDNR 2019).

Construction activities would result in short-term impacts from disturbance to terrestrial wildlife including the northern long-eared bat, if present, but would not further threaten their existence. Any male bats roosting near the construction area would likely flee due to the localized construction noise. If northern long-eared bats are found on the project site, work would stop and MCAS Beaufort natural resources personnel would be contacted.

The northern long-eared bat is not known to occur on MCAS Beaufort; however, it has been recently observed within Beaufort County. Due to its unlikely occurrence in the project area and the stop work order upon potential sighting, the activities associated with the Proposed Action may affect, but are not likely to adversely affect, the northern long-eared bat. As a conservation measure for the northern long-eared bat, tree clearing for the Proposed Action would be conducted during the species' inactive season of November 15th to March 31st.

The Marine Corps conducted informal consultation with USFWS regarding the Preferred Alternative. MCAS Beaufort received concurrence from USFWS on the above species effects on February 3, 2022.

Wildlife

Under Alternative 1, demolition and construction activities would produce temporary impacts from noise and disturbance from general construction activities to terrestrial wildlife. These impacts would typically consist of individual animals becoming startled and potentially fleeing the area. The construction phase of the project would be limited in duration and disturbance to wildlife would be temporary and minor. A small amount of forested habitat (13.6 acres) would be permanently lost. Direct mortality of smaller, less mobile species could occur from construction activities; however, no long-term adverse impacts to wildlife would occur.

Vegetation

Under Alternative 1, 13.6 acres of forested habitat would be cleared for construction of the ACC. This vegetation and habitat would be permanently lost; however, the area represents a small fraction of the total forested habitat on MCAS Beaufort. The 2.7 acres of Cleared Area (Figure 2.3-1) at the ACC project site would be replanted with vegetation and maintained through landscaping after construction. Additionally, the 6.2-acre site of the existing BHC would be replanted with vegetation and left in a natural state after demolition. Therefore, impacts to vegetation under Alternative 1 would be minimal.

Therefore, implementation of Alternative 1 would not result in significant impacts to biological resources.

3.1.3.3 Alternative 2 (Preferred Alternative)

Under the Preferred Alternative, the Marine Corps would construct a new ACC at MCAS Beaufort. Buildings 598, 707, 895, 940, and 1033 at the existing BHC would be demolished. The Preferred Alternative would also include upgrades to the MCAS Beaufort Traffic network. The traffic upgrades under Option 2 would include construction of two traffic circles approximately 0.6 acres in size each. These would be constructed on previously disturbed areas of MCAS Beaufort and would not affect biological resources.

Therefore, impacts would be similar to Alternative 1, and implementation of the Preferred Alternative would not result in significant impacts to biological resources.

3.2 Traffic and Transportation

Transportation includes all of the air, land, and sea routes with the means of moving passengers and goods. A transportation system can consist of any or all of the following: roadways, bus routes, railways, subways, bikeways, trails, waterways, airports, and taxis, and can be looked at on a local or regional scale.

Traffic is commonly measured through average daily traffic and design capacity. These two measures are used to assign a roadway with a corresponding level of service (LOS). The LOS designation is a professional industry standard used to describe the operating conditions of a roadway segment or intersection on a scale of A to F (see **Table 3.2-1**). LOS is generally measured during a roadway's AM and PM "peak hours" (i.e., morning and afternoon rush hours), which represent the worst-performing periods of the day.

Table 3.2-1. Description of the LOS Rating System

LOS	*Pass/Fail*	*Remarks*
A	Pass	Free flow travel
B	Pass	Free flow travel
C	Pass	Stable traffic flow
D	Pass	Beginning of traffic congestion
E	Fail	Nearing of traffic breakdown conditions
F	Fail	Stop-and-go traffic conditions representing unacceptable congestion and delay

3.2.1 Regulatory Setting

EO 13834 encourages government entities to improve building efficiency, performance, and management by including in the planning for new buildings or leases, cost-effective strategies to optimize sustainable space usage and consideration of existing community transportation planning and infrastructure, including access to public transit. This EO encourages the coordination of federal real property discussions with local communities in an effort to encourage planned transportation investments that aim to support public transit access.

3.2.2 Affected Environment

This section describes the traffic and transportation network in the Proposed Action's region of influence (ROI). MCAS Beaufort conducted a detailed Traffic Analysis in support of this Proposed Action, available in **Appendix B**, to assess the existing conditions and potential impacts that would result from the replacement of the ACC at the MCAS in Beaufort, South Carolina (MCAS Beaufort 2022).

The ROI for transportation was delineated based on the location of the proposed ACC within MCAS Beaufort and how this facility would impact the traffic. The ROI is shown on **Figure 3.2-1** and includes the following six major intersections.

- Intersection 1: US 21 (Trask Parkway) and Geiger Boulevard
- Intersection 2: Geiger Boulevard and Drayton Street
- Intersection 3: Geiger Boulevard and Elrod St
- Intersection 4: Geiger Boulevard and Gordon St
- Intersection 5: Delalio Avenue and Drayton St
- Intersection 6: Delalio Avenue and Gordon St

Of these intersections, Intersection 1 is located outside the MCAS Beaufort Main Gate and is used by the general public, while Intersections 2 through 6 are located on-base and not used by the general public. Intersection 1 is also the only signalized intersection (i.e., it has a traffic light) in the ROI; the other five intersections have no traffic control devices.[1]

As shown on **Figure 3.2-1** access to MCAS Beaufort is provided through two gates, the Main Gate, for privately owned vehicles, and the Commercial Gate. The Main Gate operates 24 hours per day, 7 days a week, and is located on Geiger Boulevard east of US-21 and north of the City of Beaufort, on the west side of the base. The Commercial Gate operates Monday through Friday, 6:00 AM to 6:00 PM and is located on Kimes Avenue along US-21.

The existing BHC is located in the northeast portion of the ROI, adjacent to and northeast of Intersection 4. The proposed location of the ACC is in the southwest portion of the ROI, west-southwest of Intersection 5.

Descriptions of the roadways within the ROI (see **Figure 3.2-1**), including the roadway functional classification, the number of lanes in each direction, and any noteworthy characteristics such as a roadway's role within the transportation network are provided in Section 3.2 of the Traffic Analysis in **Appendix B**.

The environmental baseline for the traffic and transportation affected environment is considered to be the projected traffic conditions in the year 2029, which is the same year the proposed ACC would open if one of the action alternatives were to be implemented. The Traffic Analysis determined this 2029 baseline by projecting "background growth" in traffic (i.e., new traffic on relevant roadways resulting from the general growth of the region independent of the Proposed Action) and adding this to available traffic data from the year 2019. A background/traffic growth rate of 1.5% was generated based on stakeholder information on the expected growth within MCAS and to account for any potential future squadrons to be deployed (MCAS Beaufort 2019).

[1] Although Intersection 4 currently has a traffic light in place, it is not considered a signalized intersection because its flashing red lights serve as a simple four-way stop.

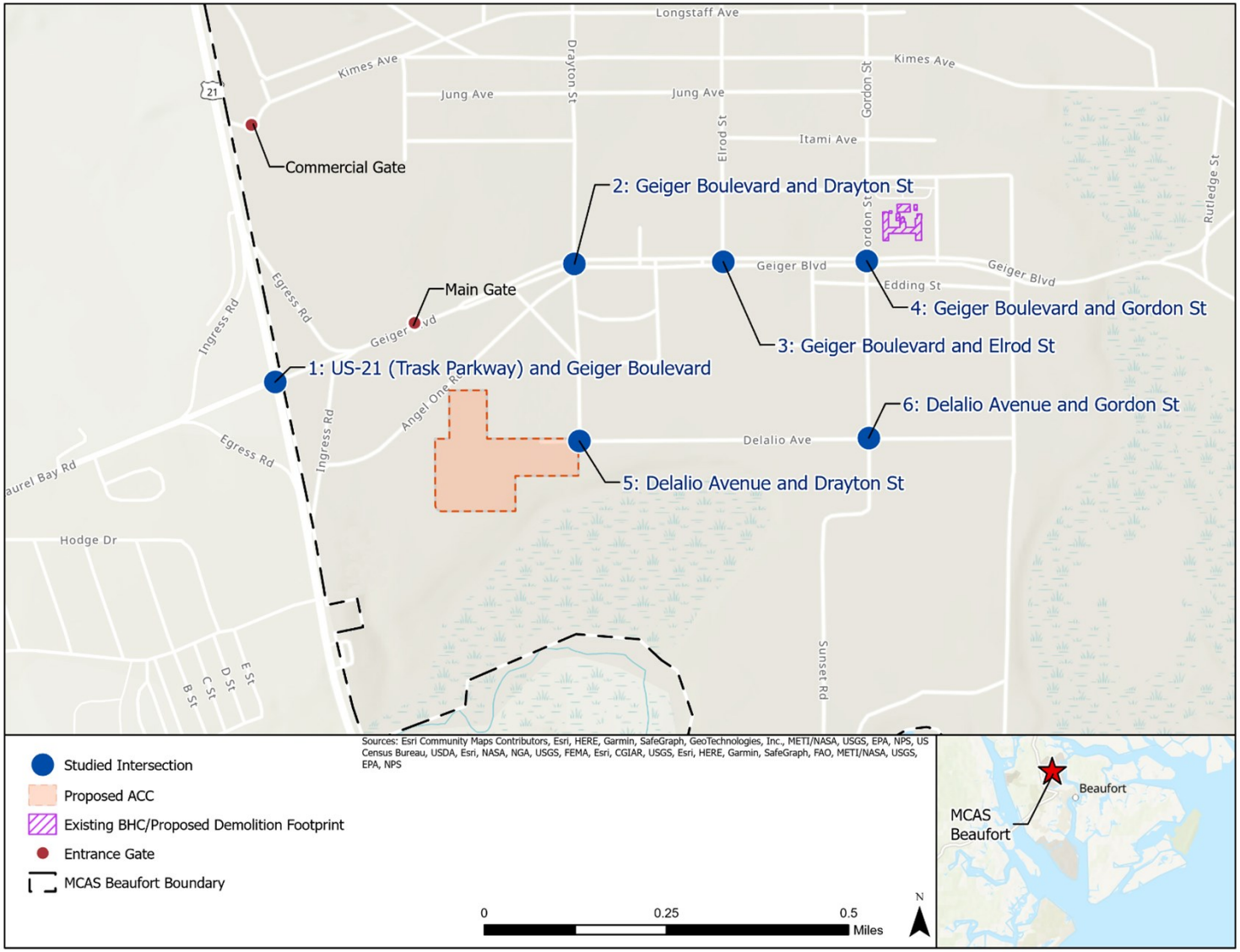

Figure 3.2-1. Traffic and Transportation ROI

The Traffic Analysis identified the forecasted LOS in the year 2029 for each of the six intersections within the ROI during the AM peak hour (i.e., 6:30 to 7:30 AM) and PM peak hour (i.e., 4:00 to 5:00 PM). Based on projected 2029 traffic volumes, Intersections 5 and 6 are expected to have a passing LOS during both AM and PM peak hours, Intersections 1 and 4 are expected to have a passing LOS during the AM peak hour but failing LOS during the PM peak hour, and Intersections 2 and 3 are expected to have a failing LOS during both the AM and PM peak hours. **Table 3.2-2** provides a summary of the LOS at all six intersections for the AM and PM peak hours under this 2029 baseline.

Other transportation components located in the ROI include a network of sidewalks used by pedestrians and bicyclists on MCAS Beaufort, and a recreational jogging/exercise trail on the proposed ACC site. The ROI does not contain bus routes, railways, subways, bikeways, waterways, airports, or taxi networks. The Proposed Action would have no potential to significantly affect these transportation components; as such, they have been dismissed from detailed analysis.

3.2.3 Environmental Consequences

This section identifies the potential effects on transportation within the ROI that could occur under the No Action Alternative, Alternative 1, and Alternative 2 (Preferred Alternative). BMPs included in the Proposed Action that would reduce potential adverse impacts on transportation are identified in **Section 2.5**.

A transportation impact would be significant if the alternative would result in a long-term increase in traffic such that an off-base intersection with a passing LOS under the 2029 baseline would degrade to a failing LOS under an Action Alternative. Whereas LOS can degrade within the "passing" and "failing" categories (e.g., be degraded from A to B or from E to F), the traffic flow would still generally be considered acceptable or unacceptable, respectively (see **Table 3.2-1**). This EA focuses on the incremental change where traffic flow deteriorates most notably, which occurs at the point where the intersection degrades from passing to failing. This criterion considers off-base intersections specifically because they are publicly used by a substantially greater number of people than on-base intersections that primarily serve military personnel.

3.2.3.1 No Action Alternative

Under the No Action Alternative, the Proposed Action would not occur and there would be no change to traffic and transportation. While, the No Action Alternative would not meet the purpose and need as described in **Section 1.4**, and is not considered a reasonable alternative, it is required by the CEQ and MCO 5090.2. Also, the No Action Alternative is included as a baseline to compare potential impacts of the Proposed Action.

Therefore, no significant impacts to traffic and transportation would occur with implementation of the No Action Alternative.

Table 3.2-2. Comparison of LOS for Studied Intersections in ROI under Existing Conditions and Each Considered Alternative

#	Intersection	AM Peak Hour				PM Peak Hour			
		Environmental Baseline (2029)	*No Action Alternative (2029 Baseline)*	*Alternative 1 (2029)*	*Alternative 2 (2029)*	*Environmental Baseline (2029)*	*No Action Alternative (2029 Baseline)*	*Alternative 1 (2029)*	*Alternative 2 (2029)*
1	US 21 (Trask Parkway) at Geiger Boulevard	C	C	D	D	E	E	F	F
2	Geiger Boulevard at Drayton Street	F	F	B	A▫ C†	F	F	F	B▫ B†
3	Geiger Boulevard at Elrod Street	F	F	F	A▫ A†	F	F	F	B▫ A†
4	Geiger Boulevard at Gordon Street	D	D	F	F	E	E	F	F
5	Delalio Avenue at Drayton Street	A	A	C	C	A	A	E	D
6	Delalio Avenue at Gordon Street	A	A	A	A	A	A	A	A

Notes: Intersection 1, a signalized intersection, is assigned an overall LOS value for each peak hour. Intersections 2-6, unsignalized intersections, are assigned an LOS value for each lane in the intersection. The LOS values provided for Intersections 2 through 6 in this table represent the worst-performing lane of the intersection.
▫Traffic signal option results
†Traffic circle option results
MCAS Beaufort 2022

3.2.4 Alternative 1

Under Alternative 1, a new ACC would be constructed and the BHC would be demolished. During the demolition of the BHC and construction of the ACC, construction traffic, including workers in personal vehicles and trucks, would travel to and from local locations. Construction workers commuting to the project site would be distributed throughout the entire construction phase, but truck trips would primarily occur during the early years of construction (i.e., while disposing of demolition materials and delivering construction materials). Truck traffic would be spread across the entire workday, minimizing impacts on local peak hours and traffic conditions. While this traffic would contribute slightly to traffic volume and congestion, this increase would be temporary and would not permanently degrade traffic operations in the ROI. Overall, Alternative 1 would have *short-term, negligible adverse* impacts to transportation during construction. Construction-related transportation impacts would be less than those described for Alternative 2.

In the long-term, traffic patterns within the ROI would change due to the replacement of the BHC with the ACC. During the AM peak hour, Intersection 2 would improve from a failing LOS under the 2029 baseline to a passing LOS; this would be a *beneficial* impact. *Less-than-significant adverse* impacts would occur from the degradation of LOS for three intersections in the AM peak hours. The LOS of Intersections 1 and 5 would degrade relative to the 2029 baseline, but would still remain passing. Intersection 4 would degrade from a passing LOS to a failing LOS; however, Intersection 4 is an on-base intersection, so impacts would be contained within the base and would generally only impact DoD personnel and military stakeholders, so impacts would not be significant. There would be no change in the LOS for Intersection 6 during the AM peak hour.

During the PM peak hour, Intersections 1 and 4 have a failing LOS under the 2029 baseline, and would have their LOS further degraded under Alternative 1. Intersection 5, an on-base intersection, would degrade from a passing LOS to a failing LOS during the PM peak hour. The degradation of LOS for Intersections 1, 4, and 5 would constitute *less-than-significant adverse* impacts to traffic. Under Alternative 1, there would be no change during the PM peak hour to the LOS of Intersections 2 and 3, which would continue to fail, or Intersection 6, which would continue to pass. No intersections would have their LOS improve during the PM peak hour.

3.2.5 Alternative 2 (Preferred Alternative)

The Preferred Alternative includes the same Proposed Action components as Alternative 1. In addition, traffic upgrades would be implemented at Intersections 2, 3, and 5. MCAS Beaufort would implement one of two options for traffic upgrades. The first option would include the addition of traffic signals at Intersections 2 and 3, as well as the addition of left turn lane to southbound Drayton Street onto Delalio Street at Intersection 5. The second option would include changes at the same intersections; however, traffic circles would be installed instead of traffic signals at Intersections 2 and 3. The predicted LOS for each of these two upgrade options are reported in **Table 3.2-2**.

Under the Preferred Alternative, transportation impacts resulting from demolition of the BHC, and construction of the ACC would be similar to those described for Alternative 1. In addition, transportation impacts would result due to construction of the traffic upgrades at Intersections 2, 3, and 5, which may involve temporary lane and/or road closures and appropriate detours. Overall, Alternative 2 would have *short-term, less-than-significant adverse* impacts to transportation during construction, which would be greater than those described for Alternative 1.

In the long-term, similar to Alternative 1, traffic patterns within the ROI would change, as vehicles would no longer travel to the BHC and would instead travel to the ACC in the southwestern portion of the ROI.

Long-term impacts to Intersections 1, 4, and 6 under Alternative 2 would be the same as under Alternative 1. Long-term impacts to Intersections 2, 3, and 5 would differ from Alternative 1 as follows:

- Intersection 2 would have a passing LOS during the AM peak hour, a *beneficial* impact similar to Alternative 1. Intersection 2 would also have a passing LOS during the PM peak hour, which would be improved from the failing LOS anticipated under the 2029 baseline and Alternative 1.
- Intersection 3, which is anticipated to have a failing LOS during the AM and PM peak hours under the 2029 baseline and Alternative 1, would improve to a passing LOS in both peak hours, a *beneficial* impact.
- Intersection 5, which has a passing LOS during the AM and PM peak hours under the 2029 baseline, would continue to pass during the AM peak hour (same as Alternative 1) and PM peak hour (better than Alternative 1).

Improvements to Intersections 2 and 3 under Alternative 2 would substantially improve the LOS at these intersections compared to the 2029 baseline by helping to accommodate the additional volume of traffic associated with operation of the new ACC. Alternative 2 would improve LOS for these two intersections to either A, B, or C during both peak hours, resulting in *long-term, beneficial* impacts to the roadways and intersections. Improvements to Intersection 5 would prevent it from degrading to a failing LOS, as is projected under Alternative 1. Overall, traffic conditions under Alternative 2 would be better than under Alternative 1.

3.4 Summary of Potential Impacts to Resources and Impact Avoidance and Minimization

Table 3.3-1. Summary of Potential Impacts to Resource Areas

Resource Area	*No Action Alternative*	*Alternative 1*	*Alternative 2 (Preferred Alternative)*
Biological Resources	• The No Action Alternative would have no significant impacts to biological resources.	• Temporary impacts to nearby wildlife from demolition and construction noise. • Clearance of 13.6 acres of forested habitat. • Project *may affect, but not likely to adversely* affect northern long-eared bats. • With proposed mitigations, there would be no significant impact on threatened and endangered species.	• Temporary impacts to nearby wildlife from demolition and construction noise. • Clearance of 13.6 acres of forested habitat. • Project *may affect, but not likely to adversely* affect northern long-eared bats. • With proposed mitigations, there would be no significant impact on threatened and endangered species.
Traffic and Transportation	• The No Action Alternative would have no significant impacts to traffic and transportation.	• *Short-term, negligible adverse* impacts due to construction-related traffic. Construction-related impacts would be less than under Alternative 2. • *Long-term, less-than-significant adverse* impacts due to degradation of LOS for Intersections 1, 4, and 5. • *Long-term, beneficial* impact due to improved LOS for Intersection 2 during the AM peak hour. • There would be no changes during AM or PM peak hours for Intersection 6.	• *Short-term, less-than-significant adverse* impacts due to construction-related traffic and potential lane/road closures during intersection upgrades. Construction-related impacts would be greater than under Alternative 1. • Long-term impacts to Intersections 1, 4, and 6 would be the same as under Alternative 1. • *Long-term, less-than-significant adverse* impacts due to degradation of LOS for Intersection 5. This impact would be less than under Alternative 1. • *Long-term, beneficial* impacts due to improved LOS for Intersections 2 and 3.

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4 Cumulative Impacts

This section (1) defines cumulative impacts, (2) describes past, present, and reasonably foreseeable future actions relevant to cumulative impacts, (3) analyzes the incremental interaction the Proposed Action may have with other actions, and (4) evaluates cumulative impacts potentially resulting from these interactions.

4.1 Definition of Cumulative Impacts

The approach taken in the analysis of cumulative impacts follows the objectives of the NEPA, CEQ regulations, and CEQ guidance. Cumulative impacts are defined in 40 CFR section 1508.7 as "the impact on the environment that results from the incremental impact of the action when added to the other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

To determine the scope of environmental impact analyses, agencies shall consider cumulative actions, which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact analysis document.

In addition, CEQ and U.S. Environmental Protection Agency (USEPA) have published guidance addressing implementation of cumulative impact analyses—Guidance on the Consideration of Past Actions in Cumulative Effects Analysis (CEQ 2005) and Consideration of Cumulative Impacts in USEPA Review of NEPA Documents (USEPA 1999). CEQ guidance entitled Considering Cumulative Impacts Under NEPA (1997) states that cumulative impact analyses should "…determine the magnitude and significance of the environmental consequences of the Proposed Action in the context of the cumulative impacts of other past, present, and future actions...identify significant cumulative impacts…[and]…focus on truly meaningful impacts."

Cumulative impacts are most likely to arise when a relationship or synergism exists between a proposed action and other actions expected to occur in a similar location or during a similar time period. Actions overlapping with or in close proximity to the Proposed Action would be expected to have more potential for a relationship than those more geographically separated. Similarly, relatively concurrent actions would tend to offer a higher potential for cumulative impacts. To identify cumulative impacts, the analysis needs to address the following three fundamental questions.

- Does a relationship exist such that affected resource areas of the Proposed Action might interact with the affected resource areas of past, present, or reasonably foreseeable actions?
- If one or more of the affected resource areas of the Proposed Action and another action could be expected to interact, would the Proposed Action affect or be affected by impacts of the other action?
- If such a relationship exists, then does an assessment reveal any potentially significant impacts not identified when the Proposed Action is considered alone?

4.2 Scope of Cumulative Impacts Analysis

The scope of the cumulative impacts analysis involves both the geographic extent of the effects and the time frame in which the effects could be expected to occur. For this EA, the study area delimits the geographic extent of the cumulative impacts analysis. In general, the study area will include those areas

previously identified in Chapter 3 for the respective resource areas. The time frame for cumulative impacts centers on the timing of the Proposed Action.

Another factor influencing the scope of cumulative impacts analysis involves identifying other actions to consider. Beyond determining that the geographic scope and time frame for the actions interrelate to the Proposed Action, the analysis employs the measure of "reasonably foreseeable" to include or exclude other actions. For the purposes of this analysis, public documents prepared by federal, state, and local government agencies form the primary sources of information regarding reasonably foreseeable actions. Documents used to identify other actions include notices of intent for Environmental Impact Statements and EAs, management plans, land use plans, and other planning related studies.

Where feasible, the cumulative impacts were assessed using quantifiable data; however, for many of the resources included for analysis, quantifiable data is not available, and a qualitative analysis was undertaken. In addition, where an analysis of potential environmental effects for future actions has not been completed, assumptions were made regarding cumulative impacts related to this EA where possible. The analytical methodology presented in Chapter 3, which was used to determine potential impacts to the various resources analyzed in this document, was also used to determine cumulative impacts.

4.2.1 Past Actions

There are no past actions that interact temporally or geographically with the study area for the Proposed Action.

4.2.2 Present and Reasonably Foreseeable Actions

MCAS Beaufort completed an Entry Control Facility Study in 2019 to identify strategies to improve traffic flow entering the base. The recommendations for the Main Gate and associated nearby roads generally included signage improvements, pedestrian improvements (e.g., curb ramps and crosswalks), lane painting, lane widening, signalizing intersections, modifying left turn capabilities, installing passive barriers, adding canopies at the Main Gate, and similar improvements (MCAS Beaufort 2019).

4.3 Cumulative Impact Analysis

4.3.1 Biological Resources

4.3.1.1 Description of Geographic Study Area

The study area for cumulative impacts to biological resources would be the installation, with a focus on the areas proposed for site clearance.

4.3.1.2 Relevant Past, Present and Future Actions

There are no present or reasonably foreseeable actions that might interact with the study area for biological resources.

4.3.1.3 Cumulative Impact Analysis

None of the past, present, or future actions would overlap temporally or geographically with Alternative 1 or the Preferred Alternative. Therefore, implementation of Alternative 1 or the Preferred Alternative

combined with the past, present, and reasonably foreseeable future projects, would not result in significant impacts to biological resources within the project area.

4.3.2 Traffic and Transportation

4.3.2.1 Description of Geographic Study Area

The study area for the traffic and transportation cumulative effects analysis is generally the same as the traffic and transportation ROI (see **Section 3.2**).

4.3.2.2 Relevant Past, Present and Future Actions

MCAS Beaufort completed an Entry Control Facility Study in 2019 to identify strategies to improve traffic flow entering the base. The Main Gate is located within the traffic and transportation ROI. The recommendations for the Main Gate and associated nearby roads generally included signage improvements, pedestrian improvements (e.g., curb ramps and crosswalks), lane painting, lane widening, signalizing intersections, modifying left turn capabilities, installing passive barriers, adding canopies at the Main Gate, and similar improvements (MCAS Beaufort 2019).

There are currently no planned developments in the City of Beaufort or Beaufort County that would be located near the ROI or that would increase vehicle trips through the ROI (MCAS Beaufort 2022). The City of Beaufort Comprehensive Plan and the Beaufort County Comprehensive Plan both discuss widening US 21 from a four-lane route to a six-lane route from SC 170 to Clarendon Road; however, there are no immediate plans to move forward with this project, and the project has not been approved or funded to date (MCAS Beaufort 2022).

4.3.2.3 Cumulative Impact Analysis

Recommendations from the Entry Control Facility Study, if implemented, could overlap temporally and spatially with the Proposed Action. Generally, the recommendations in that study are minor and could each be completed quickly with minimal effects on traffic and transportation. Furthermore, those improvements would not increase the number of trips in the ROI, but rather would help ensure efficient and safe traffic flow (i.e., long-term beneficial effects). The Proposed Action, including both Alternatives 1 and 2, could have short-term, less-than-significant adverse effects on traffic if temporary lane or road closures occur at the same time as those that may be required for the entry control facility improvements. In the long-term, there would be no cumulative effects from those improvements.

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5 Other Considerations Required by NEPA

5.1 Consistency with Other Federal, State, and Local Laws, Plans, Policies, and Regulations

In accordance with 40 CFR 1502.16(c), analysis of environmental consequences shall include discussion of possible conflicts between the Proposed Action and the objectives of federal, regional, state and local land use plans, policies, and controls. **Table 5.1-1** identifies the principal federal and state laws and regulations that are applicable to the Proposed Action and describes briefly how compliance with these laws and regulations would be accomplished.

Table 5.1-1. Principal Federal and State Laws Applicable to the Proposed Action

Federal, State, Local, and Regional Land Use Plans, Policies, and Controls	*Status of Compliance*
NEPA; CEQ NEPA implementing regulations; Navy procedures for Implementing NEPA; MCO 5090.2, Volume 12, Environmental Planning and Review	Completion of this EA serves as compliance.
Clean Air Act	Completion of this EA serves as compliance.
Clean Water Act	Completion of this EA serves as compliance.
Coastal Zone Management Act	The Proposed Action would be consistent with coastal zone policies under state coastal management programs. MCAS Beaufort is in the process of completing a Coastal Consistency Determination for the Proposed Action and anticipates this will be a Negative Determination.
National Historic Preservation Act	Completion of this EA serves as compliance.
Endangered Species Act	Completion of this EA serves as compliance.
Migratory Bird Treaty Act	Completion of this EA serves as compliance.
Bald and Golden Eagle Protection	Completion of this EA serves as compliance.
Comprehensive Environmental Response and Liability Act	Completion of this EA serves as compliance.
Emergency Planning and Community Right-to-Know Act	Completion of this EA serves as compliance.
Federal Insecticide, Fungicide, and Rodenticide Act	Completion of this EA serves as compliance.
Resource Conservation and Recovery Act	Completion of this EA serves as compliance.
Toxic Substances Control Act	Completion of this EA serves as compliance.
Invasive Species Act	Completion of this EA serves as compliance.
Noxious Weed Act	Completion of this EA serves as compliance.
EO 11988, Floodplain Management	Completion of this EA serves as compliance.
EO 12088, Federal Compliance with Pollution Control Standards	Completion of this EA serves as compliance.
EO 13045, Protection of Children from Environmental Health Risks and Safety Risks	Completion of this EA serves as compliance.
EO 12898, Federal Actions to Address Environmental Justice in Minority Populations and Low-income Populations	Completion of this EA serves as compliance.
EO 13834, Efficient Federal Operations	Completion of this EA serves as compliance.

5.2 Irreversible or Irretrievable Commitments of Resources

Resources that are irreversibly or irretrievably committed to a project are those that are used on a long-term or permanent basis. This includes the use of non-renewable resources such as metal and fuel, and natural or cultural resources. These resources are irretrievable in that they would be used for this

project when they could have been used for other purposes. Another impact that falls under this category is the unavoidable destruction of natural resources that could limit the range of potential uses of that particular environment.

Implementation of the Proposed Action would involve the consumption of fuel, oil, and lubricants for construction vehicles and loss of natural resources (13.6 acres of forested habitat).

The site proposed for ACC construction at MCAS Beaufort is considered a limited land resource at the installation. The site is located outside of the airfield accident potential zones and within a reduced noise zone. The area is also located close to the Main Gate and is easily accessible from both on- and off-base.

5.3 Unavoidable Adverse Impacts

This EA has determined that the alternatives considered would not result in any significant impacts. Implementing the alternatives would result in minor, temporary impacts to ESA wildlife and traffic, which are unavoidable. The Proposed Action would also require the clearance of approximately 13.6 acres of forested habitat from MCAS Beaufort.

5.4 Relationship between Short-Term Use of the Environment and Long-Term Productivity

NEPA requires an analysis of the relationship between a project's short-term impacts on the environment and the effects that these impacts may have on the maintenance and enhancement of the long-term productivity of the affected environment. Impacts that narrow the range of beneficial uses of the environment are of particular concern. This refers to the possibility that choosing one development site reduces future flexibility in pursuing other options, or that using a parcel of land or other resources often eliminates the possibility of other uses at that site.

In the short-term, effects to the human environment with implementation of the Proposed Action would primarily relate to the construction activity itself. The construction of the facility and operation would not significantly impact the long-term natural resource productivity of the area. The Proposed Action would not result in any impacts that would significantly reduce environmental productivity or permanently narrow the range of beneficial uses of the environment. However, constructing the ACC at the project site would remove this limited land resource from potential future uses at MCAS Beaufort.

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Appendix A
Biological Assessment

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FINAL

Biological Assessment

For

Construction of Ambulatory Care Center

At

Marine Corps Air Station Beaufort, S.C.

November 2021

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Final

Biological Assessment for Construction of Ambulatory Care Center

Marine Corps Air Station Beaufort, S.C.

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Abbreviations and Acronyms

Acronym	Definition
ACC	Ambulatory Care Center
AT/FP	Antiterrorism/force protection
BA	Biological Assessment
BHC	Branch Health Clinic
BMP	Best Management Practice
DHA	Defense Health Agency
ESA	Endangered Species Act
MCAS	Marine Corps Air Station
SCDNR	South Carolina Department of Natural Resources
U.S.	United States
USFWS	U.S. Fish and Wildlife Service

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1 Introduction

1.1 Introduction

The United States (U.S.) Marine Corps and Defense Health Agency (DHA) propose to construct a new Ambulatory Care Center (ACC) at Marine Corps Air Station (MCAS) Beaufort in Beaufort County, South Carolina.

This Biological Assessment (BA) has been prepared to evaluate the potential impacts to species listed or proposed for listing as Threatened and Endangered by the Endangered Species Act (ESA [Public Law 93-205; 16 U.S. Code § 1531 et seq.]) associated with the Proposed Action as compared to the current situation. Details of the Proposed Action are described in Section 2.0. Best Management Practices (BMPs) designed to avoid or minimize potential effects associated with the proposed activities are presented in Section 2.2. Implementation of the Proposed Action would begin once Section 7 consultation and other permitting requirements are complete.

Section 7(a)(2) of the ESA requires Federal agencies to ensure that any action authorized, funded, or carried out by such agencies is not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of critical habitat.

This BA is intended to support the informal consultation of the U.S. Marine Corps with the U.S. Fish and Wildlife Service (USFWS) as required by 50 Code of Federal Regulations 402.14(c) and Section 7 of the ESA regarding the likelihood of an adverse effect ("take") of any listed or proposed species and/or designated or proposed critical habitat. It provides the best available scientific and commercial data for the ESA-listed threatened or endangered species in the Action Area.

This BA describes the potential effects on ESA-listed species known to occur in the Action Area and any potential impacts to critical habitat from the implementation of the Proposed Action. Direct, indirect, and cumulative effects are analyzed.

1.2 Purpose and Need for the Proposed Action

The purpose of the Proposed Action is to provide a facility in which DHA and Naval Hospital Beaufort may meet their mission to achieve medical readiness, improve the health of our people, enhance the experience of care, and lower healthcare costs. The Proposed Action would replace the existing MCAS Beaufort Branch Health Clinic (BHC) facility and would increase the capabilities and modernize outpatient care support for Active-Duty personnel, family members, and other eligible beneficiaries, which may include retirees and retiree family members, within the Beaufort military community.

The Proposed Action is needed because existing MCAS Beaufort buildings facilitating the medical mission are in poor condition. Building maintenance is becoming unreasonably burdensome and facilities are likely to fail to meet clinically necessary conditions. In addition to there being no space for expansion, current room configurations do not meet functional layout needs. Without intervention, the future quality of patient care and access is projected to decline in existing MCAS Beaufort health care facilities.

1.3 Background and Location

MCAS Beaufort is located on approximately 7,200 acres in Beaufort County, in the City of Beaufort, South Carolina. Beaufort is located approximately 50 miles south-southwest of Charleston, South Carolina and 40 miles northeast of Savannah, Georgia (**Figure 1.3-1**).

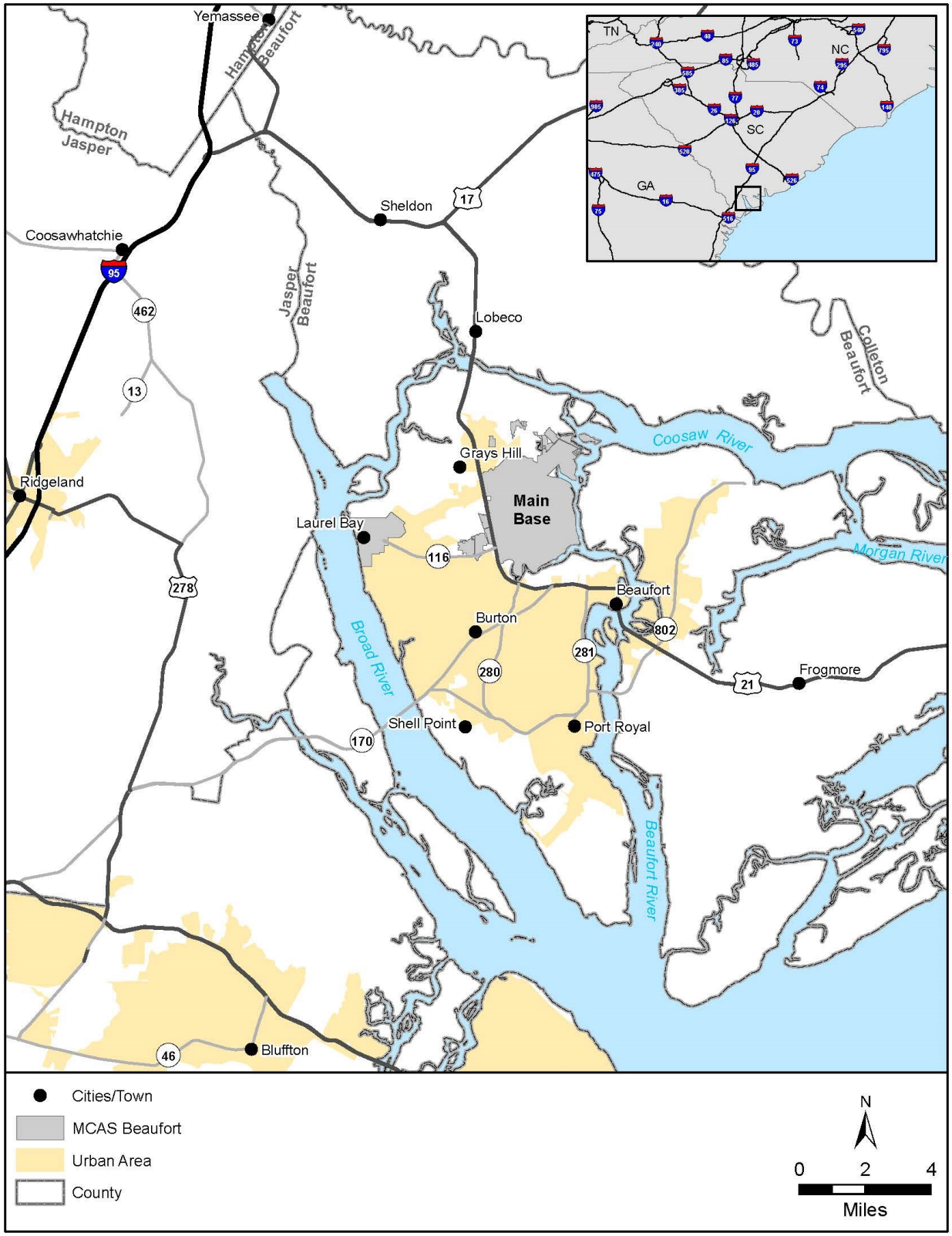

Figure 1.3-1. MCAS Beaufort Location

2 Proposed Action

2.1 Overview

The Proposed Action is to construct a new ACC at MCAS Beaufort. Construction would include a two-story, 155,189 square foot structure. The facility would provide 323 spaces for staff parking and 237 spaces for patient parking in two separate lots. The site proposed for the ACC is approximately 26.3 acres in size; 24.2 acres of the total are forested and 2.1 acres are developed. Approximately 14.7 acres within the site would be cleared and utilized to construct the ACC project components; 13.6 acres to be cleared are forested and 1.1 acres are developed (**Figure 2.1-1**).

The Proposed Action would also include upgrades to the MCAS Beaufort Traffic network. Two options for traffic upgrades would be considered. The first option would include installation of traffic signals at the intersections of Geiger Boulevard and Drayton Street and Geiger Boulevard and Elrod Street. There would also be the addition of southbound left-turn lanes at Drayton Street and Delalio Street. The second option for traffic network upgrades would include changes at the same intersections; however, traffic circles would be installed instead of stop lights. Option 2 would also include the addition of southbound left-turn lanes at Drayton Street and Delalio Street. These upgrades would occur on previously disturbed land that is already a part of the MCAS Beaufort traffic network, and impact acreages are currently unknown. Due to the lack of suitable wildlife habitat, impacts from the proposed traffic upgrades will not be analyzed further in this BA.

This project would provide Antiterrorism/ Force Protection (AT/FP) features and comply with AT/FP regulations and physical security mitigation in accordance with Unified Facilities Criteria 4-020-01 Department of Defense Security Engineering Facilities Planning Manual.

Demolition under the Proposed Action would include the following buildings at the existing BHC: Buildings 598, 707, 895, 940, and 1033 (**Figure 2.1-2**):

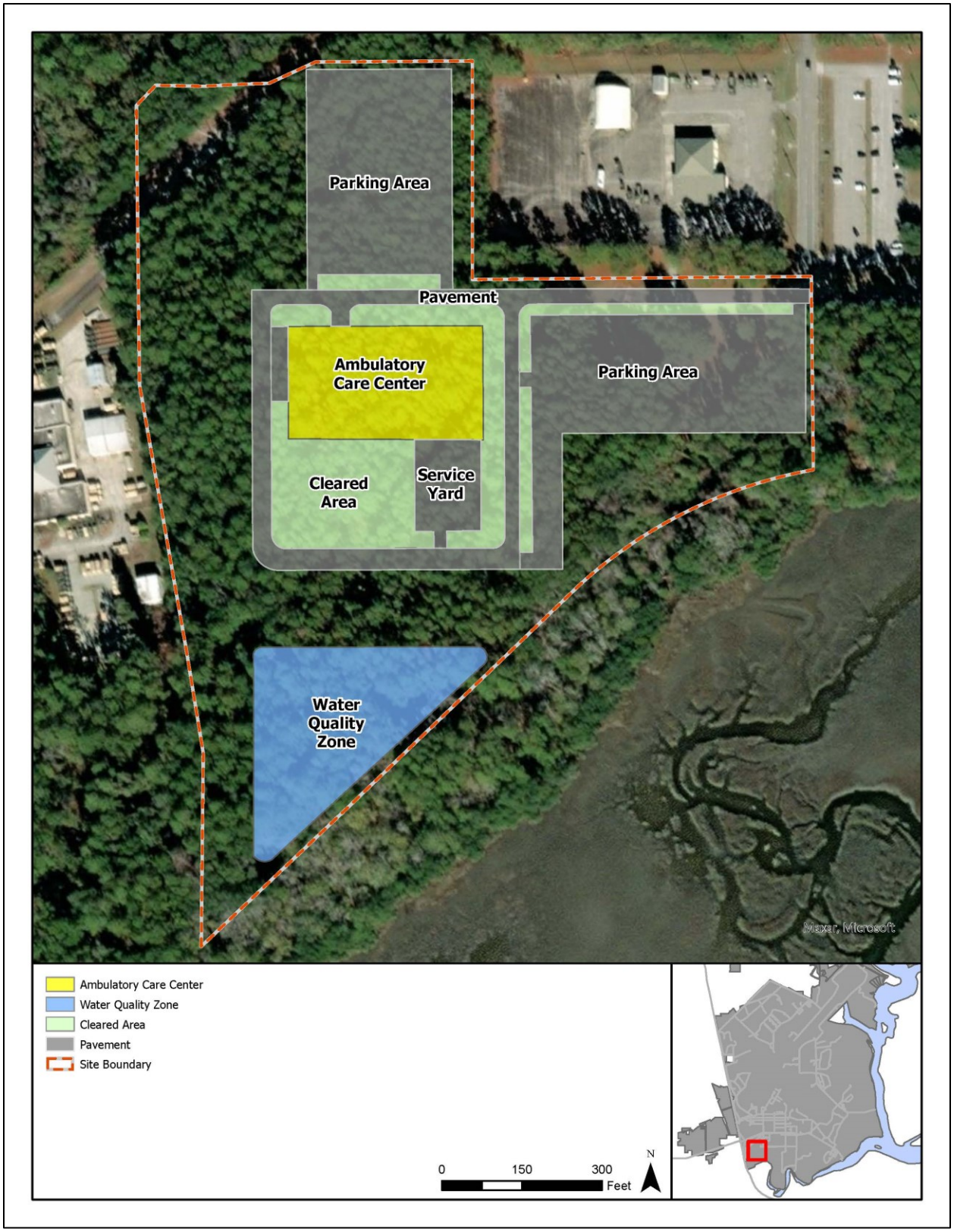

Figure 2.1-1. Proposed Action Construction

Figure 2.1-2. Proposed Action Demolition

2.2 Best Management Practices Included in the Proposed Action

This Section presents an overview of the BMPs that are incorporated into the Proposed Action in this document. BMPs are existing policies, practices, and measures that the U.S. Marine Corps would adopt to reduce the environmental impacts of designated activities, functions, or processes. Although BMPs mitigate potential impacts by avoiding, minimizing or reducing/eliminating impacts, BMPs are distinguished from potential mitigation measures because BMPs are (1) existing requirements for the Proposed Action, (2) ongoing, regularly occurring practices, or (3) not unique to this Proposed Action. In other words, the BMPs identified in this document are inherently part of the Proposed Action and are not potential mitigation measures proposed as a function of the National Environmental Policy Act environmental review process for the Proposed Action. Error! Reference source not found. includes a list of BMPs.

Table 2.2-1. Best Management Practices

BMP	Description	Impacts Reduced/Avoided
Erosion and Sediment Control Plan	The Erosion and Sediment Control Plan would identify site-specific BMPs to implement during construction and demolition activities.	Reduce erosion at construction and site. Minimize impacts on nearby water resources from sedimentation.
Stormwater Pollution Prevention Plan	A Stormwater Pollution Prevention Plan would be prepared in accordance with a National Pollutant Discharge Elimination System permit. This plan would contain an erosion and sedimentation control plan. The plan would incorporate BMPs for erosion and sedimentation control, including techniques to diffuse and slow the velocity of stormwater runoff.	Reduce erosion, sedimentation, and stormwater runoff. Minimize impacts to nearby surface water resources.
Equipment cleaning and access, fill quality	Construction equipment and vehicles would be thoroughly cleaned before brought on site. All fill material brought to the construction site from off site would be checked to ensure that it is free from contaminants and does not contain any seeds or plant materials from non-native or invasive species. All mechanized clearing and grading, vehicle traffic, equipment staging, and the deposition of soil would be confined to the temporary and/or permanent project footprint or to other disturbed or developed land.	Reduce the potential for impacts from invasive/non-native plants and animals. Minimize soil disturbance footprint.
Fire Prevention Measures	The use of shields, protective mats, or other fire prevention equipment during grinding and welding to prevent or minimize the potential for fire. Vehicles would not be driven or parked in areas where catalytic converters could ignite dry vegetation. No smoking or disposal of cigarette butts would take place within vegetated areas.	Minimize the potential for fire.
Low Impact Development design features	Low Impact Development design features would be implemented to minimize the potential impacts to soils from stormwater runoff.	Reduce erosion, sedimentation, and stormwater runoff. Minimize impacts to nearby surface water resources.

3 Action Area and Existing Conditions

The proposed project area consists of approximately 26.3 acres of mostly undeveloped forested land located due south of the main Entry Control Point on MCAS Beaufort. The site is bounded to the west by the Army National Guard facility, to the south and east by marine wetlands, and to the north by Angel One Road (which is closed). The Action Area refers to the area directly or indirectly affected by the Proposed Action and within which project effects could be experienced by listed species. The Action Area for this Proposed Action encompasses the 26.3 acre site proposed for construction of the new ACC at MCAS Beaufort (**Figure 2.1-1**). The BHC buildings being demolished are all located on previously disturbed land in an urban area (**Figure 2.1-2**).

Based on land cover data available from MCAS Beaufort, the Action Area includes approximately 24.2 acres of forested land and 2.1 acres of urban area. The forested area is composed of mixed pine-hardwood forest habitat and loblolly pine habitat. This habitat is composed mostly of loblolly pine (P*inus taeda*) and hardwood species, including water oak (*Quercus nigra*), live oak (*Quercus virginiana*), willow oak (*Quercus phellos*), sweet gum (*Liquidambar styraciflua*), red maple (*Acer rubrum*), pecan (*Carya illinoinensis*), and black cherry (*Prunus serotina*) (MCAS Beaufort 2013). Both freshwater and marine wetlands are present adjacent to the proposed project area; however, no wetlands are present within the project site. The site has been previously surveyed for threatened and endangered species, and none were found to occur in the area. Previous survey efforts did not include bat specific surveys.

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4 Description of the Listed Species that May Be Affected by the Proposed Action

Based on a review of site conditions and existing records for the Action Area, the species listed in **Table 4.1-1** are considered to have the potential to occur. No critical habitat has been designated for these species within the Action Area or on MCAS Beaufort. A review of the biology, status, and management of each of the species potentially affected by the Proposed Action, is presented below.

Table 4.1-1. Threated and Endangered Species with the Potential to Occur in the Action Area

Species	Status	Potential to Occur	Jurisdiction
Mammal			
Northern long-eared bat (*Myotis septentrionalis*)	T	Project area has habitat with trees that could be utilized for summer roosting. No bat surveys have been conducted in project area.	USFWS

Legend: T – Threatened; USFWS – US Fish and Wildlife Service.

No suitable habitat for eastern black rail (*Laterallus jamaicensis ssp. jamaicensis*), piping plover (*Charadrius melodus*), red knot (*Calidris canutus rufa*), red-cockaded woodpecker (*Picoides borealis*), wood stork (*Mycteria americana*), green sea turtle (*Chelonia mydas*), Kemp's Ridley sea turtle (*Lepidochelys kempii*), leatherback sea turtle (*Dermochelys coriacea*), loggerhead sea turtle (*Caretta caretta*), frosted flatwoods salamander (*Ambystoma cingulatum*), American chaffseed (*Schwalbea americana*), Canby's dropwort (*Oxypolis canbyi*), or pondberry (*Lindera melissifolia*) occurs in the proposed project area. Therefore, these species are not analyzed in this BA.

4.1 Northern Long-eared Bat (*Myotis septentrionalis*)

4.1.1 Biology

The northern long-eared bat is a medium-sized bat about 3 to 3.7 inches in length but with a wingspan of 9 to 10 inches. The northern long-eared bat has a diverse diet including moths, flies, leafhoppers, caddisflies, and beetles. It forages via echolocation using both hawking (catching prey in flight) and gleaning (picking motionless insects from vegetation and water surfaces) behaviors. Foraging occurs in the understory of forested hillsides and ridges (USFWS 2021).

Within the United States, its range extends along the eastern coast from Canada to northeastern North Carolina, with additional small patches along the coast of southern North Carolina and southern South Carolina (USFWS 2021). Suitable summer habitat for the northern long-eared bat consists of a wide variety of forested and wooded habitats as well as linear features such as fence rows, riparian forests, and other wooded corridors with variable amounts of canopy closure. Mature forests are an important habitat type for foraging northern long-eared bats. Hibernation generally occurs from October through April, depending on the local climate. Suitable habitat for hibernation includes caves and cave-like structures (e.g., abandoned or active mines, railroad tunnels). The spring migration period typically runs from mid-March to mid-May (USFWS 2016a).

Within South Carolina, the northern long-eared bat was historically present in the mountain region of Oconee, Pickens, and Greenville Counties. Few individuals have been found in the mountain region since white-nose syndrome was confirmed in the state. However, in 2016, northern long-eared bats were

discovered in the coastal area of South Carolina at Palmetto Bluff Conservancy in Beaufort County (approximately 20 miles southwest of MCAS Beaufort). In 2017, they were found breeding in the Francis Marion National Forest in Charleston and Berkeley Counties (approximately 90 miles northeast of MCAS Beaufort), and by 2018 at total of 20 individual bats had been captured in Francis Marion National Forest (SCDNR 2021).

A recent South Carolina Department of Natural Resources (SCDNR) study was conducted at the Santee Coastal Reserve Wildlife Management Area and The Nature Conservancy Washo Reserve in Charleston and Berkeley Counties. The purpose of the SCDNR study was to seek location and roost information for northern long-eared bats in the South Carolina coastal plain (SCDNR 2019).

During the summers of 2018 and 2019, a total of eight northern long-eared bats were captured at the two study locations. The bats captured included a male and female subadult, 3 adult males, and 3 pregnant females. The subadults, one adult male, and two pregnant females were fitted with radio transmitters in order to track the bats back to day roost sites. A sweetgum cavity was used by the adult male for at least 5 days. All females roosted under bark of mature longleaf pine (*Pinus palustris*) in uniform aged stands within 150 feet of a road. The stands appeared to be approximately 85 years old, underwent frequent fire, and were managed for local populations of red-cockaded woodpeckers. Females switched roosts daily, and only one roost was used more than once. They also roosted alone, and no maternity colonies were found. The pup season for this population of northern long-eared bats is estimated to be between late April and early May, which is approximately one month earlier than the season outlined in the current Rule 4(d) (SCDNR 2019).

The male's cavity tree was within 300 feet of his capture location. The females were captured approximately 1 mile away from their roosting sites. They were tracked to their longleaf pine roosting sites from a mixed hardwood pond area or closed canopy maritime forests. The bats captured in the study were swabbed to test for the fungus that causes white-nose syndrome, and the results were negative (SCDNR 2019).

4.1.2 Status

The northern long-eared bat was listed as threatened under the ESA on 4 May 2015. It occurs in 37 states, the District of Columbia, and 13 Canadian provinces (USFWS 2016a). The northern long-eared bat is one of the species of bats most impacted by white-nose syndrome, which has caused declines of 90 to 100% where the disease has been found and is the primary factor supporting the endangered species status determination. Declines in the numbers of northern long-eared bats are expected to continue as white-nose syndrome extends across the species' range (USFWS 2016a). The USFWS has determined that designating wintering habitat as critical habitat for the species would likely increase the threat of vandalism, disturbance, or the spread of white-nose syndrome. Furthermore, the USFWS has determined there are no areas within the summer habitat that meet the definition of critical habitat (USFWS 2016b).

4.1.3 Management

In January 2016, the USFWS established a white-nose syndrome zone under Rule 4(d) of the ESA. Incidental take of the northern long-eared bat is only allowed outside of the white-nose syndrome zone. As of July 2020, the white-nose syndrome zone included a vast majority of the northern long-eared bat's

range and virtually the entire extent of its range along the east coast. Beaufort County, SC is within the white-nose syndrome zone for northern long-eared bats (USFWS 2020).

MCAS Beaufort currently has no policies in place for the management of northern long-eared bat as the species has only recently been found in Beaufort County and has not been observed on the installation.

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5 Analysis of Effects

5.1 Northern Long-eared Bat

Historically, northern long-eared bats were not known to occur in the coastal plain of South Carolina. However, in 2016, an adult male and a juvenile female were discovered at the Palmetto Bluff Conservancy in Beaufort County. Since 2016, individual northern long-eared bats have been observed in Charleston and Berkeley Counties (SCDNR 2021). A recent SCDNR study found eight northern long-eared bats in Charleston and Berkeley Counties, including three pregnant females (SCDNR 2019). The species has never been observed on MCAS Beaufort.

It is possible that impacts to northern long-eared bats could result from:

- removal of approximately 13.6 acres of forested habitat.

The Proposed Action would construct a new ACC at MCAS Beaufort. In order to complete construction, approximately 13.6 acres of forested habitat would need to be cleared. The mixed loblolly pine-hardwood habitat at the site has hardwood trees suitable for roosting male northern long-eared bats. There is no habitat present on the site that is suitable for roosting females based on the recent SCDNR study (SCDNR 2019).

Construction activities would result in short-term impacts from disturbance to terrestrial wildlife including the northern long-eared bat, if present, but would not further threaten their existence. Any male bats roosting near the construction area would likely flee due to the localized construction noise. If northern long-eared bats are found on the project site, work would stop and MCAS Beaufort natural resources personnel would be contacted.

The northern long-eared bat is not known to occur on MCAS Beaufort; however, it has been recently observed within Beaufort County. Due to its unlikely occurrence in the Action Area and the stop work order upon potential sighting, the activities associated with the Proposed Action **may affect, but are not likely to adversely affect**, the northern long-eared bat.

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6 Determination

In accordance with Section 7(c) of the ESA, MCAS Beaufort has analyzed the effects of implementing the Proposed Action, the construction of a new ACC at MCAS Beaufort (See **Table 6.1-1**).

Based on a lack of habitat in the Action Area, a finding of "no effect" is made for the eastern black rail, piping plover, red knot, red-cockaded woodpecker, wood stork, green sea turtle, Kemp's Ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, frosted flatwoods salamander, American chaffseed, Canby's dropwort, or pondberry.

Based on the evaluation presented above, the Marine Corps has made the following determination of effects on listed species and critical habitat from implementation of the Proposed Action within the Action Area.

Table 6.1-1. Effects on Listed Species and Critical Habitat

Species	Status	Effects Determination
Mammal		
Northern long-eared bat (*Myotis septentrionalis*)	T	May affect, not likely to adversely affect

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7 References

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Appendix B
Traffic Analysis

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TRAFFIC ANALYSIS

For

Environmental Assessment for

Ambulatory Care Center Replacement

At

Marine Corps Air Station Beaufort,

Beaufort, SC

January 2022

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Traffic Analysis
Environmental Assessment for Ambulatory Care Center Replacement
Marine Corps Air Station Beaufort,

Beaufort, SC

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1 Introduction

This report presents the findings of a traffic analysis prepared as part of the Environmental Assessment (EA) developed to assess the impacts that would result from the replacement of the Ambulatory Care Center (ACC) at the Marine Corps Air Station (MCAS) in Beaufort, South Carolina. This traffic analysis was performed to determine whether the alternatives presented as a part of the proposed action would affect the transportation network in the local area, what the impacts would be, and what mitigation measures, if warranted, would be necessary to preclude adverse impacts.

The EA presents two Action Alternatives, constructing a new ACC that will replace the existing MCAS Beaufort Branch Health Clinic (BHC). Under Alternative 1 the ACC would be constructed but the traffic network at MCAS Beaufort would remain unchanged. Under Alternative 2 the ACC would be constructed and two options for traffic upgrades would be analyzed. The proposed location for this new facility is on the southwest side of the base by the intersection of Delalio Ave and Drayton St. The following diagram shows the proposed location for the Action Alternative.

The EA, and subsequently this traffic analysis, evaluates the effects of two Action Alternatives and a No Action Alternative. The study will use these alternatives to project a conservative estimate of the traffic impacts from development and document the results in the EA. If needed, mitigation measures are suggested to address identified impacts.

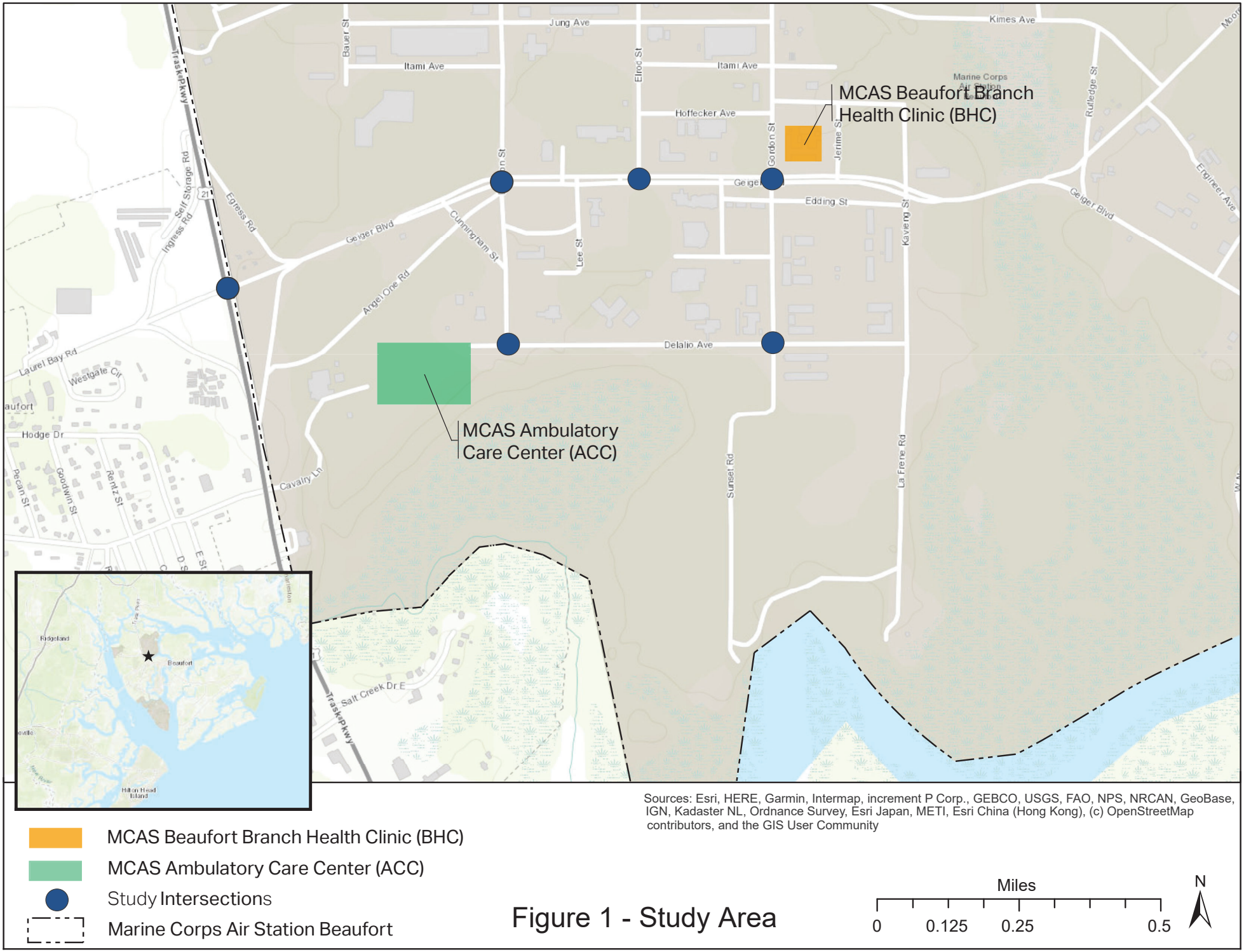


Figure 1 - Study Area

2 Background

This section presents the description tasking, the existing land use, planning context, and the transportation assumption agreement. The project tasking outlines the scope of the study and elements contained in the study by section title. The existing land use describes the current land use surrounding the affected environment. The transportation assumption agreement covers the proposed assumptions presented to the City of Beaufort that the study uses to develop future traffic volumes and the methods proposed to evaluate the traffic operations.

2.1 Description of the Project Tasking

The scope of work for this traffic analysis includes the following tasks:

- Provide engineering services necessary for the preparation of a condition assessment report of the traffic capacity and level of service (LOS) analysis for both the existing condition and for the proposed construction of a new ACC facility.
- Provide recommendations for improvements to the study area road system based on the results of the capacity and LOS analysis of future requirements.
- Provide a list of findings and recommendations for the alternative.

This traffic analysis has five sections to document the analysis, findings, and recommendations for MCAS Beaufort ACC facility.

- Section 1.0 presents the introduction and the proposed actions.
- Section 2.0 describes the background including the project tasking, existing land use, planned context, and transportation assumption agreement.
- Section 3.0 presents an operational analysis of the existing conditions and includes the operational analysis of the study area roadway networks.
- Section 4.0 presents the operational analysis of the future conditions and includes future background growth, proposed actions and presents the operational analysis under these conditions.
- Section 5.0 presents a discussion of the future findings.

2.2 Existing Land Use

MCAS Beaufort is located in the City of Beaufort, South Carolina. The Defense Health Agency (DHA) and Bureau of Medicine and Surgery's medical mission is to provide quality medical and dental care to Active-Duty Navy and Marine Corps Personnel. The proposed MCAS Ambulatory Care Center replaces the MCAS Beaufort BHC and will include outpatient support for Active-Duty family members and other eligible beneficiaries within the Beaufort military community. In order to meet the medical mission, facilities must be in good working condition, operationally functional, and sized appropriately. BHC currently has an adequate number of exam rooms to support the healthcare being provided. Due to the anticipated future expansion and enrollment, there will be a space shortage for healthcare.

The current five buildings that support the MCAS medical mission all have interior and exterior constraints that will negatively affect the ability to provide the required quality of patient care in the future. This limitation, along with the eventual expanded medical mission, drives the need for the proposed Ambulatory Care Center.

Currently, the BHC offers rimary care and dental services. The DHA is currently scaling back service lines, initially to provide Outpatient Services only, culminating in the relocation of these services to the proposed MCAS Ambulatory Care Center.

2.3 Relevant Studies Summary

This section contains a summary of the relevant studies provided to AECOM.

2.3.1 MCAS Beaufort Entry Control Facility (ECF) Study

The MCAS Beaufort Entry Control Facility (ECF) Study was completed in September 2019. AM and PM peak hour turning movement counts (TMCs) were collected on March 28, 2019 and were extracted from this report for the following intersections and this report can be seen in **Appendix A**:

- Trask Parkway and Geiger Boulevard
- Drayton Street and Geiger Boulevard

2.3.2 DHA AE Planning Study

The DHA AE Planning Study was completed In January 2020. This study examined the existing site infrastructure and endeavored to determine fundamental requirements influencing schedule, scope, and cost of the proposed project.

2.3.3 MCAS F-35B Environmental Impact Statement (EIS)

The MCAS F-35B Environmental Impact Statement (EIS) was completed in October 2010. The Department of the Navy (DoN) prepared the Environmental Impact Statement (EIS) to assess the potential environmental impacts of basing the F-35B Lightning II Joint Strike Fighter (JSF) (referred to as the F-35B) on the East Coast of the United States.

3 Existing Conditions

This chapter presents the traffic analysis area and summarizes the existing traffic conditions within the study area. This chapter covers the traffic volumes on site as well as traffic generated by the proposed ACC facility. The study area definition and roadway descriptions are covered first.

3.1 Study Area Definition

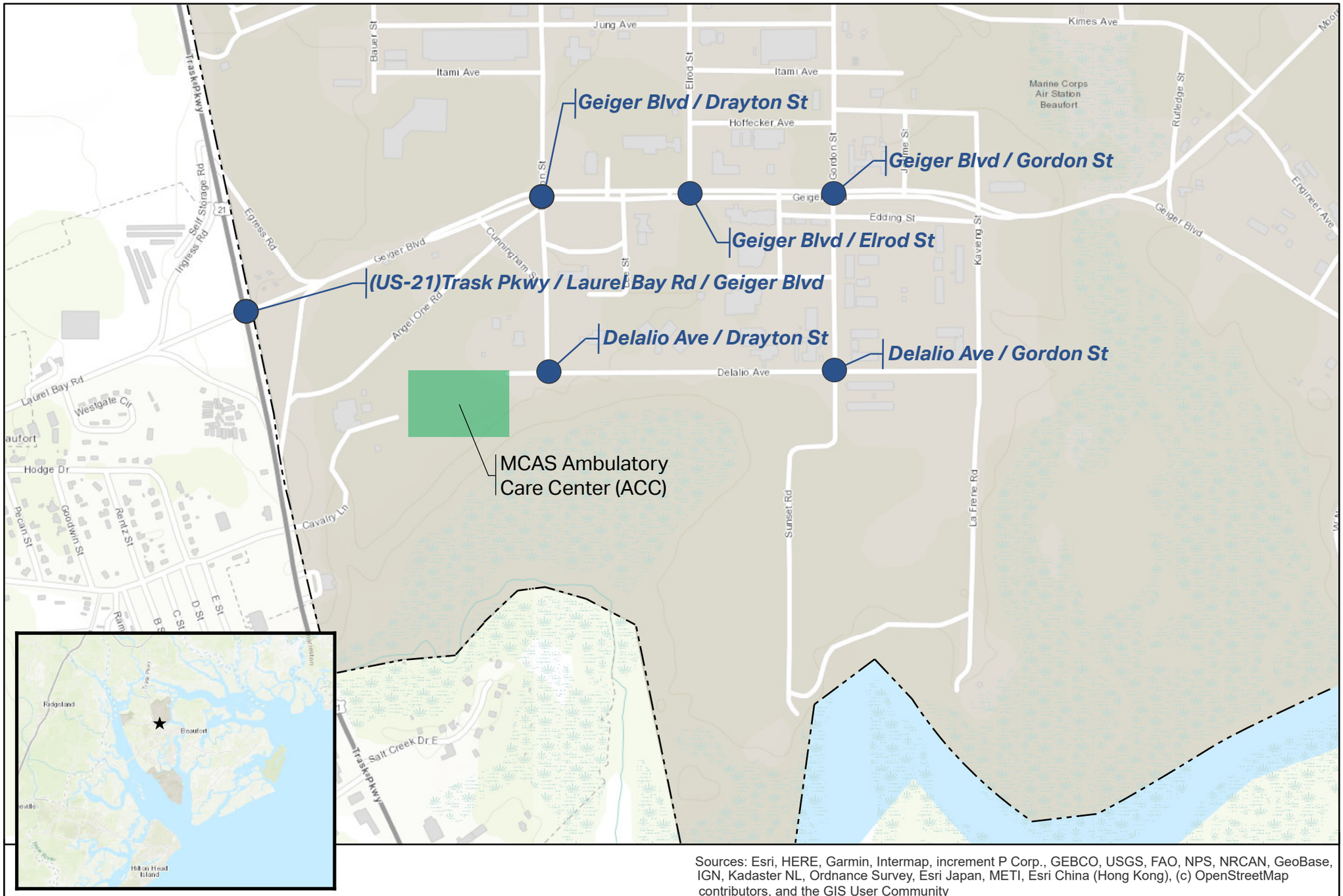
The study area was delineated based on the location of the proposed ACC Facility within MCAS Beaufort and how this facility would impact the traffic. The study contains the following six intersections as shown in Figure 2:

- US 21 (Trask Pkwy) and Geiger Blvd (signalized)
- Geiger Blvd and Drayton St (unsignalized)
- Geiger Blvd and Elrod St (unsignalized)
- Geiger Blvd and Gordon St (unsignalized). This intersection currently has a signal in place however, it currently operates as a four-way stop.
- Delalio Ave and Drayton St (unsignalized)
- Delalio Ave and Gordon St (unsignalized)

The six intersections cover the traffic impact analysis study area and are shown in the following diagram.

3.2 Roadway Descriptions

The following sections describe the roadways within the study area, including the roadway functional classification, the number of lanes in each direction, and any noteworthy characteristics such as a roadway's role within the transportation network. The information was collected from a South Carolina Department of Transportation Functional Classification Map, field observations, and aerial imagery.



Sources: Esri, HERE, Garmin, Intermap, increment P Corp., GEBCO, USGS, FAO, NPS, NRCAN, GeoBase, IGN, Kadaster NL, Ordnance Survey, Esri Japan, METI, Esri China (Hong Kong), (c) OpenStreetMap contributors, and the GIS User Community

MCAS Ambulatory Care Center (ACC)

Intersection

Marine Corps Air Station Beaufort

Miles

0 0.125 0.25 0.5

N

Figure 2 - Study Intersections

3.2.1 US 21 (Trask Pkwy)

US 21 (Trask Pkwy) is classified as a Principal Arterial. This class of roadway serves through traffic, major activity centers, and trips entering or leaving urban areas. US 21 (Trask Pkwy) serves as an artery for commuters and special event attendees traveling from the north to MCAS Beaufort as well as the historic district of City of Beaufort. In the opposite direction, it serves multiple local towns and tourist attractions toward Hunting Island and Fripp Island.

The cross section of US 21 (Trask Pkwy) varies near MCAS Beaufort as a four-lane median divided roadway and a five-lane section with a center left-turn lane. There are limited shoulders with exclusive turn lanes for MCAS Beaufort with a posted speed limit is 60 miles per hour (mph). As a principal arterial, US 21 (Trask Pkwy) has the ability to carry a substantial amount of the traffic. In 2020,it had an estimated Annual Average Daily Traffic (AADT) of 21,000 north of MCAS Beaufort and 31,000 south of MCAS Beaufort (SCDOT, 2020).

3.2.2 Geiger Blvd

Geiger Blvd is a local road as well as the main entrance within MCAS Beaufort. Geiger Blvd is the main east-west route connecting all residential, offices, and airfield.

Geiger Blvd is a four-lane median divided roadway through the study area. There is limited shoulder area; however, there are parallel parking spaces located on both sides of Geiger Blvd. The median is also large at being approximately 20 feet wide with a posted 35 mph. As the primary east-west route into the base, Geiger Blvd has the ability to carry large amounts of traffic throughout the base.

3.2.3 Drayton St

Drayton St is a local road and one of the main north-south routes within MCAS Beaufort. It is the first intersection inside the base with Geiger Blvd and can provide access to residential housing, offices, and the airfield.

Drayton St is a two-lane roadway through the study area. There is limited shoulder area; however, there are parallel parking spaces located on both sides of Drayton St with a posted speed of 30 mph.

3.2.4 Elrod St

Elrod St is a local road traveling north-south within MCAS Beaufort. It connects to Geiger Blvd and runs north providing access to different offices and the airfield.

Elrod St is a two-lane roadway through the study area. There is limited shoulder area; however, there are parallel parking spaces located on both sides of Elrod St with a posted speed of 25 mph.

3.2.5 Gordon St

Gordon St is a local road and one of the main north-south routes within MCAS Beaufort. Gordon St provides access to residential barracks south of Geiger Blvd and the current MCAS BHC north of Geiger Blvd as well as the airfield.

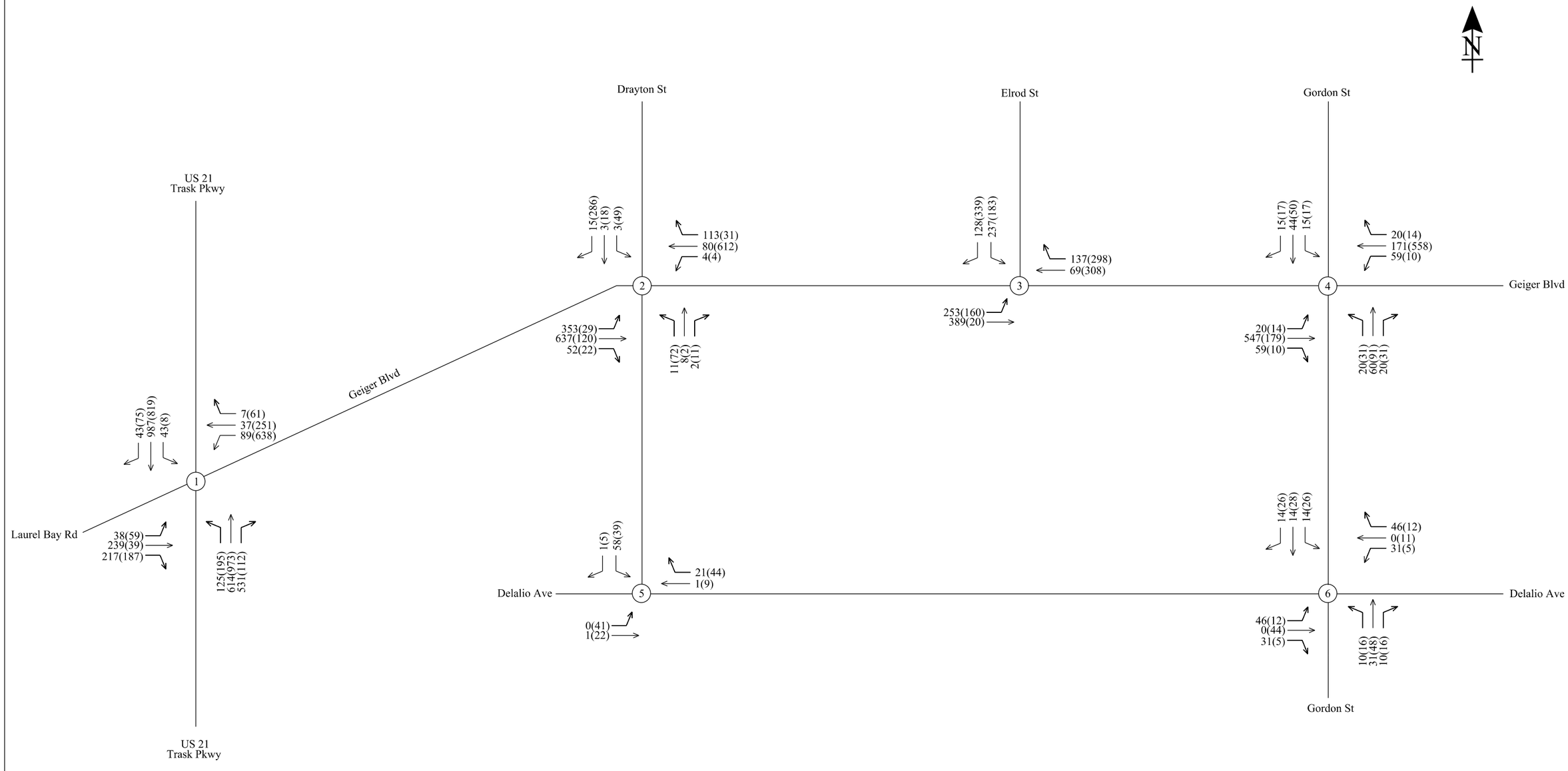
Gordon St is a two-lane roadway through the study area. There is limited shoulder area; however, there are parallel parking spaces located on both sides of Gordon St with a posted speed of 25 mph.

3.2.6 Delalio Ave

Delalio Ave is a local road traveling east-west within MCAS Beaufort. It connects between Drayton St and Gordon St providing access to different offices, restaurants, and the barracks.

Delalio Ave is a two-lane roadway through the study area. There is limited shoulder area; however, there are parallel parking spaces located on both sides of Drayton St with a posted speed of 30 mph.

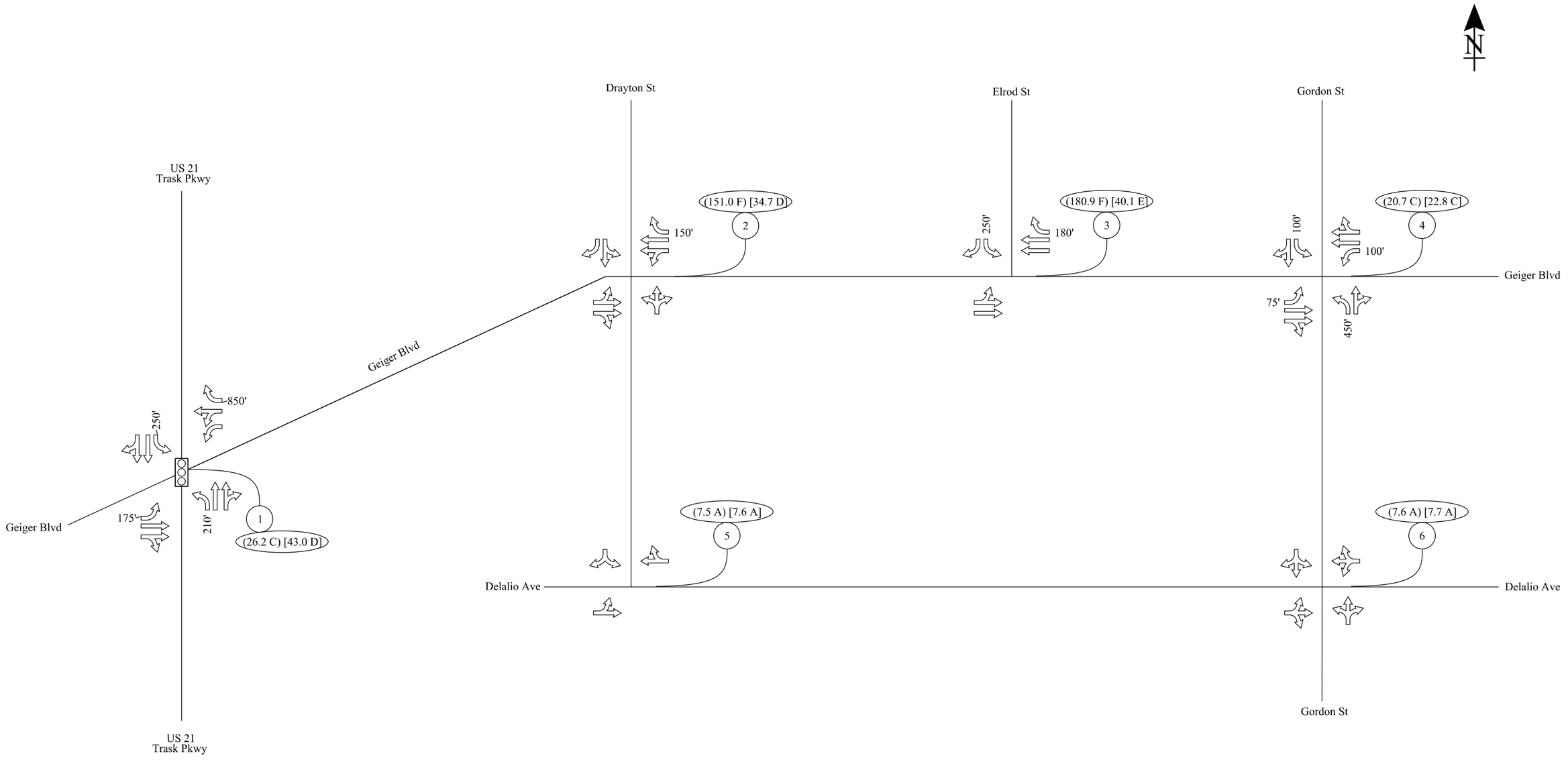
Figures 3A and 3B show the existing volumes, lane geometry and LOS for the study intersections.



2019 Existing Conditions
Peak Hour Volumes
Figure 3A

←	Turning Movement
(##)	Intersection Number
###	AM Peak Hour Volumes
(###)	PM Peak Hour Volumes

AECOM



2019 Existing Conditions
LOS and Laneage
Figure 3B

- Existing Laneage
- ## — Intersection Number
- (##X)[##X] — Intersection AM Peak and PM Peak Delay and LOS
- ###' — Storage
- Existing Signal

AECOM

3.2.2 Data Collection

For the traffic study, previous reports were used to generate the traffic data for the study area. The three reports reviewed were the MCAS Beaufort Entry Control Facility (ECF) Study, the DHA AE Planning Study, and the MCAS F-35B Environmental Impact Statement.

Within the MCAS Beaufort ECF Study, traffic counts were conducted in 2019 at the intersection of US 21 (Trask Pkwy) and Geiger Blvd and Geiger Blvd and Drayton St. These turning movement counts from the previous report were collected on March 26, 2019, during weekday AM and PM peak hours (5:30 a.m.–8:30 a.m. and 3:00 p.m.–6:00 p.m.). According to the counts, the AM peak hour occurred between 6:30 a.m.–7:30 a.m. and the PM peak period occurred between 4:00 p.m.–5:00 p.m. These hours reflect the period the combined highest vehicular volume entered all six study area intersections. This is also called the system peak hour for the study area. The counts conducted at these two locations were utilized for this report. The peak hour volumes for the remaining intersections were generated using percentages of the two intersections counted and the Trip Generation 10th Edition Manual by Institute of Transportation Engineers (ITE) was used to generate the corresponding volumes. These volumes can be seen in **Appendix B.**

3.2.3 Observations

Observations were acquired while driving through the study area during the afternoon on April 30, 2021. Notes were taken as to how the intersections operated and if any potential problems were noted. It is to be noted that during the PM peak period there is potential for westbound queueing on Geiger Blvd to back up from the intersection with US 21. This queue can get close to the intersection of Geiger Blvd and Drayton St, impacting its operation. An additional note to be alert of is the intersection of Geiger Blvd and Drayton St. Since this is the first intersection within the base multiple cars attempt to turn from Drayton St onto Geiger Blvd toward US 21. With the large intersection size, it can be difficult to make a turning maneuver across all lanes of Geiger Blvd. All remaining intersections showed no back up or problem with operation.

3.3 Traffic Section

This section explains the concepts and definitions for analyzing the traffic operations, the process used to analyze the six study area intersections, and the results.

3.3.1 Analysis Tools

The study analyzed the study area intersections using Synchro™ Traffic Signal Coordination Software Version 10.3 (Build 151, Revision 0). The intersection capacity analysis uses the Synchro™ software tool and various input values as described in the following sections to determine the LOS, or driver perception of an intersection's operation. The intersection capacity analysis results are presented in Section 3.3.3.

3.3.2 Intersection Operations Analysis Method

The traffic carrying ability of a roadway is described by LOS that range from LOS A to LOS F. Table 1 defines the traffic flow conditions and approximate driver comfort level at each level of service for signalized and unsignalized intersections, including roundabouts. Note that the delays associated with LOS for signalized intersections are different from those associated with unsignalized intersections, including roundabouts. HCM 6th Edition explains that drivers perceive that a signalized intersection is designed to carry higher traffic volumes, and therefore expect to experience greater delays at signalized intersections. A signalized intersection is described by a single LOS. Unsignalized intersections are assigned a LOS for each minor movement.

Table 1
Level Of Service Index

LOS	Traffic Flow Conditions	Signalized Intersection Delay (sec)	Unsignalized Intersection Delay (sec)
A	Progression is extremely favorable and most vehicles do not stop at all.	≤ 10	≤ 10
B	Good progression, some delay.	> 10 - 20	> 10 - 15
C	Fair progression, higher delay.	> 20 - 35	> 15 - 25
D	Unfavorable progression, congestion becomes apparent.	> 35 - 55	> 25 - 35
E	Poor progression, substantial delay.	> 55 - 80	> 35 - 50
F	Poor progression, extreme delay.	> 80	> 50

Source: HCM 6th Edition

3.3.3 2019 Existing Condition Intersection Operations Analysis

The 2019 Existing Conditions shows how the current intersection configurations operate with the forecasted volumes. Intersection LOS are summarized in Table 2. Figure 3A presents the peak hour volumes while Figure 3B presents the peak hour LOS and laneage for the study area. Synchro reports may be found in **Appendix C**.

Table 2
2019 Existing Conditions
Intersection Level of Service

#	Intersection	LOS	
		AM Peak	PM Peak
1	**US 21 (Trask Pkwy) at Laurel Bay Rd/Geiger Blvd**	**C**	**D**
	Eastbound Left	D	E**
	Eastbound Through/Right	D	E**
	Westbound Left	E**	E
	Westbound Left/Through	E**	E
	Westbound Right	D	C
	Northbound Left	B	D
	Northbound Through/Right	B	C
	Southbound Left	B	C
	Southbound Through/Right	C	D
2*	**Geiger Blvd at Drayton St**	**-**	**-**
	Eastbound Left/Through/Right	A	A
	Westbound Through/Left/Right	A	A
	Northbound Left/Through/Right	F**	D
	Southbound Left/Through	F**	C
	Southbound Right	A	C
3*	**Geiger Blvd at Elrod St**	**-**	**-**
	Eastbound Left/Through	A	A
	Southbound Left	F	E**
	Southbound Right	A	B

Table 2 (Continued) 2019 Existing Conditions Intersection Level of Service			
#	Intersection	LOS	
		AM Peak	PM Peak
4*	**Geiger Blvd at Gordon St**	**-**	-
	Eastbound Left	A	B
	Eastbound Through	C	B
	Eastbound Through/Right	B	B
	Westbound Left	B	A
	Westbound Through	B	C
	Westbound Through/Right	B	B
	Northbound Left	B	B
	Northbound Through/Right	B	B
	Southbound Left	B	B
	Southbound Through/Right	B	B
5*	**Delalio Ave at Drayton St**	**-**	-
	Eastbound Left/Through	A	A
	Westbound Through/Right	A	A
	Southbound Left/Right	A	A
6*	**Delalio Ave at Gordon St**	**-**	-
	Eastbound Left/Through/Right	A	A
	Westbound Left/Through/Right	A	A
	Northbound Left/Through/Right	A	A
	Southbound Left/Through/Right	A	A

Movements with zero delay were omitted
*Denotes an unsignalized intersection, which presents the worst movement, rather than an overall LOS
**LOS E or F movements with v/c ratio of 0.85 or less.

Of the 6 intersections analyzed, 1 is signalized and 5 are unsignalized:

- The one signalized intersection operates at LOS D or better in both peak hours

- 3 of 5 (60%) unsignalized intersections operate at LOS D or better in both peak hours. 1 of 5 (20%) operate at LOS E or worse in one of the peak hours and 1 of 5 (20%) operates at LOS E or worse in both peak hours.

In summary, 4 of 6 (67%) intersections operate at LOS D or better in both peak hours and 2 of 6 (33%) intersections operate at LOS E or worse in one of the peak hours.

4 Future Conditions

4.1 No Action Alternative

This section describes the No Action Alternative or the baseline condition if the proposed ACC Facility were not consolidated and built in the southwest area of MCAS Beaufort. The MCAS Beaufort BHC and outpatient care at NHB and will include outpatient support for Active-Duty family members and other eligible beneficiaries within the Beaufort military community. Provider Requirement Integrated Specialty Model (PRISM) area would continue to operate in its current aspect.

Analysis of the No Action Alternative assumes background development and growth through the year 2029, the same year the proposed MCAS ACC Facility would open if the Action Alternative were to be implemented.

4.1.1 Traffic Section

The No Action Alternative includes programmed transportation improvements in the study area, growth in existing traffic volumes through the same horizon year as the action alternative, and trips generated by approved and unbuilt development projects that are reasonably foreseeable. Volumes are then used as an input, along with delay, signal timing, and geometrics, to evaluate traffic operations and queuing at signalized and unsignalized intersections to determine the impacts of traffic growth.

The following section describes the process for analyzing traffic for the No Action Alternative and the results of the analysis. Note that the procedures to forecast future traffic volumes throughout this transportation study include rounding; therefore, totals may not add up to the precise value indicated.

4.1.1.1 Background Growth

Background growth was added to the roadway network to account for vehicle trips traveling through the study area during the AM and PM peak hours. These trips are important to include because they account for vehicle volume growth from land use changes outside of the study area. Again, this traffic growth data comes from the same report as the traffic counts, MCAS Beaufort ECF Study. Based on that report, a traffic growth of 1.5% was generated based on stakeholder information on the expected growth within MCAS and to account for any potential future squadrons to be deployed. These volumes can be seen in **Appendix B**.

4.1.1.2 Planned Developments

Based on a search of planned developments in the City of Beaufort and Beaufort County, it was determined that none are located near the study area or would create vehicle trips through the study area.

4.1.1.3 Background Roadway Improvements

Reviewing both the City of Beaufort Comprehensive Plan and Beaufort County Comprehensive Plan, there are discussions on widening US 21 from a four-lane route to a six-lane route from SC 170 to Clarendon Rd; however, there has been no update on this project being approved and funded and therefore this project was not included in the analysis. There are no other roadway projects in the area.

4.1.1.4 Complete No Action Condition

The background growth was added to each study area intersection to account for growth between 2019 and 2029. Because no developments or roadway improvements are planned or programmed, the added background growth represented the No Action Alternative turning movement volumes. Figures 4A and 4B show the No Action Alternative volumes, lane geometry and LOS for the study intersections.

4.1.1.5 2029 No Action Alternative Intersection Operations Analysis

The 2029 No Action Alternative shows how the current intersection configurations operate with the forecasted volumes. Intersection LOS are summarized in Table 3. Figure 4A presents the peak hour volumes while Figure 4B presents the peak hour LOS and laneage for the study area. Synchro reports may be found in **Appendix D**.

Table 3
2029 No Action Alternative
Intersection Level of Service

#	Intersection	LOS	
		AM Peak	PM Peak
1	**US 21 (Trask Pkwy) at Laurel Bay Rd/Geiger Blvd**	**C**	**E**
	Eastbound Left	D	E**
	Eastbound Through/Right	E**	F
	Westbound Left	E**	E
	Westbound Left/Through	E**	E
	Westbound Right	D	C
	Northbound Left	C	F
	Northbound Through/Right	C	D
	Southbound Left	B	C
	Southbound Through/Right	C	E
2*	**Geiger Blvd at Drayton St**	**-**	**-**
	Eastbound Left/Through/Right	A	A
	Westbound Through/Left/Right	A	A
	Northbound Left/Through/Right	F	F**
	Southbound Left/Through	F**	E**
	Southbound Right	A	C

Table 3 (Continued) 2029 No Action Alternative Intersection Level of Service			
#	Intersection	LOS	
		AM Peak	PM Peak
3*	**Geiger Blvd at Elrod St**	-	-
	Eastbound Left/Through	A	B
	Southbound Left	F	F
	Southbound Right	A	B
4*	**Geiger Blvd at Gordon St**	-	-
	Eastbound Left	A	B
	Eastbound Through	D	B
	Eastbound Through/Right	C	B
	Westbound Left	B	B
	Westbound Through	B	E
	Westbound Through/Right	B	C
	Northbound Left	B	B
	Northbound Through/Right	B	B
	Southbound Left	B	B
	Southbound Through/Right	B	B
5*	**Delalio Ave at Drayton St**	-	-
	Eastbound Left/Through	A	A
	Westbound Through/Right	A	A
	Southbound Left/Right	A	A
6*	**Delalio Ave at Gordon St**	-	-
	Eastbound Left/Through/Right	A	A
	Westbound Left/Through/Right	A	A
	Northbound Left/Through/Right	A	A
	Southbound Left/Through/Right	A	A

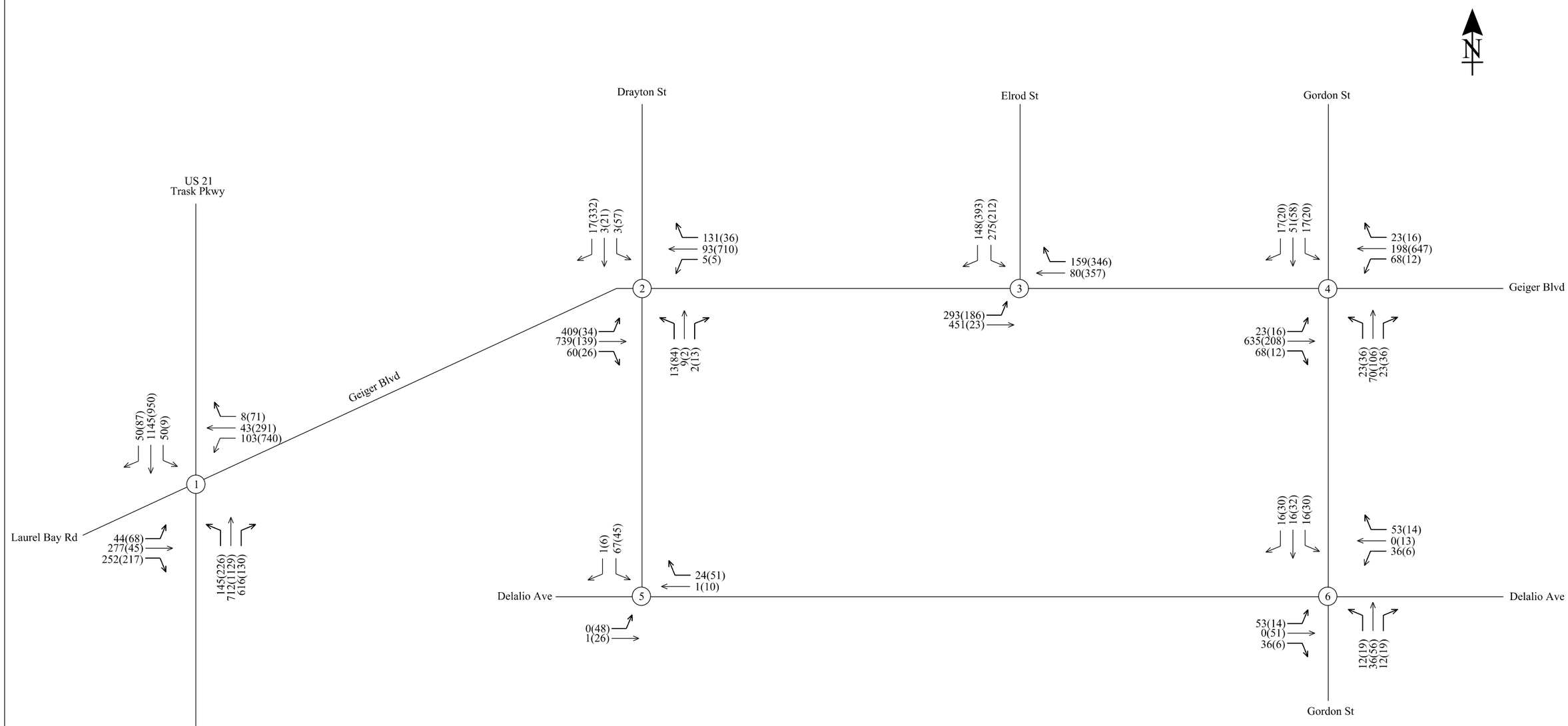
Movements with zero delay were omitted
*Denotes an unsignalized intersection, which presents the worst movement, rather than an overall LOS
**LOS E or F movements with v/c ratio of 0.85 or less.

Of the 6 intersections analyzed, 1 is signalized and 5 are unsignalized:

- The one signalized intersection operates at LOS E or worse in one of the peak hours

- 2 of 5 (40%) unsignalized intersections operate at LOS D or better in both peak hours. 1 of 5 (20%) operate at LOS E or worse in one of the peak hours and 2 of 5 (40%) operates at LOS E or worse in both peak hours.

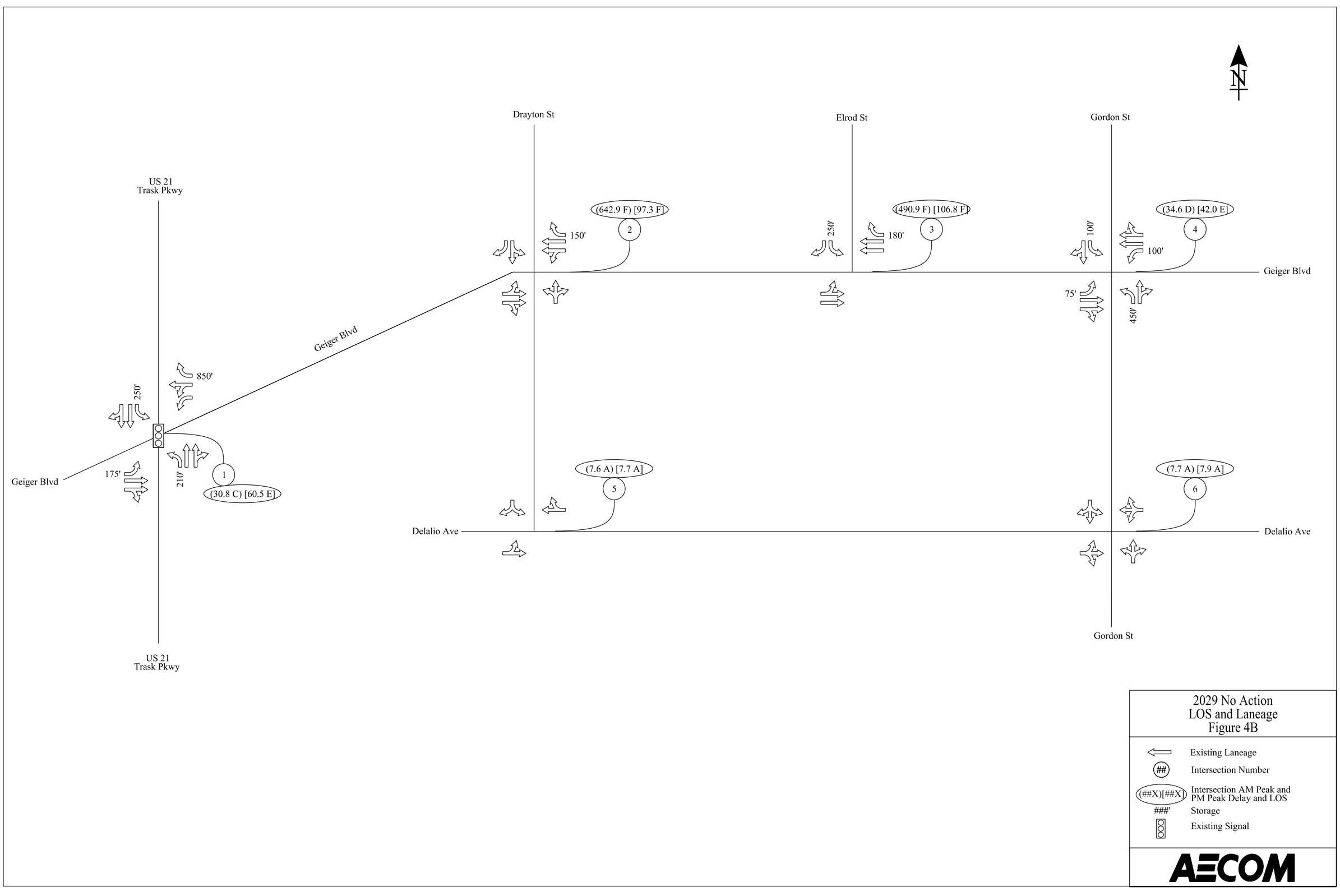
In summary, 2 of 6 (33%) intersections operate at LOS D or better in both peak hours and 4 of 6 (67%) intersections operate at LOS E or worse in one of the peak hours.



2029 No Action
Peak Hour Volumes
Figure 4A

←	Turning Movement
(##)	Intersection Number
###	AM Peak Hour Volumes
(###)	PM Peak Hour Volumes

AECOM


N
Drayton St
Elrod St
Gordon St
US 21
Trask Pkwy
Geiger Blvd
(642.9 F) [97.3 F]
2
150'
250'
(490.9 F) [106.8 F]
3
180'
100'
(34.6 D) [42.0 E]
4
100'
Geiger Blvd
850'
250'
75'
450'
175'
210'
1
(30.8 C) [60.5 E]
(7.6 A) [7.7 A]
5
(7.7 A) [7.9 A]
6
Delalio Ave
Delalio Ave
US 21
Trask Pkwy
Gordon St
2029 No Action
LOS and Laneage
Figure 4B
Existing Laneage
Intersection Number
(##X)[##X] Intersection AM Peak and PM Peak Delay and LOS
###' Storage
Existing Signal
AECOM

4.2 Action Alternative

Construction would occur for the proposed ACC Facility on MCAS Beaufort property located at the southwest of the property shown in Figure 1. The proposed project site is located along Drayton St and Delalio St containing a single building, replacing the existing MCAS BHC.

The proposed ACC Facility would be a two story 155,189-square-foot facility and would include two parking lots that could accommodate approximately 323 vehicles in one lot and 237 vehicles in the other lot.

The EA presents two Action Alternatives, constructing a new ACC that will replace the existing MCAS Beaufort BHC. Under Alternative 1 the ACC would be constructed but the traffic network at MCAS Beaufort would remain unchanged. Under Alternative 2 the ACC would be constructed and two options for traffic upgrades would be analyzed.

4.2.1 Traffic Section

The projected future traffic analysis is based on utilizing the growth rate of 1.5% based on the previous study, as mentioned in Section 4.1.1.1. The trip generation, distribution, and assignment of the proposed site traffic follows in the next sections. Once Alternative 1 is analyzed, recommendations will be made, and an additional Alternative 2 (Preferred Alternative) section is shown. This section will show what recommendations are needed to allow the study intersections to operate in an efficient manner based on the future volumes as well as the proposed MCAS ACC Facility trips.

4.2.1.1 Trip Generation

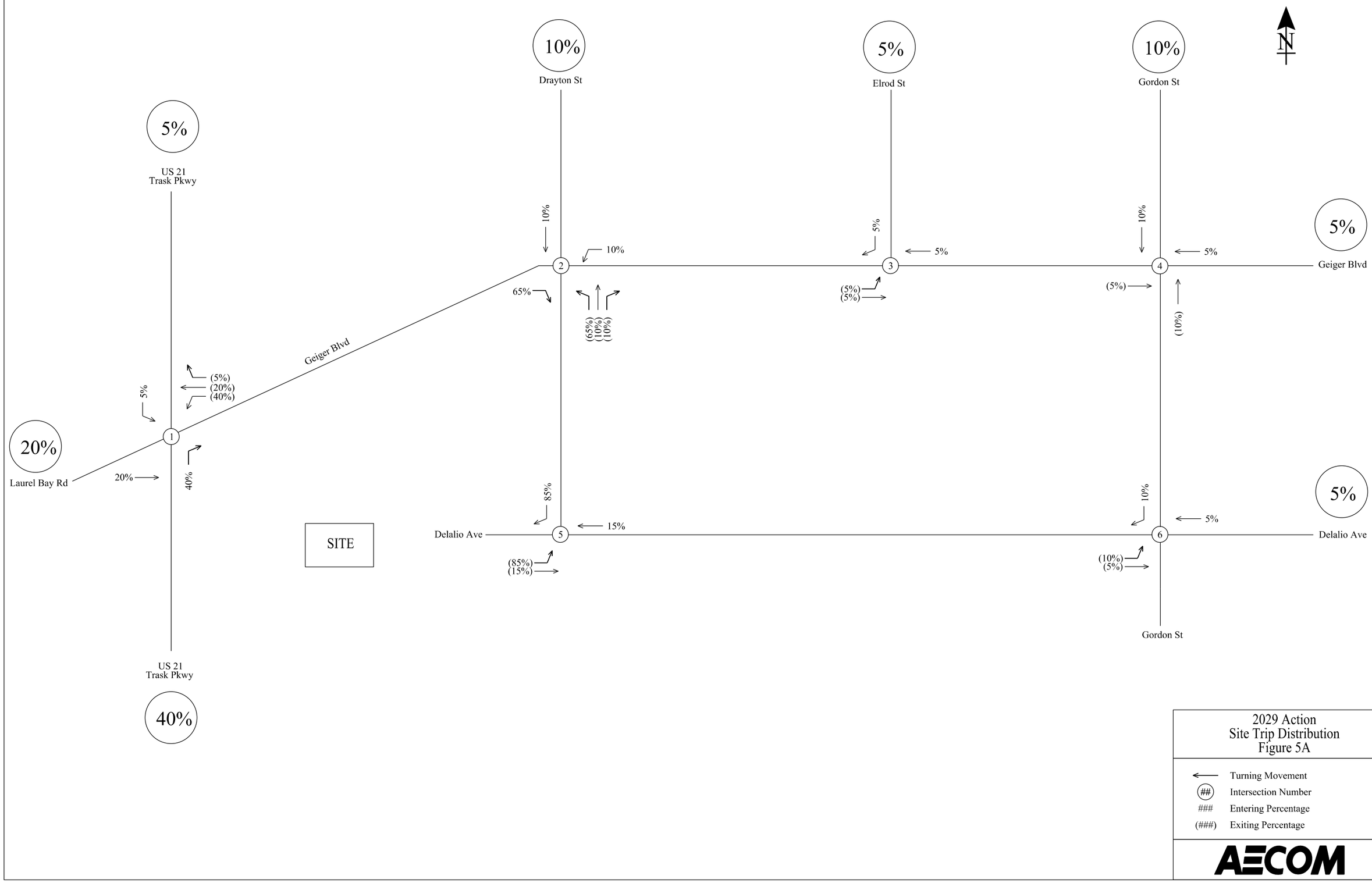
Trip generation refers to the total number of person trips created by the proposed ACC Facility during the AM and PM peak hours each workday. The ITE Trip Generation Manual 10th Edition was used to forecast the number of peak hour trips that would be produced based on 155,189-square-foot facility. Based on the description of services that will be provided, the Clinic Land Use category was used, with the building square footage variable being used to determine the total peak hour trips. Based on this ITE code, the total trips generated would be 810 during the AM peak hour and 720 during the PM peak hour.

The average rate was used to calculate the total number of AM and PM vehicle trips because the fitted curve equation produced unrealistic volumes from the low number of data points. These values can be seen in **Appendix B.**

4.2.1.2 Trip Distribution

Trip distribution represents the origin-destination pattern by percentage for trips generated by the proposed MCAS ACC Facility to/from points beyond the study area boundary. For example, Active-Duty will account for approximately 30% of the patients. They should all be considered as coming from on base, not just the ones who reside in barracks, because their appointments will be dispersed throughout the duty day. It is estimated that another 5% of patients (AD family members, retirees, and retiree family members) will also come from on base, either from working on base or from combining the medical appointment with other errands that would have them coming to the base anyway (shopping/schools/etc.). The remaining 65% of patients would represent additional traffic from off base, with appointments dispersed throughout the day. Staff-related traffic would be concentrated in the early morning and late afternoon.

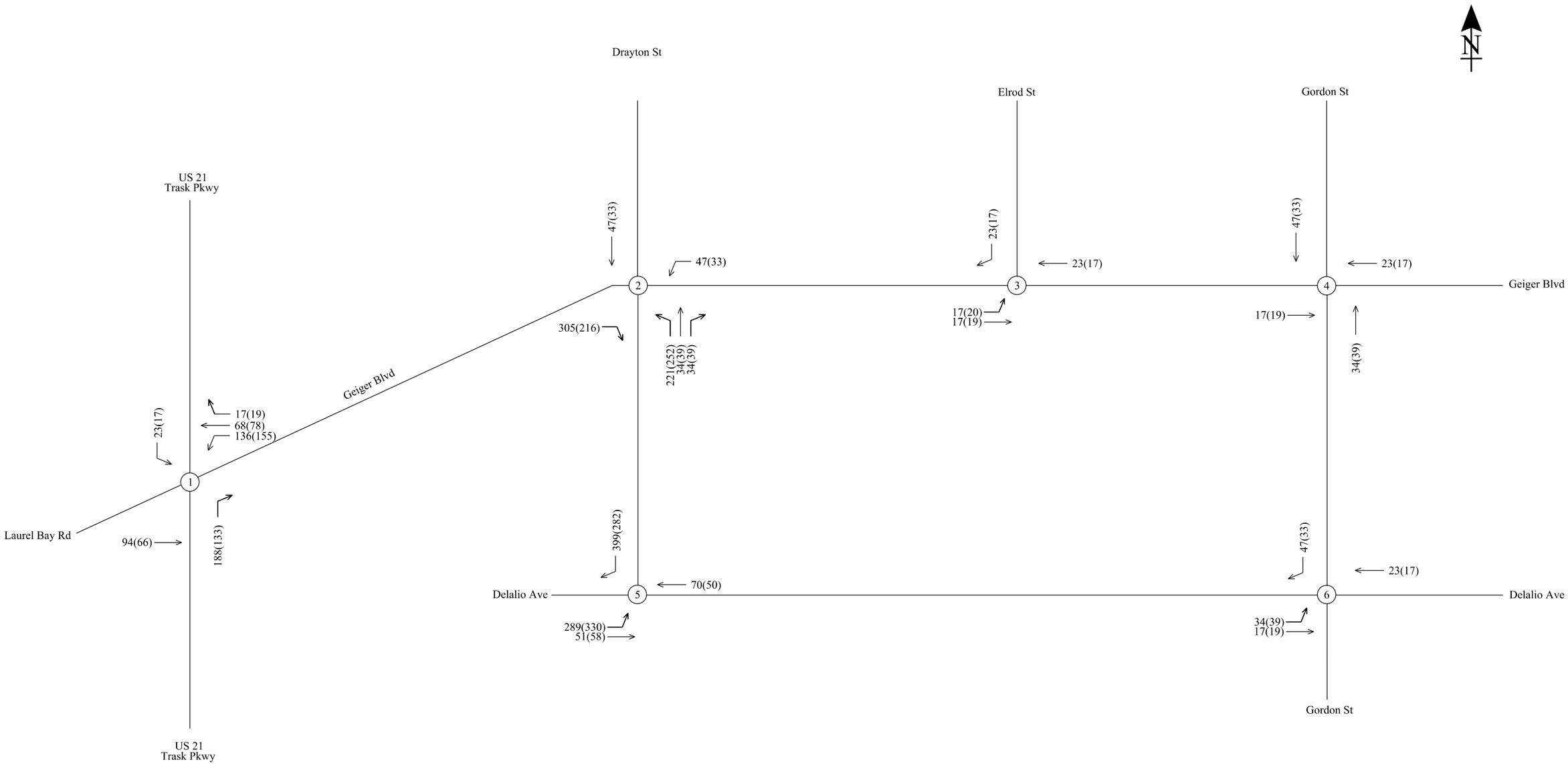
The trip assignment reflects the estimated number of trips between the proposed MCAS ACC Facility and the study area boundary by selecting which route within the study to assign the trip. Figure 5A presents the trip distribution percentages while Figure 5B presents the proposed site trips for the study area. These trip distribution and assignments calculations can be seen in **Appendix B.**



2029 Action
Site Trip Distribution
Figure 5A

←	Turning Movement
(##)	Intersection Number
###	Entering Percentage
(###)	Exiting Percentage

AECOM



2029 Action
Site Peak Hour Volumes
Figure 5B

←	Turning Movement
(##)	Intersection Number
###	AM Peak Hour Volumes
(###)	PM Peak Hour Volumes

AECOM

4.2.1.3 Complete Alternative 1

Alternative 1 vehicle trips were added to each study area intersection using the No Action Alternative as a base. This will show the complete Action Alternative volumes and how the intersections will operate. Note that all 6 intersections were analyzed under Alternative 1 in the traffic analysis; however, the traffic upgrades would not be analyzed under Alternative 1 in the EA and the traffic network would remain unchanged.

4.2.1.4 2029 Alternative 1 Intersection Operations Analysis

The 2029 Alternative 1 shows how the current intersection configurations operate with the forecasted volumes and site traffic. Intersection LOS are summarized in Table 4. Figure 6A presents the peak hour volumes while Figure 6B presents the peak hour LOS and laneage for the study area. Synchro reports may be found in **Appendix E**.

Table 4
2029 Alternative 1
Intersection Level of Service

#	Intersection	LOS	
		AM Peak	PM Peak
1	**US 21 (Trask Pkwy) at Laurel Bay Rd/Geiger Blvd**	**D**	**F**
	Eastbound Left	D	F**
	Eastbound Through/Right	E	F
	Westbound Left	F	F
	Westbound Left/Through	F	F
	Westbound Right	D	C
	Northbound Left	D	F
	Northbound Through/Right	D	F
	Southbound Left	D	D
	Southbound Through/Right	C	F
2*	**Geiger Blvd at Drayton St**	**-**	**-**
	Eastbound Left/Through/Right	A	A
	Westbound Through/Left/Right	B	A
	Northbound Left/Through/Right	-	F
	Southbound Left/Through	-	F
	Southbound Right	A	C
3*	**Geiger Blvd at Elrod St**	**-**	**-**
	Eastbound Left/Through	A	B
	Southbound Left	F	F
	Southbound Right	A	C

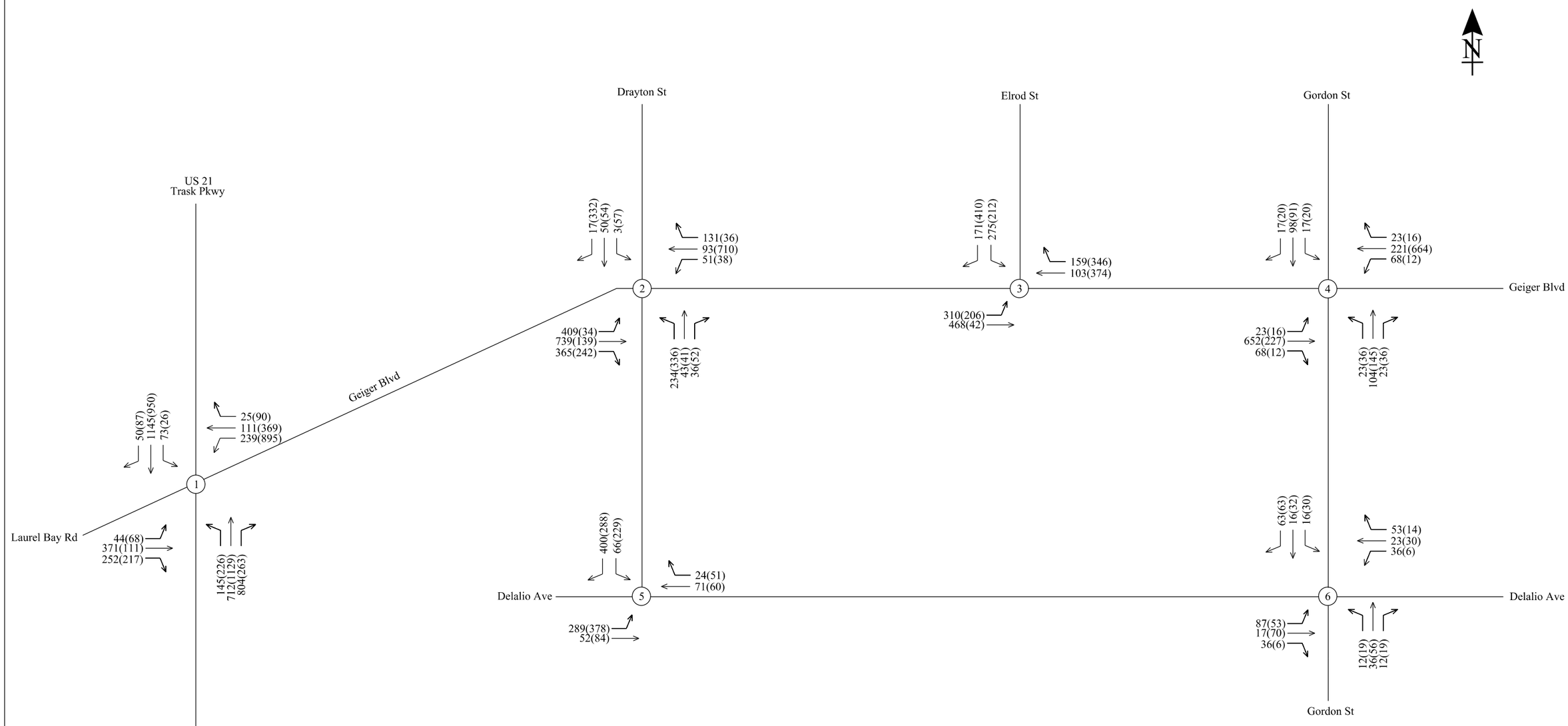
Table 4 (Continued) 2029 Alternative 1 Intersection Level of Service			
#	Intersection	LOS	
		AM Peak	PM Peak
4*	**Geiger Blvd at Gordon St**	-	-
	Eastbound Left	B	B
	Eastbound Through	F	C
	Eastbound Through/Right	C	B
	Westbound Left	B	B
	Westbound Through	C	F
	Westbound Through/Right	B	C
	Northbound Left	B	B
	Northbound Through/Right	B	B
	Southbound Left	B	B
	Southbound Through/Right	C	C
5*	**Delalio Ave at Drayton St**	-	-
	Eastbound Left/Through	C	E
	Westbound Through/Right	A	B
	Southbound Left/Right	C	E
6*	**Delalio Ave at Gordon St**	-	-
	Eastbound Left/Through/Right	A	A
	Westbound Left/Through/Right	A	A
	Northbound Left/Through/Right	A	A
	Southbound Left/Through/Right	A	A

Movements with zero delay were omitted
*Denotes an unsignalized intersection, which presents the worst movement, rather than an overall LOS
**LOS E or F movements with v/c ratio of 0.85 or less.

Of the 6 intersections analyzed, 1 is signalized and 5 are unsignalized:

- The one signalized intersection operates at LOS E or worse in one of the peak hours
- 1 of 5 (20%) unsignalized intersections operate at LOS D or better in both peak hours. 2 of 5 (40%) operates at LOS E or worse in one of the peak hours and 2 of 5 (40%) operates at LOS E or worse in both peak hours.

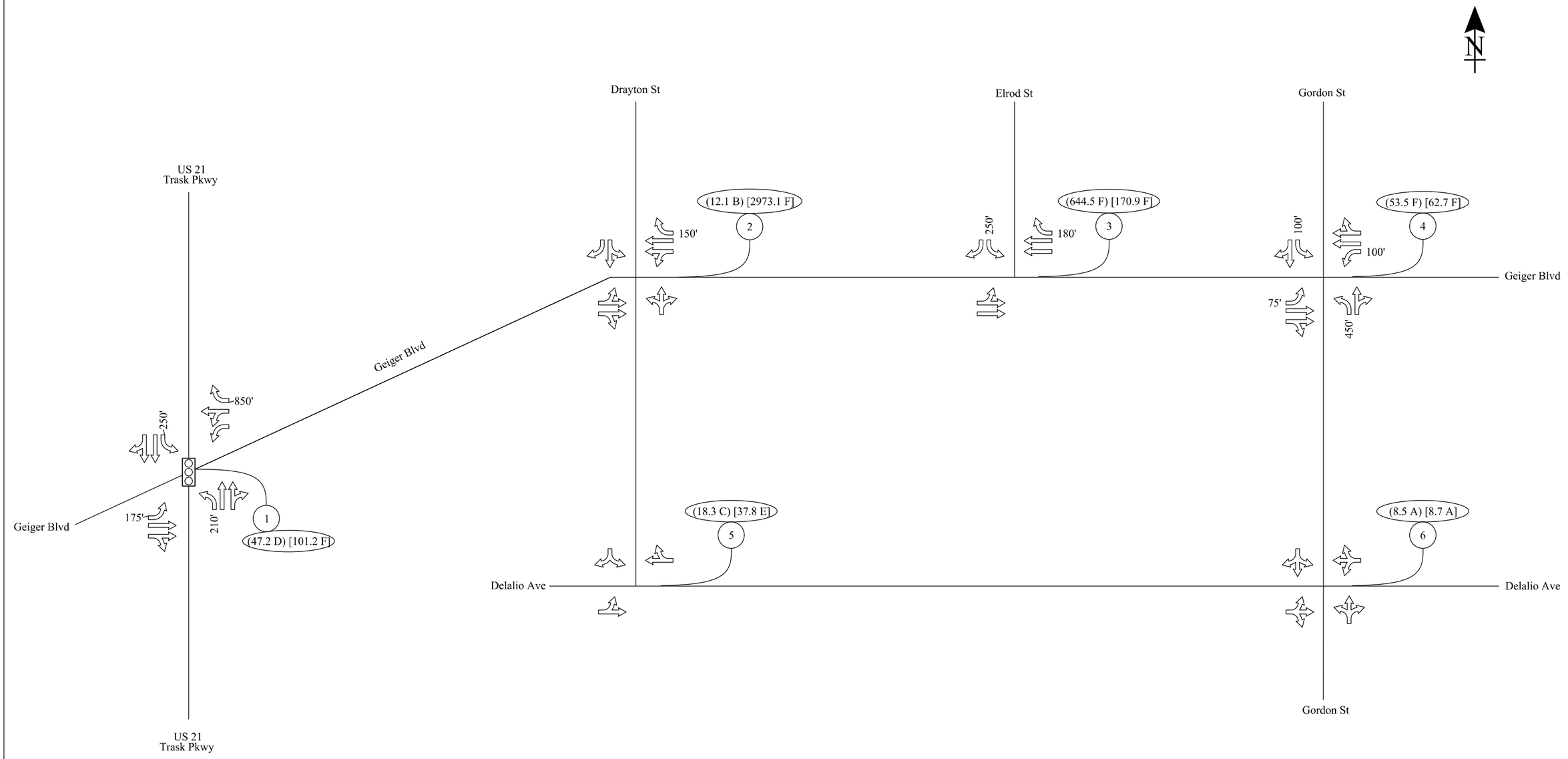
In summary, 1 of 6 (17%) intersections operate at LOS D or better in both peak hours and 5 of 6 (83%) intersections operate at LOS E or worse in one of the peak hours.



2029 Alternative 1
Peak Hour Volumes
Figure 6A

←	Turning Movement
(##)	Intersection Number
###	AM Peak Hour Volumes
(###)	PM Peak Hour Volumes

AECOM



2029 Alternative 1
LOS and Laneage
Figure 6B

- Existing Laneage
- (##) Intersection Number
- (##X)[##X] Intersection AM Peak and PM Peak Delay and LOS
- ###' Storage
- Existing Signal

AECOM

4.2.1.5 Complete Alternative 2 (Preferred Alternative)

Alternative 2 will review only poorly operating intersections and how these operations can be improved based on the future traffic growth and the proposed MCAS ACC Facility trips.

- Geiger Blvd at Drayton St – A signal and a roundabout was analyzed to improve operations. In Table 5 below, the roundabout results are listed directly under the signalized intersection results.
- Geiger Blvd at Elrod St – A signal and a roundabout was analyzed to improve operations. In Table 5 below, the roundabout results are be listed directly under the signalized intersection results.
- Delalio Ave at Drayton St – An exclusive southbound left-turn lane and right-turn lane were analyzed to improve operations.

These three poorly operating intersections were analyzed in Alternative 2 of the EA through two traffic upgrade options. The first option would include installation of traffic signals at the intersections of Geiger Blvd and Drayton St and Geiger Blvd and Elrod St. There would also be the addition of a southbound left-turn lane at Drayton St and Delalio Ave.

The second option for traffic network upgrades would include changes at the same intersections; however, traffic circles would be installed instead of traffic signals. Option 2 would also include the addition of a southbound left-turn lane at Drayton St and Delalio Ave.

4.2.1.6 2029 Alternative 2 (Preferred Alternative) Intersection Operations Analysis

The 2029 Alternative 2 shows the current intersection configuration with the forecasted volumes and recommended improvements. Intersection LOS are summarized in Table 5. Figure 7A presents the peak hour volumes while Figure 7B presents the peak hour LOS and laneage for the study area. Synchro reports may be found in **Appendix F**.

Table 5
2029 Alternative 2
Intersection Level of Service

#	Intersection	LOS	
		AM Peak	PM Peak
2	**Geiger Blvd at Drayton St**	**A**	**B**
	Eastbound Left	A	B
	Eastbound Through	A	B
	Eastbound Through/Right	A	B
	Westbound Left/Through	A	A
	Westbound Through	A	A
	Westbound Right	A	A
	Northbound Left	C	C
	Northbound Through/Right	B	A
	Southbound Left/Through	B	A
	Southbound Right	B	B
2†	**Geiger Blvd at Drayton St**	**C**	**B**
	Eastbound Left/Through/Right	C	A
	Westbound Left/Through/Right	A	B
	Northbound Left/Through/Right	D	B
	Southbound Left/Through/Right	A	C

Table 5 (Continued) 2029 Alternative 2 Intersection Level of Service			
#	Intersection	LOS	
		AM Peak	PM Peak
3	**Geiger Blvd at Elrod St**	**A**	**B**
	Eastbound Left/Through	A	B
	Eastbound Through	A	A
	Westbound Through	A	A
	Westbound Right	A	B
	Southbound Left	C	B
	Southbound Right	C	C
3†	**Geiger Blvd at Elrod St**	**A**	**A**
	Eastbound Left/Through/Right	B	A
	Westbound Left/Through/Right	A	A
	Southbound Left/Through/Right	A	B
5*	**Delalio Ave at Drayton St**	**-**	**-**
	Eastbound Left/Through	C	D
	Westbound Through/Right	A	B
	Southbound Left	B	C
	Southbound Right	C	B

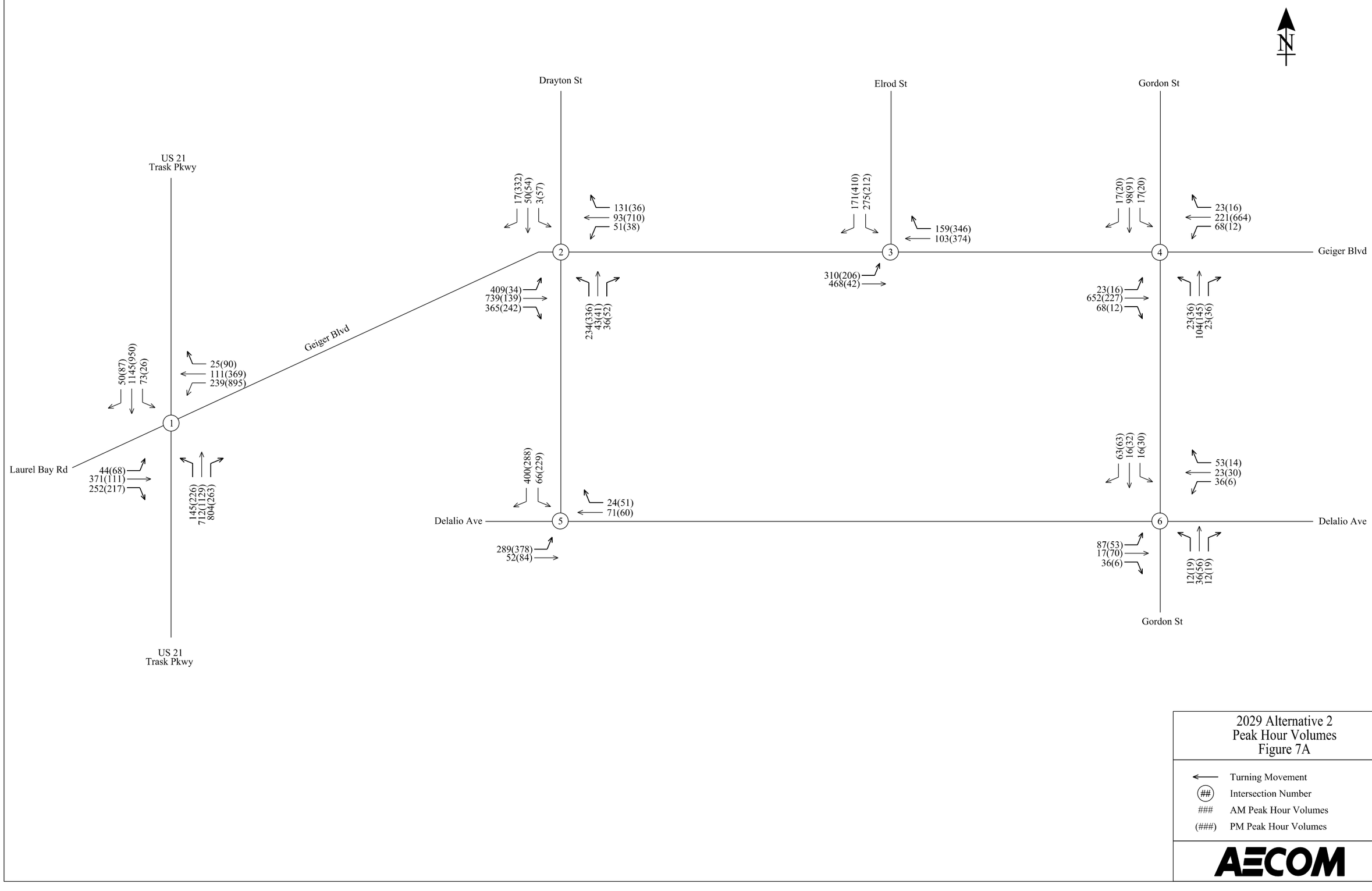
Movements with zero delay were omitted
*Denotes an unsignalized intersection, which presents the worst movement, rather than an overall LOS
**LOS E or F movements with v/c ratio of 0.85 or less.
†Roundabout intersection results

Of the 3 intersections analyzed with improvements, 2 are analyzed as signalized and roundabouts and 1 is unsignalized:

- 2 of 2 (100%) signalized intersections with improvements operates at LOS B or better in both the peak hours and 2 of 2 (100%) roundabout intersections operate at LOS C or better in both the peak hours.

- 1 of 1 (100%) unsignalized intersection with improvements operates at LOS D or better in both peak hours.

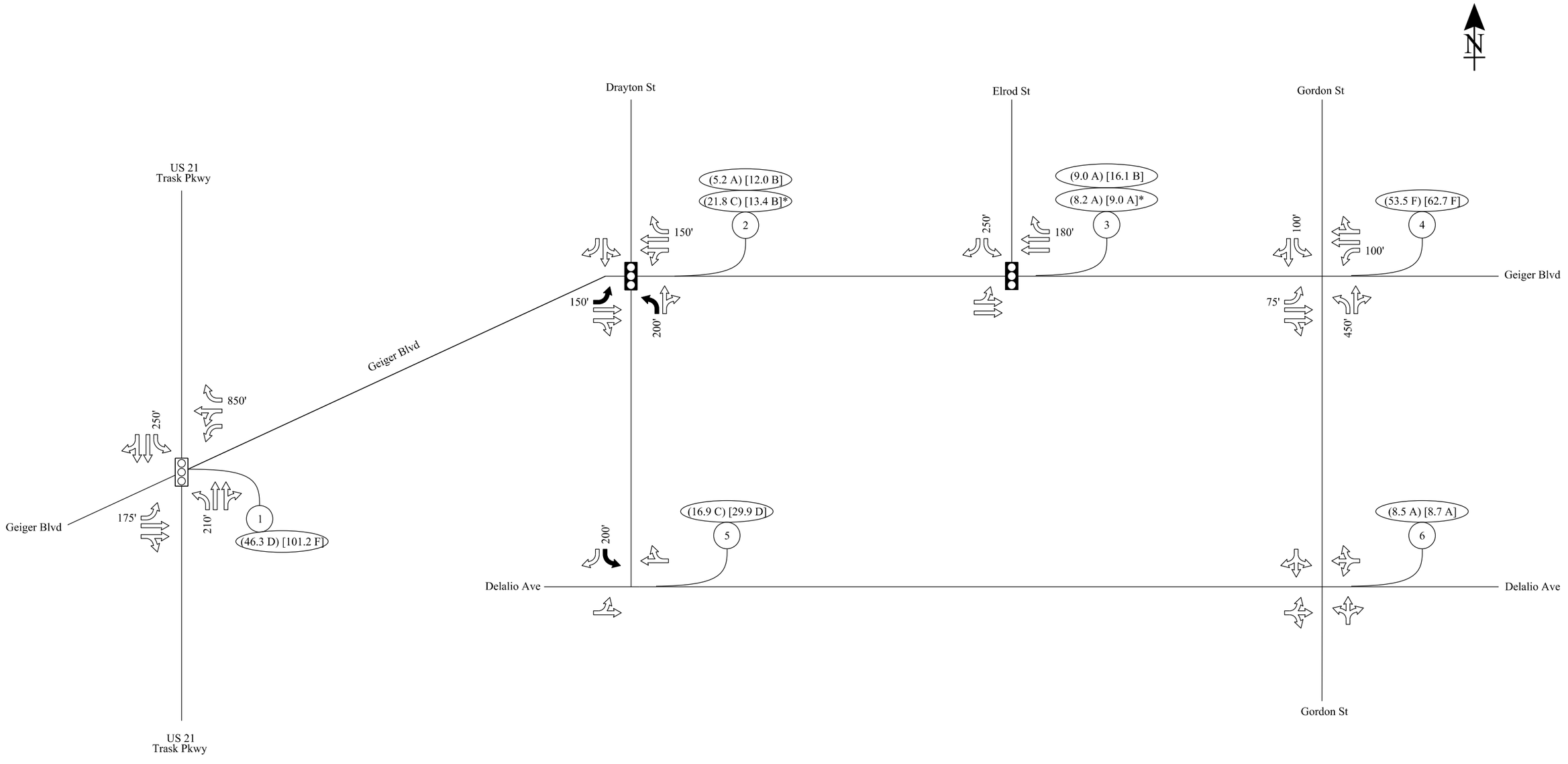
In summary, 3 of 3 (100%) intersections with improvements operate at LOS D or better in both peak hours.



2029 Alternative 2
Peak Hour Volumes
Figure 7A

←	Turning Movement
(##)	Intersection Number
###	AM Peak Hour Volumes
(###)	PM Peak Hour Volumes

AECOM



2029 Alternative 2
LOS and Laneage
Figure 7B

⇦	Existing Laneage	###'	Storage
⬅	Proposed Laneage		Existing Signal
(##)	Intersection Number		Proposed Signal
(##X)[##X]	Intersection AM Peak and PM Peak Delay and LOS		

AECOM

* Both intersections were analyzed as a signal and a roundabout.
The results with an asterisk are the roundabout results

Table 6 Level of Service Summary									
#	Intersection	AM Peak				PM Peak			
		2019 Existing	2029 No Action	2029 Alt 1	2029 Alt 2	2019 Existing	2029 No Action	2029 Alt 1	2029 Alt 2
1	US 21 (Trask Pkwy) at Geiger Blvd	C	C	D	-	D	E	F	-
2*	Geiger Blvd at Drayton St	F**	F**	B	A/C†	D	F**	F	B/B†
3*	Geiger Blvd at Elrod St	F	F	F	A/A†	E**	F	F	B/A†
4*	Geiger Blvd at Gordon St	C	D	F	-	C	E	F	-
5*	Delalio Ave at Drayton St	A	A	C	C	A	A	E	D
6*	Delalio Ave at Gordon St	A	A	A	-	A	A	A	-

* Denotes an unsignalized intersection, which presents the worst movement, rather than an overall LOS

**LOS E or F movements with V/C ratio less than 0.85

†Roundabout intersection results

5 Conclusions

The traffic analysis focused on the study area intersections impacts from the proposed MCAS ACC Facility. This provides an overall examination of the potential impacts of implementing the proposed 2029 Action Alternative.

5.1 Study Area Intersection Analysis

The study relied on the HCM intersection analysis method (see Section 3.3.2 for a discussion of the HCM method). Based on the average vehicle delay, the HCM analysis determines the LOS, an A through F letter rating the intersection performances from the perspective of the driver. For each intersection, the differences between all alternatives were measured.

The 2019 Existing Conditions provided Synchro™ results with 3 of the 6 intersections operating with an overall acceptable LOS (LOS D or better). Two intersections, Geiger Blvd at Drayton St and Geiger Blvd at Elrod St, with failing LOS can be attributed to the side street volumes. These volumes struggle to find a gap in traffic to make their desired movement due to the higher mainline volumes on Geiger Blvd. Geiger Blvd at Gordon St showed failing LOS for the mainline volumes on Geiger Blvd. Due to the nature of the four-way stop at this intersection, larger delays can happen based on the higher mainline volumes of Geiger Blvd.

The 2029 No Action Alternative provided Synchro™ results with 2 of the 6 intersections operating with an overall acceptable LOS (LOS D or better). The same issues in the 2019 Existing Conditions also are present here. Two intersections, Geiger Blvd at Drayton St and Geiger Blvd at Elrod St, with failing LOS can be attributed to the side street volumes. These volumes struggle to find a gap in traffic to make their desired movement due to the higher mainline volumes on Geiger Blvd. Geiger Blvd at Gordon St showed failing LOS for the mainline volumes on Geiger Blvd. Due to the nature of the four-way stop at this intersection, larger delays can happen based on the higher mainline volumes of Geiger Blvd. US 21 (Trask Pkwy) at Geiger Blvd also has failing LOS in the PM peak hour. It should be noted however that this intersection has right turn slip lanes for all movements and shared through-right lanes at the signal. For this analysis the slip lanes were not utilized which could give a higher delay than being reported.

The 2029 Alternative 1 provided Synchro™ results with 1 of the 6 intersections operating with an overall acceptable LOS (LOS D or better). The same issues in the 2019 Existing Conditions also are present here. Two intersections, Geiger Blvd at Drayton St and Geiger Blvd at Elrod St, with failing LOS can be attributed to the side street volumes. These volumes struggle to find a gap in traffic to make their desired movement due to the higher mainline volumes on Geiger Blvd. Geiger Blvd at Gordon St showed failing LOS for the mainline volumes on Geiger Blvd. Due to the nature of the four-way stop at this intersection, larger delays can happen based on the higher mainline volumes of Geiger Blvd. US 21 (Trask Pkwy) at Geiger Blvd also has failing LOS in the PM peak hour. Delalio Ave at Drayton St now has higher volumes with higher corresponding delay due to the location of the proposed MCAS ACC Facility being located south of this intersection.

The 2029 Alternative 2 (Preferred Alternative) looked at the failing intersections to determine what could be recommended to improve these operations to an overall acceptable LOS (LOS D or better). It should be noted US 21 (Trask Pkwy) at Geiger Blvd has no recommendations since this intersection is outside of MCAS. Also, Geiger Blvd at Gordon St already has a signal in place however it has been chosen to operate this intersection as a four-way stop. The signal could be implemented here in the future if traffic volumes became too high for acceptable vehicle operation.

Intersections of Geiger Blvd at Drayton St and Geiger Blvd at Elrod St were both analyzed as a signalized intersection and as a roundabout. With this recommendation both intersections operate at an acceptable LOS (LOS D or better). Delalio Ave at Drayton St added an exclusive southbound left and right-turn lane. With this recommendation the intersection operates at an acceptable LOS (LOS D or better).

6 References

Functional Class - https://www.arcgis.com/apps/webappviewer/index.html?id=093bfb899141463cbacd879fc271a8c9

MCAS Beaufort Entry Control Point (ECP) Traffic Study

DHA AE Planning Study

MCAS F-35B Environmental Impact Statement (EIS)

APPENDIX A - MCAS Beaufort Final ECF Report

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4. DATA COLLECTION

This section summarizes the recorded traffic volumes for the six intersections and three ECFs evaluated for this study. A general overview of all count locations is shown in exhibit 4.1. Traffic data was captured at all study locations between Tuesday, 26 March 2019 and Thursday, 28 March 2019. All raw traffic volume data is included in the electronic appendices at the end of this report.

The numbered list of TMC and ATR locations that corresponds to the map included in exhibit 4.1 is shown below.

TMC Locations	ECF Locations
TMC 1 – Trask Parkway and Geiger Boulevard (Main Gate External)	Main Gate
TMC 2 – Drayton Street and Geiger Boulevard (Main Gate Internal)	
TMC 3 – Trask Parkway and Longstaff Avenue (Commercial Gate External)	Commercial Gate
TMC 4 – Drayton Street and Longstaff Avenue (Commercial Gate Internal)	
TMC 5 – Laurel Bay Road and Joe Frazier Road (Laurel Bay Gate External)	Laurel Bay Gate
TMC 6 – Laurel Bay Road and Laurel Bay Boulevard (Laurel Bay Gate Internal)	

Exhibit 4.1

Main Base Location Map

MCAS Beaufort, SC

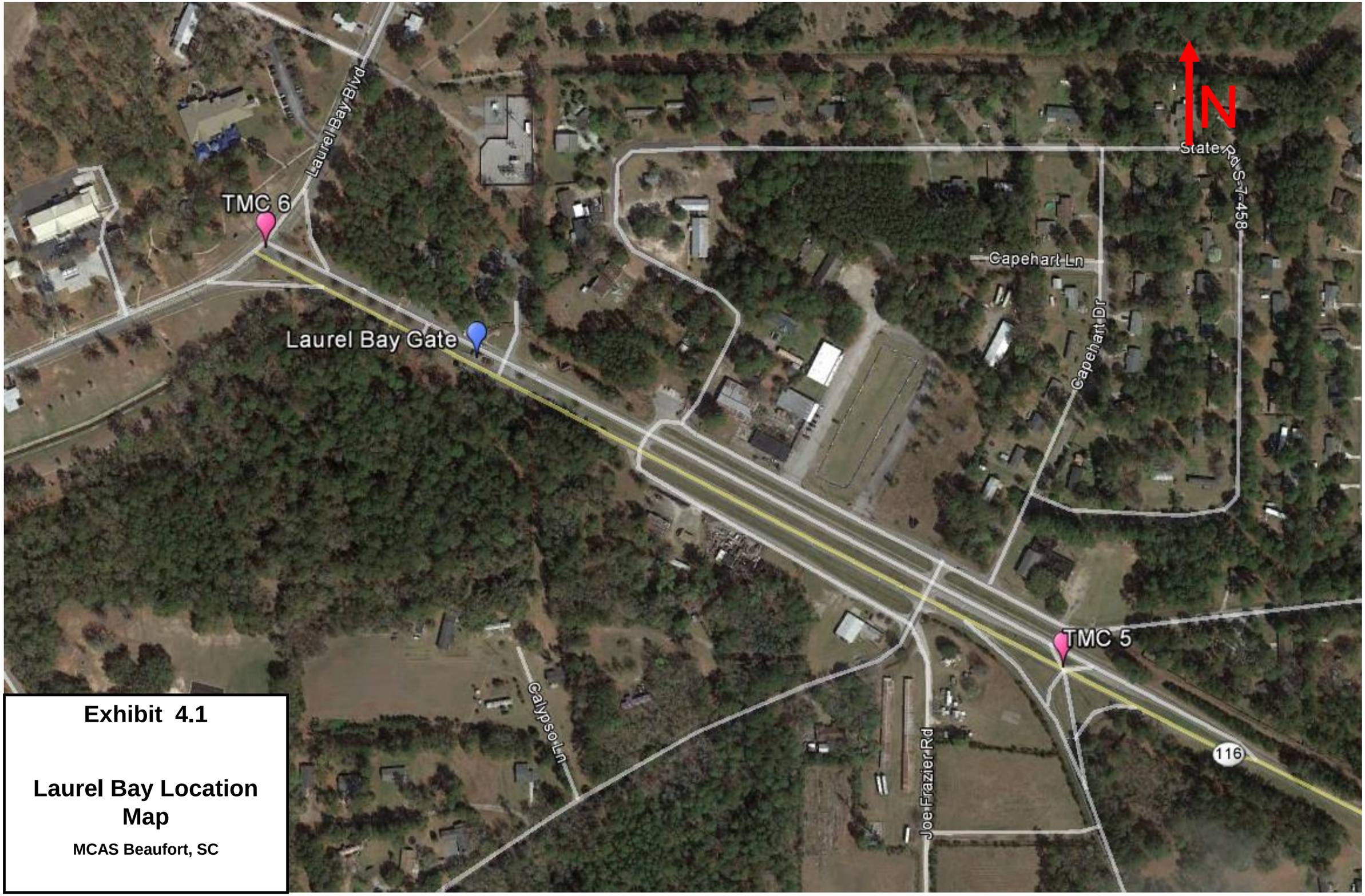


Exhibit 4.1

Laurel Bay Location Map

MCAS Beaufort, SC

4.1. Existing ECF Volumes and Queues

The study team collected traffic data at the ECFs to determine ECF utilization and to determine the required number of processing lanes. Traffic counters were placed in the inbound and outbound lanes within the installation to determine vehicle classification and vehicle volume in 15-minute increments. Traffic queues were also observed during the morning peak period to obtain the true demand at each gate.

4.1.1. 24-hour Traffic Volumes

Exhibit 4.2 shows the recorded traffic volumes for the gates. The raw traffic data with volumes for each 15-minute interval can be found in the electronic appendices.

Exhibit 4.2 24-hour Volume Summary

ECF	Inbound	Outbound
Main Gate	5182	5060
Commercial Gate	118	127
Laurel Bay Gate	3045	3304

4.1.2. Existing Traffic Demand

Queue observations were conducted during morning peak periods to coincide with the morning peak period of the ATR counts. The queues at the end of each 15-minute interval were documented to help assess the true design demand at the ECF. A summary of the inbound 15-minute volumes and remaining ECF queues are shown in the tables.

To calculate the inbound arrival volume at each ECF, or the existing demand, the change in queue length (i.e. Delta Q) is added to the inbound departure volume (i.e. processed volume). The inbound departure volume is simply the inbound volume that was processed at the ID check area during the 15-minute count interval. Delta Q is the net change in queue length for the current 15-minute interval queue (i.e. $Q15_{final}$) and the previous 15-minute interval queue (i.e. $Q15_{initial}$). The following tables show the collected inbound departure volume, observed queues at the end of each 15-minute interval, the calculated Delta Q volume, and the calculated resulting inbound arrival volumes. The calculated inbound arrival volume represents the existing demand for the given 15-minute interval. The peak 15-minute arrival volume, in the determined peak hour period, has been highlighted in yellow for each ECF.

Main Gate - Arrival Volume Calculation

Interval	Departure Volume (Processed Vehicle Count)	Queue (Vehicles)	Delta Q ($Q15_{final}$-$Q15_{initial}$)	Arrival Volume (Departure Volume + Delta Q)
0615-0630	154	0	0	154
0630-0645	197	4	4	201
0645-0700	199	4	0	199
0700-0715	172	3	-1	171
0715-0730	230	3	0	230
0730-0745	206	3	0	206
0745-0800	156	0	-3	153

Laurel Bay Gate - Arrival Volume Calculation

Interval	Departure Volume (Processed Vehicle Count)	Queue (Vehicles)	Delta Q ($Q15_{final}$-$Q15_{initial}$)	Arrival Volume (Departure Volume + Delta Q)
1530-1545	59	0	0	59
1545-1600	74	5	5	79
1600-1615	69	5	0	69
1615-1630	117	0	-5	112
1630-1645	106	15	15	121
1645-1700	117	15	0	117
1700-1715	115	0	-15	100

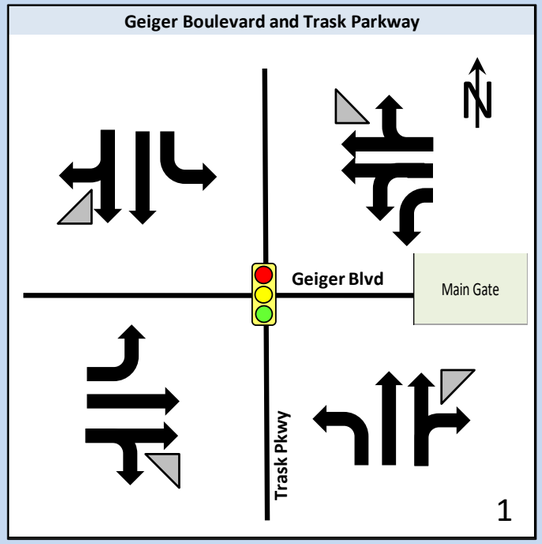
To calculate the existing adjusted demand volume, the highest 15-minute inbound arrival volume was multiplied by 4 to account for the peak hour factor. A summary of these calculations is provided below in exhibit 4.3.

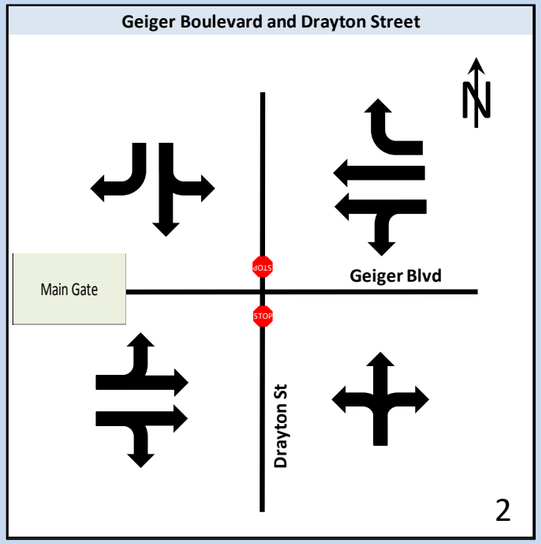
Exhibit 4.3 Existing Adjusted Demand Volume Calculation Summary

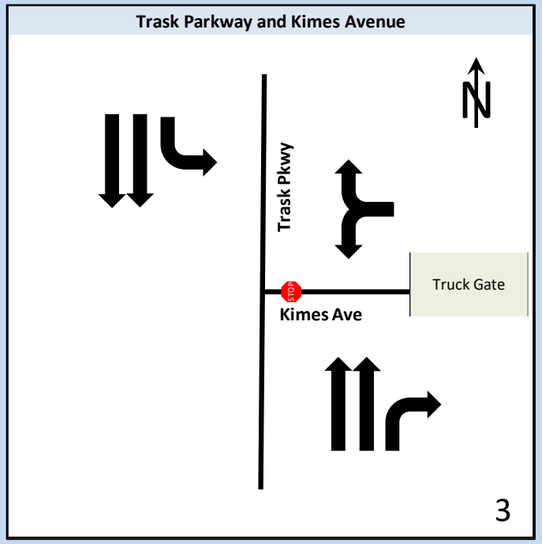
ECF	Peak 15-Minute Inbound Arrival Volume	15-Minute Intervals/ Hour	Existing Inbound Demand Volume
Main Gate	230	4	920
Laurel Bay Gate	121	4	484

4.2. Intersection Lane Configurations and Traffic Volumes

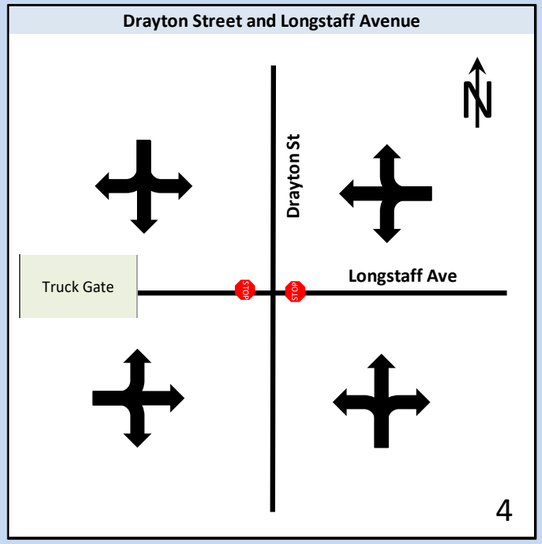
This section summarizes the intersection lane configurations and turning movement counts at each study intersection. Exhibit 4.4 shows the lane configuration diagrams and traffic control for each study intersection. TMCs were conducted during the morning, midday, and evening peak hours. The peak hour turning movement counts are summarized in exhibit 4.5.

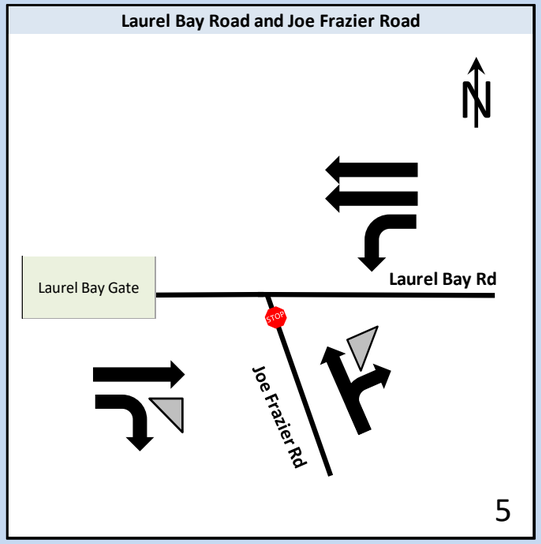






Note Intersection 1: In advance of the intersection there is a channelized right turn for each approach. At the intersection is a shared thru/right lane.





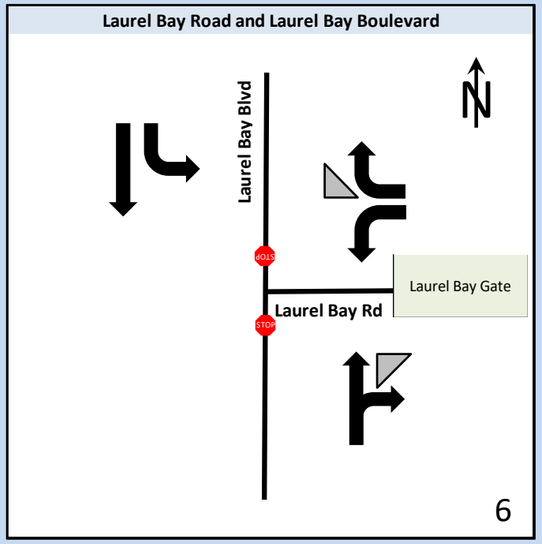


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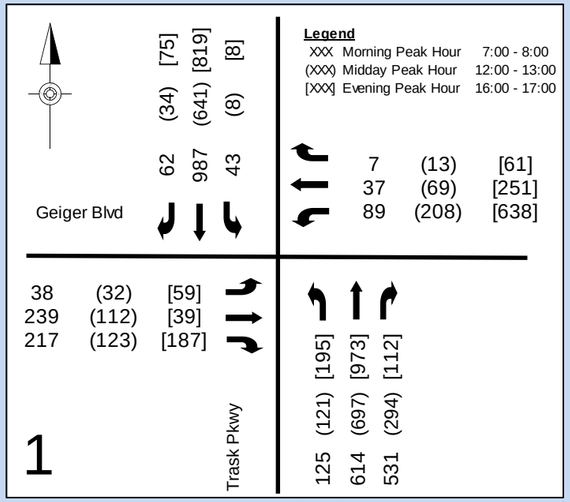
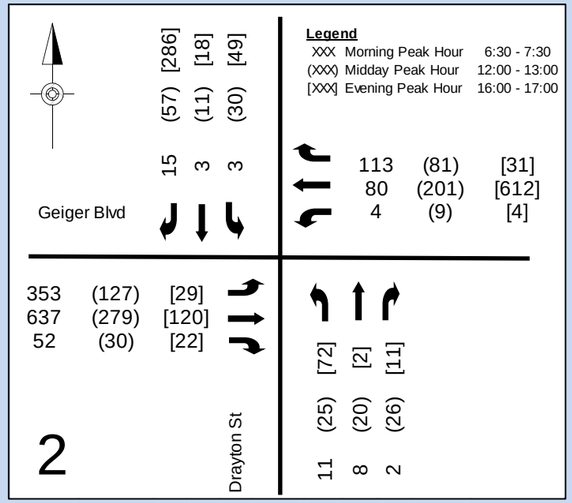
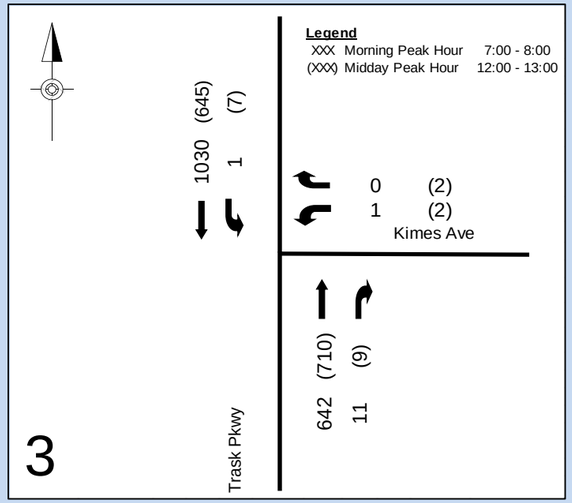
Exhibit 4.4

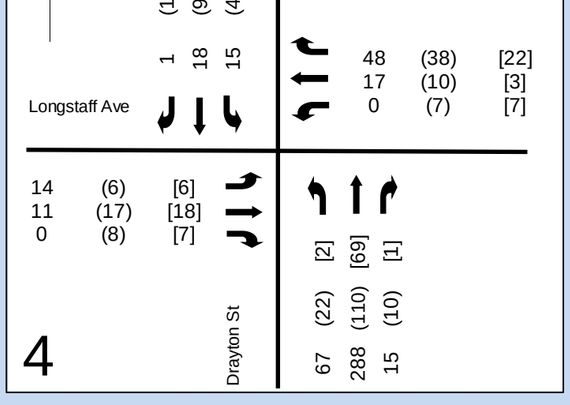
Existing Lane Configurations

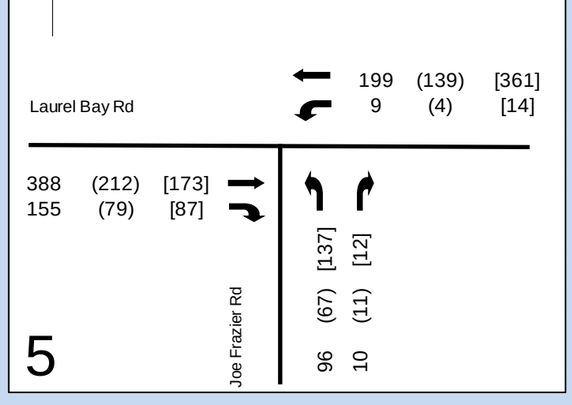
MCAS Beaufort, SC











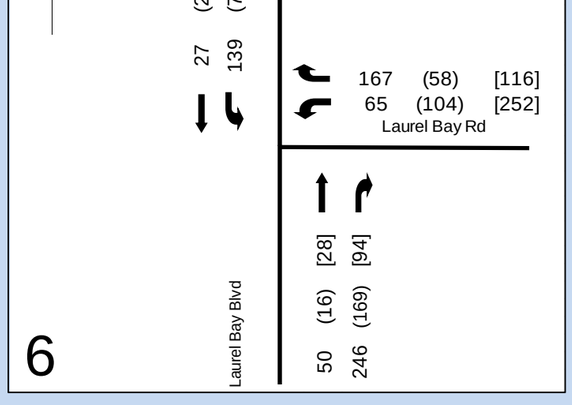


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Exhibit 4.5

Existing Volume Figures

MCAS Beaufort, SC

5. TRANSPORTATION PLANNING CONSIDERATIONS

This section discusses future development within the installation and external roadway improvements that will impact future traffic conditions.

5.1. Future Traffic Considerations

5.1.1. External Growth

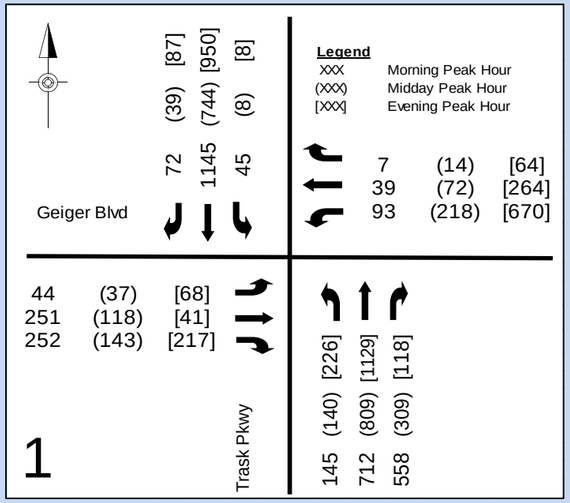
MCAS Beaufort is within Beaufort County, SC and neighbors Jasper County, SC, Hampton County, SC, and Colleton County, SC. According to the Demographic and Housing Estimates from the 2010 and 2017 American Community Surveys, the total population for these counties increased from 239,190 in 2010 to 264,428 in 2017. This translates to approximately 1.5% growth per year. Assuming a 10-year period for construction of long-term improvements, the resulting external growth factor is 1.16. This external growth factor was applied to all public traffic volumes that utilize the external intersections (excluding traffic entering and exiting the installation).

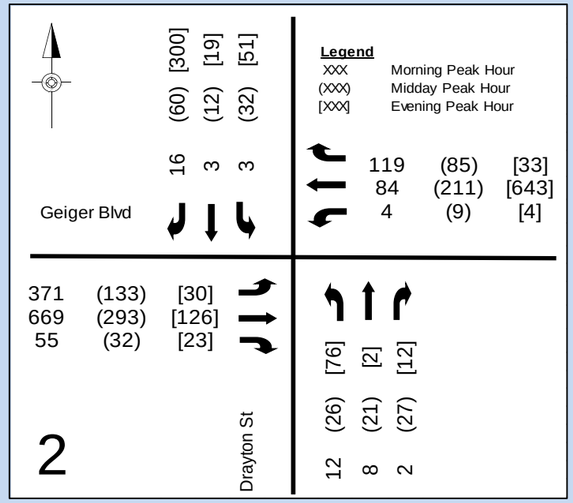
5.1.2. Internal Growth

Installation stakeholders have indicated that no growth is expected on base. There was however, a marine squadron deployed during the time of data collection. The squadron totaled 225 personnel. According to MCAS Beaufort's Installation Master Plan, there is a total of 4,931 active duty and civilian personnel. The 225 personnel missing equates to an adjustment factor of 1.05. This factor was applied to all installation traffic movements and to the demand volume calculations for each ECF. The adjusted demand volumes for the ECFs and future intersection volumes are provided in exhibit 5.1 and exhibit 5.2, respectively.

Exhibit 5.1 Future ECF Volumes

ECF	Existing Inbound Demand Volume	Adjustment Factor	Future Inbound Demand Volume
Main Gate	920	1.05	966
Laurel Bay Gate	484	1.05	508





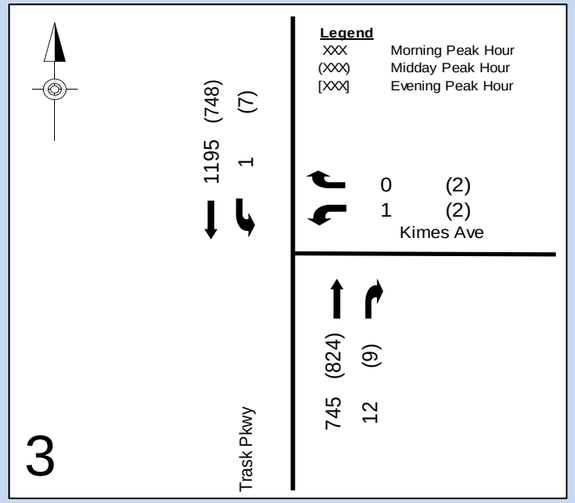


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Exhibit 5.2

Future Volume Figures

MCAS Beaufort, SC

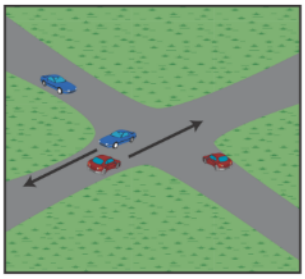
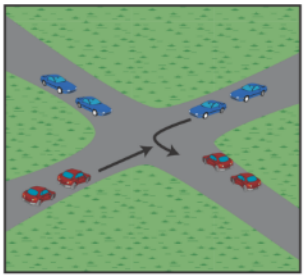
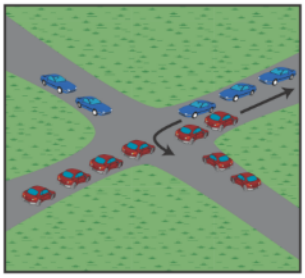
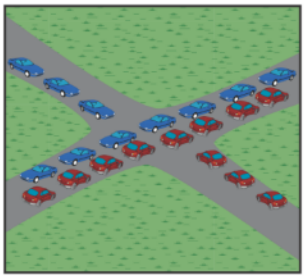
6.2. Intersection Operations Analysis

An operations analysis was conducted at study intersections under existing and future conditions using Synchro Traffic Analysis Software (Version 10). This section summarizes the operations for each intersection. Each table includes level of service (LOS) and 95th percentile queues for each lane group at the intersection. Where an intersection is reconfigured to improve operations and sufficient detail could not be provided in the ECF concept drawing, a standalone concept drawing is provided to illustrate the improvements.

LOS describes the operational condition of an intersection and usually falls into one of six categories: A through F. LOS A represents operating conditions with relatively little traffic and no congestion, while LOS F represents relatively high traffic and unpredictable operating conditions, including high delay and driver discomfort. Generally, a facility operating at or better than LOS D is considered acceptable. Exhibit 6.2 details and graphically shows examples and definitions of LOS A through F. The 95th percentile queue is reported because it is commonly used for determining the design length of turn lanes.

Note that the amount of delay, in seconds, is shown in parentheses for those movements that have a LOS F since there is no upper bound.

Exhibit 6.2 Level of Service Definitions

LOS	INTERSECTIONS		
	SIGNALIZED		UNSIGNALIZED
A	✓ Very low delay, average less than 10.0 seconds per vehicle (spv) ✓ Most vehicles arrive during green phase ✓ Most vehicles do not need to stop		✓ Average delays less than 10.0 spv ✓ Little or no delay to minor street traffic
B	✓ Average delay in range of 10.1-20.0 spv ✓ More vehicles stop than LOS A		✓ Average delay in range of 10.1-15.0 spv ✓ Short traffic delays to minor street traffic
C	✓ Average delay in range of 20.1-35.0 spv ✓ Number of vehicles stopping is significant ✓ Cycle failures may begin to appear		✓ Average delay in range of 15.1-25.0 spv ✓ Average traffic delays to minor street traffic
D	✓ Average delay in range of 35.1-55.0 spv ✓ Congestion more noticeable ✓ Many vehicles stop ✓ Cycle failures noticeable		✓ Average delay in range of 25.1-35.0 spv ✓ Long traffic delays to minor street traffic
E	✓ Average delay in range of 55.1-80.0 spv ✓ Cycle failures frequent		✓ Average delay in range of 35.1-50.0 spv ✓ Very long delays to minor street traffic
F	✓ Average delay in excess of 80.0 spv ✓ Delay unacceptable to most drivers ✓ Many cycle failures		✓ Average delay in excess of 50.0 spv ✓ Extreme delays with queuing ✓ Congestion affects other intersections ✓ Warrants improvement to intersection

6.2.1. Trask Parkway and Geiger Boulevard (Main Gate External)

Existing Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
EB left	C/42	C/37	D/64
EB thru/right	C/94	C/43	C/23
WB left	C/59	C/84	C/353
WB thru/right	C/36	C/59	C/228
NB left	D/160	D/146	D/241
NB thru/right	A/145	B/184	B/292
SB left	B/41	B/10	C/13
SB thru/right	A/404	C/220	C/339
Overall	B	B	C

Future Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
EB left	C/52	C/40	D/88
EB thru/right	C/113	C/44	D/29
WB left	C/69	C/89	D/449
WB thru/right	D/42	C/62	C/298
NB left	D/202	D/173	D/283
NB thru/right	A/181	B/222	B/416
SB left	B/46	B/10	C/15
SB thru/right	C/532	C/295	D/512
Overall	C	C	C

The intersection operates at an adequate LOS for all peak periods under existing and future scenarios. No improvements are recommended.

6.2.2. Drayton Street and Geiger Boulevard (Main Gate Internal)

Existing Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
EB left/thru/right	A/40	A/13	B/5
WB left/thru	A/0	A/3	A/0
WB right	A/0	A/0	A/0
NB left/thru/right	F(1040)/158	D/55	F(98)/135
SB left/thru	A/0	E/50	F(54)/85
SB right	A/3	A/10	C/85
Overall	A	A	A

Future NB Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
EB left/thru/right	A/45	A/0	A/0
WB left/thru	A/0	A/3	A/0
WB right	A/0	A/0	A/0
NB left/thru/right	F(1868)/180	E/68	F(168)/183
SB left/thru	A/0	F(53)/38	F(67)/103
SB right	A/3	A/10	C/100
Overall	A	A	A

This intersection operates at an inadequate LOS for all peak periods under existing and future scenarios. A traffic signal warrant analysis was completed, and the intersection does not warrant signalization. Therefore, the study team recommends a roundabout, which can be constructed concurrently with the long-term concept for the Main Gate. This will provide an adequate LOS during all peak periods as shown in the operations analysis table. The roundabout concept can be seen in exhibit 7.7, section 7.

Future Build Peak Operations Analysis: Roundabout

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
EB left/thru/right	A/75	A/50	A/25
WB left/thru/right	A/25	A/25	B/175
NB left/thru/right	A/0	A/25	A/0
SB left/thru	A/0	A/0	B/25
SB right	A/0	A/0	D/125
Overall	A	A	B

6.2.3. Trask Parkway and Longstaff Avenue (Commercial Gate External)

Existing Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)
WB left/right	D/3	C/3
NB thru	A/0	A/0
NB right	A/0	A/0
SB left	A/0	A/0
SB thru	A/0	A/0
Overall	A	A

Future NB Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)
WB left/right	E/3	C/5
NB thru	A/0	A/0
NB right	A/0	A/0
SB left	A/0	A/0
SB thru	A/0	A/0
Overall	A	A

The intersection operates at an inadequate LOS for the westbound approach during future no-build conditions and has a LOS D under existing conditions. This poor LOS is only for 1 vehicle that illegally turned left onto Trask Parkway. Very few vehicles exit via the commercial gate throughout the day and left turns are not permitted via the westbound approach. A raised concrete island could be installed along Trask Parkway to prohibit the left turns as discussed in section 6.1.3.

6.2.4. Drayton Street and Longstaff Avenue (Commercial Gate Internal)

Existing Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
EB left/thru/right	C/15	B/8	C/13
WB left/thru/right	C/18	B/10	B/10
NB left/thru/right	A/5	A/3	A/0
SB left/thru/right	A/3	A/3	A/8
Overall	A	A	A

Future NB Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
EB left/thru/right	C/20	B/10	C/15
WB left/thru/right	C/20	B/13	B/10
NB left/thru/right	A/5	A/3	A/0
SB left/thru/right	A/3	A/3	A/8
Overall	A	A	A

The intersection operates at an adequate LOS for all peak periods under existing and future scenarios. No improvements are recommended.

6.2.5. Laurel Bay Road and Joe Frazier Road (Laurel Bay Gate External)

Existing Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
EB thru	A/0	A/0	A/0
EB right	A/0	A/0	A/0
WB left	A/3	A/0	A/3
WB thru	A/0	A/0	A/0
NB left/right	C/30	B/13	B/33
Overall	A	A	A

Future NB Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
EB thru	A/0	A/0	A/0
EB right	A/0	A/0	A/0
WB left	A/3	A/0	A/3
WB thru	A/0	A/0	A/0
NB left/right	C/35	B/13	B/38
Overall	A	A	A

The intersection operates at an adequate LOS for all peak periods under existing and future scenarios. No improvements are recommended.

6.2.6. Laurel Bay Road and Laurel Bay Boulevard (Laurel Bay Gate Internal)

Existing Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
WB left	A/4	A/8	A/21
WB right	A/0	A/0	A/0
NB thru/right	B/12	B/3	C/15
SB left	B/29	B/14	E/76
SB thru	B/5	B/5	C/12
Overall	A	A	B

Future NB Peak Operations Analysis

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
WB left	A/4	A/8	A/22
WB right	A/0	A/0	A/0
NB thru/right	B/13	B/3	C/17
SB left	B/32	B/16	E/93
SB thru	B/5	B/6	C/13
Overall	A	A	B

This intersection operates at an inadequate LOS E during the PM peak period under existing and future scenarios (impacting 93 vph). The installation noted that there is minimal funding likely for any improvements at Laurel Bay and since this occurs during only one hour of the day and impacts a low volume of traffic, only low-cost solutions will be considered. In the short-term, all-way stop control would provide an adequate LOS as shown in the operations analysis table on the following page. All-way stop control is not warranted based on traffic volumes but is warranted based on the condition that there is no major approach for the intersection and that it would improve traffic operations. All-way stop control will also be required for this intersection if the Laurel Bay Gate Conceptual Design is built. The active vehicle barriers will operate with a Stop Controlled Safety Scheme and will require that the northbound channelized right be removed. More detail on the gate design can be found in section 7.6. The LOS table with the eliminated northbound channelized right can be seen on the following page.

Since the study team's observation of the intersection indicated no delay or LOS issues that would require an improvement, it is recommended to leave the operation as it is currently. If issues appear for the intersection in the future or if the Laurel Bay Gate design is built, the intersection can be converted to All-Way Stop Control as discussed above.

All-Way Stop Control Operations Analysis – Existing Configuration

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
WB left	A/13	A/25	C/95
WB right	A/35	A/8	A/20
NB thru/right	A/13	A/3	A/8
SB left	B/33	A/13	B/25
SB thru	A/5	A/5	A/5
Overall	B	A	B

All-Way Stop Control Operations Analysis- No NB Channelized Right

Movement	AM Peak LOS/ 95% Queue (ft)	MID Peak LOS/ 95% Queue (ft)	PM Peak LOS/ 95% Queue (ft)
WB left	B/15	B/28	C/108
WB right	B/43	A/8	A/20
NB thru	A/15	A/3	A/8
NB right	B/63	A/28	A/15
SB left	B/38	A/15	B/28
SB thru	A/5	A/5	A/5
Overall	B	A	B

MCAS Beaufort Final ECF Report

APPENDIX A

TRAFFIC DATA

Intersection Turning Movement Count Summary

Intersection: Geiger Blvd and Trask Pkwy
Date: 3/26/2019
Weather: Dry

BEGIN TIME	Eastbound *Geiger Blvd*				Westbound *Geiger Blvd*				Northbound *Trask Pkwy*				Southbound *Trask Pkwy*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	4	69	27	0	7	3	1	0	8	88	148	0	18	197	5	0	575
6:45 AM	6	76	26	0	13	16	1	0	20	105	162	0	22	163	13	0	623
7:00 AM	7	57	46	0	23	10	4	0	22	134	154	0	14	183	12	0	666
7:15 AM	13	76	56	0	14	5	1	0	37	150	163	0	11	260	16	0	802
7:30 AM	10	62	51	0	25	15	1	0	34	182	113	0	6	270	13	0	782
7:45 AM	8	44	64	0	27	7	1	0	32	148	101	0	12	274	21	0	739
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 7:00 AM - 8:00 AM	38	239	217	0	89	37	7	0	125	614	531	0	43	987	62	0	2989
PHF	0.73	0.79	0.85		0.82	0.62	0.44		0.84	0.84	0.81		0.77	0.90	0.74		
Approach Truck %	0.0%				0.0%				0.0%				0.0%				

BEGIN TIME	Eastbound *Geiger Blvd*				Westbound *Geiger Blvd*				Northbound *Trask Pkwy*				Southbound *Trask Pkwy*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	5	16	39	0	78	37	6	0	21	145	48	0	1	172	2	0	570
11:45 AM	4	25	31	0	62	17	2	0	24	141	60	0	2	149	14	0	531
12:00 PM	8	12	27	0	86	30	4	0	22	156	60	0	0	134	10	0	549
12:15 PM	8	13	36	0	41	11	2	0	30	189	82	0	1	171	10	0	594
12:30 PM	6	32	29	0	45	19	3	0	34	173	68	0	5	166	7	0	587
12:45 PM	10	55	31	0	36	9	4	0	35	179	84	0	2	170	7	0	622
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	32	112	123	0	208	69	13	0	121	697	294	0	8	641	34	0	2352
PHF	0.80	0.51	0.85		0.60	0.58	0.81		0.86	0.92	0.88		0.40	0.94	0.85		
Approach Truck %	0.0%				0.0%				0.0%				0.0%				

BEGIN TIME	Eastbound *Geiger Blvd*				Westbound *Geiger Blvd*				Northbound *Trask Pkwy*				Southbound *Trask Pkwy*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	11	7	33	0	83	22	21	0	45	209	31	0	3	171	12	0	648
3:45 PM	11	7	35	0	89	20	9	0	53	263	32	0	4	208	18	0	749
4:00 PM	17	12	40	0	194	51	25	0	43	210	27	0	1	205	17	0	842
4:15 PM	20	14	44	0	151	77	6	0	48	260	33	0	2	208	26	0	889
4:30 PM	9	6	52	0	137	54	15	0	52	251	24	0	1	208	13	0	822
4:45 PM	13	7	51	0	156	69	15	0	52	252	28	0	4	198	19	0	864
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:00 PM - 5:00 PM	59	39	187	0	638	251	61	0	195	973	112	0	8	819	75	0	3417
PHF	0.74	0.70	0.90		0.82	0.81	0.61		0.94	0.94	0.85		0.50	0.98	0.72		
Approach Truck %	0.0%				0.0%				0.0%				0.0%				

Intersection Turning Movement Count Summary

Intersection: Geiger Blvd and Trask Pkwy
Date: 3/26/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Geiger Blvd				*Geiger Blvd*				*Trask Pkwy*				*Trask Pkwy*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Geiger Blvd				*Geiger Blvd*				*Trask Pkwy*				*Trask Pkwy*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Geiger Blvd				*Geiger Blvd*				*Trask Pkwy*				*Trask Pkwy*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	2
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0	0
4:30 PM	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:00 PM - 5:00 PM	0	0	0	1	0	0	0	0	0	0	0	1	0	0	0	0

Gannett Fleming
Camp Hill, PA
717-763-7211

Intersection Turning Movement Count Summary

Intersection: Geiger Blvd and Drayton St
Date: 3/26/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Geiger Blvd				*Geiger Blvd*				*Drayton St*				*Drayton St*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	109	130	12	0	0	8	56	0	0	5	1	0	0	0	2	0	323
6:45 AM	103	148	9	0	0	22	23	1	6	1	0	0	0	1	6	0	319
7:00 AM	58	170	13	0	2	28	12	1	2	0	1	0	3	2	6	0	297
7:15 AM	83	189	18	0	2	22	22	0	3	2	0	0	0	0	1	0	342
7:30 AM	77	114	21	0	3	26	17	1	2	4	1	0	3	0	12	0	280
7:45 AM	51	93	18	0	2	33	17	0	3	0	1	0	6	1	6	2	231
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 6:30 AM - 7:30 AM	353	637	52	0	4	80	113	2	11	8	2	0	3	3	15	0	1281
PHF	0.81	0.84	0.72		0.50	0.71	0.50		0.46	0.40	0.50		0.25	0.38	0.63		
Approach Truck %	0.0%				1.0%				0.0%				0.0%				

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Geiger Blvd				*Geiger Blvd*				*Drayton St*				*Drayton St*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	20	36	9	0	1	83	16	0	15	2	4	1	11	4	19	1	220
11:45 AM	24	66	7	0	0	54	29	1	9	0	5	0	14	1	27	4	236
12:00 PM	28	48	4	0	1	79	18	0	7	3	3	0	14	3	24	0	232
12:15 PM	28	63	9	0	1	36	19	1	8	6	4	0	7	4	4	1	189
12:30 PM	30	76	10	0	5	49	18	1	4	4	8	2	5	2	14	0	225
12:45 PM	41	92	7	0	2	37	26	1	6	7	11	0	4	2	15	0	250
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	127	279	30	0	9	201	81	3	25	20	26	2	30	11	57	1	896
PHF	0.77	0.76	0.75		0.45	0.64	0.78		0.78	0.71	0.59		0.54	0.69	0.59		
Approach Truck %	0.0%				1.0%				2.8%				1.0%				

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Geiger Blvd				*Geiger Blvd*				*Drayton St*				*Drayton St*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	14	27	1	0	0	87	9	3	5	0	3	0	5	14	56	0	221
3:45 PM	9	29	8	2	0	90	3	2	5	0	2	0	2	3	43	1	194
4:00 PM	8	32	2	1	2	212	11	4	14	0	2	0	2	5	70	1	360
4:15 PM	11	34	6	1	1	107	9	0	12	0	4	0	18	4	73	0	279
4:30 PM	9	23	6	0	0	159	7	0	25	1	4	0	8	6	80	1	328
4:45 PM	1	31	8	1	1	134	4	0	21	1	1	0	21	3	63	0	289
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:00 PM - 5:00 PM	29	120	22	3	4	612	31	4	72	2	11	0	49	18	286	2	1256
PHF	0.66	0.88	0.69		0.50	0.72	0.70		0.72	0.50	0.69		0.58	0.75	0.89		
Approach Truck %	1.8%				0.6%				0.0%				0.6%				

Intersection Turning Movement Count Summary

Intersection: Geiger Blvd and Drayton St
Date: 3/26/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Geiger Blvd				*Geiger Blvd*				*Drayton St*				*Drayton St*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
7:15 AM	1	0	1	0	0	0	0	0	0	1	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 6:30 AM - 7:30 AM	1	0	1	0	0	0	0	0	0	1	0	0	0	0	1	0

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Geiger Blvd				*Geiger Blvd*				*Drayton St*				*Drayton St*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
11:45 AM	0	0	0	0	0	0	0	5	0	0	0	0	0	0	0	4
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
12:30 PM	0	0	0	0	0	0	0	1	0	0	0	1	0	0	0	0
12:45 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	0	0	0	0	0	1	0	1	0	0	0	1	0	0	0	1

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Geiger Blvd				*Geiger Blvd*				*Drayton St*				*Drayton St*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0

Gannett Fleming
Camp Hill, PA
717-763-7211

Intersection Turning Movement Count Summary

Intersection: Kimes Ave and Trask Pkwy
Date: 3/26/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Kimes Ave				*Kimes Ave*				*Trask Pkwy*				*Trask Pkwy*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	89	0	4	2	181	0	7	272
6:45 AM	0	0	0	0	0	0	0	0	0	104	5	3	3	188	0	11	300
7:00 AM	0	0	0	0	1	0	0	0	0	149	2	3	1	216	0	5	369
7:15 AM	0	0	0	0	0	0	0	0	0	136	5	6	0	254	0	4	395
7:30 AM	0	0	0	0	0	0	0	0	0	196	3	6	0	288	0	1	487
7:45 AM	0	0	0	0	0	0	0	0	0	161	1	3	0	272	0	8	434
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 7:00 AM - 8:00 AM	0	0	0	0	1	0	0	0	0	642	11	18	1	1030	0	18	1685
PHF					0.25					0.82	0.55		0.25	0.89			
Approach Truck %					0.0%				2.8%				1.7%				

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Kimes Ave				*Kimes Ave*				*Trask Pkwy*				*Trask Pkwy*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	2	0	0	0	0	135	3	8	0	129	0	1	269
11:45 AM	0	0	0	0	1	0	4	0	0	150	2	10	0	142	0	5	299
12:00 PM	0	0	0	0	1	0	0	0	0	160	2	4	1	143	0	6	307
12:15 PM	0	0	0	0	1	0	2	2	0	190	2	4	1	154	0	4	350
12:30 PM	0	0	0	0	0	0	0	0	0	183	2	7	2	176	0	6	363
12:45 PM	0	0	0	0	0	0	0	0	0	177	3	2	3	172	0	6	355
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	0	0	0	0	2	0	2	2	0	710	9	17	7	645	0	22	1375
PHF					0.50		0.25			0.93	0.75		0.58	0.92			
Approach Truck %					50.0%				2.4%				3.4%				

Intersection Turning Movement Count Summary

Intersection: Kimes Ave and Trask Pkwy
Date: 3/26/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Kimes Ave				*Kimes Ave*				*Trask Pkwy*				*Trask Pkwy*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
BEGIN TIME	**Eastbound**				**Westbound**				**Northbound**				**Southbound**			
	Kimes Ave				*Kimes Ave*				*Trask Pkwy*				*Trask Pkwy*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Gannett Fleming
Camp Hill, PA
717-763-7211

Intersection Turning Movement Count Summary

Intersection: Longstaff Ave and Drayton St
Date: 3/27/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Longstaff Ave				*Longstaff Ave*				*Drayton St*				*Drayton St*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	4	1	0	0	0	4	13	0	18	124	2	0	1	7	0	0	174
6:45 AM	3	7	0	0	0	6	16	0	27	55	6	0	5	4	0	0	129
7:00 AM	3	3	0	0	0	4	10	0	14	50	3	0	3	5	1	0	96
7:15 AM	4	0	0	0	0	3	9	0	8	59	4	0	6	2	0	0	95
7:30 AM	1	6	0	0	0	1	6	0	3	34	3	0	12	13	0	0	79
7:45 AM	1	0	1	0	2	6	15	0	8	34	2	0	5	9	1	0	84
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 6:30 AM - 7:30 AM	14	11	0	0	0	17	48	0	67	288	15	0	15	18	1	0	494
PHF	0.88	0.39				0.71	0.75		0.62	0.58	0.63		0.63	0.64	0.25		
Approach Truck %	0.0%				0.0%				0.0%				0.0%				

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Longstaff Ave				*Longstaff Ave*				*Drayton St*				*Drayton St*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	6	3	0	0	5	10	0	3	18	0	0	11	26	6	0	88
11:45 AM	1	4	0	0	2	0	8	0	11	38	8	0	14	28	1	0	115
12:00 PM	3	5	3	0	2	2	10	0	3	21	1	0	14	27	3	0	94
12:15 PM	2	2	2	0	3	3	10	0	5	33	1	0	6	13	2	0	82
12:30 PM	4	3	2	0	0	4	17	0	4	31	0	0	7	8	1	0	81
12:45 PM	3	5	1	0	1	4	12	0	10	44	2	0	9	13	0	0	104
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 11:30 AM - 12:30 PM	6	17	8	0	7	10	38	0	22	110	10	0	45	94	12	0	379
PHF	0.50	0.71	0.67		0.58	0.50	0.95		0.50	0.72	0.31		0.80	0.84	0.50		
Approach Truck %	0.0%				0.0%				0.0%				0.0%				

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Longstaff Ave				*Longstaff Ave*				*Drayton St*				*Drayton St*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	1	1	6	0	1	1	14	0	0	19	0	0	8	30	2	2	83
3:45 PM	0	1	1	0	0	3	8	1	1	18	0	1	10	19	1	1	62
4:00 PM	3	4	2	0	2	1	3	0	2	19	0	0	13	30	0	0	79
4:15 PM	2	2	1	0	1	0	13	0	0	25	1	2	18	68	0	0	131
4:30 PM	1	4	1	0	3	2	4	0	0	20	0	2	31	62	2	0	130
4:45 PM	0	8	3	0	1	0	2	0	0	5	0	0	24	47	3	0	93
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:00 PM - 5:00 PM	6	18	7	0	7	3	22	0	2	69	1	4	86	207	5	0	433
PHF	0.50	0.56	0.58		0.58	0.38	0.42		0.25	0.69	0.25		0.69	0.76	0.42		
Approach Truck %	0.0%				0.0%				5.6%				0.0%				

Intersection Turning Movement Count Summary

Intersection: Longstaff Ave and Drayton St
Date: 3/27/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Longstaff Ave				*Longstaff Ave*				*Drayton St*				*Drayton St*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 6:30 AM - 7:30 AM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Longstaff Ave				*Longstaff Ave*				*Drayton St*				*Drayton St*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 11:30 AM - 12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Longstaff Ave				*Longstaff Ave*				*Drayton St*				*Drayton St*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	1	0	0	0	0	0	1	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Intersection Turning Movement Count Summary

Intersection: Laurel Bay Rd and Joe Frazier Rd
Date: 3/27/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Laurel Bay Rd				*Laurel Bay Rd*				*Joe Frazier Rd*				*Joe Frazier Rd*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	71	25	0	0	18	0	0	9	0	1	0	0	0	0	0	124
6:45 AM	0	79	25	0	0	36	0	0	10	0	0	0	0	0	0	0	150
7:00 AM	0	98	42	0	1	37	0	1	13	0	5	0	0	0	0	0	196
7:15 AM	0	94	32	0	1	69	0	0	33	0	1	0	0	0	0	0	230
7:30 AM	0	105	42	0	2	66	0	0	25	0	4	0	0	0	0	0	244
7:45 AM	0	91	39	0	5	27	0	0	25	0	0	0	0	0	0	0	187
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 7:00 AM - 8:00 AM	0	388	155	0	9	199	0	1	96	0	10	0	0	0	0	0	857
PHF		0.92	0.92		0.45	0.72			0.73		0.50						
Approach Truck %	0.0%				0.5%				0.0%								

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Laurel Bay Rd				*Laurel Bay Rd*				*Joe Frazier Rd*				*Joe Frazier Rd*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	36	10	0	2	47	0	0	22	0	3	0	0	0	0	0	120
11:45 AM	0	42	8	1	1	35	0	0	20	0	1	0	0	0	0	0	107
12:00 PM	0	47	22	0	1	48	0	0	22	0	4	0	0	0	0	0	144
12:15 PM	0	50	23	0	2	35	0	0	17	0	4	1	0	0	0	0	131
12:30 PM	0	56	16	0	0	31	0	0	14	0	0	0	0	0	0	0	117
12:45 PM	0	59	18	0	1	25	0	1	14	0	3	0	0	0	0	0	120
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	0	212	79	0	4	139	0	1	67	0	11	1	0	0	0	0	512
PHF		0.90	0.86		0.50	0.72			0.76		0.69						
Approach Truck %	0.0%				0.7%				1.3%								

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Laurel Bay Rd				*Laurel Bay Rd*				*Joe Frazier Rd*				*Joe Frazier Rd*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	47	23	2	3	65	0	0	33	0	3	0	0	0	0	0	174
3:45 PM	0	49	21	0	2	54	0	0	26	0	1	0	0	0	0	0	153
4:00 PM	0	47	23	1	6	70	0	0	31	0	1	0	0	0	0	0	178
4:15 PM	0	48	22	0	3	84	0	0	30	0	4	0	0	0	0	0	191
4:30 PM	0	33	23	1	3	110	0	0	35	0	5	0	0	0	0	0	209
4:45 PM	0	45	19	0	2	97	0	0	41	0	2	0	0	0	0	0	206
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:00 PM - 5:00 PM	0	173	87	2	14	361	0	0	137	0	12	0	0	0	0	0	784
PHF		0.90	0.95		0.58	0.82			0.84		0.60						
Approach Truck %	0.8%				0.0%				0.0%								

Intersection Turning Movement Count Summary

Intersection: Laurel Bay Rd and Joe Frazier Rd
Date: 3/27/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Laurel Bay Rd				*Laurel Bay Rd*				*Joe Frazier Rd*				*Joe Frazier Rd*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Laurel Bay Rd				*Laurel Bay Rd*				*Joe Frazier Rd*				*Joe Frazier Rd*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Laurel Bay Rd				*Laurel Bay Rd*				*Joe Frazier Rd*				*Joe Frazier Rd*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:00 PM - 5:00 PM	0	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0

Gannett Fleming
Camp Hill, PA
717-763-7211

Intersection Turning Movement Count Summary

Intersection: Laurel Bay Rd and Laurel Bay Blvd
Date: 3/27/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Laurel Bay Rd				*Laurel Bay Rd*				*Laurel Bay Blvd*				*Laurel Bay Blvd*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	6	0	12	0	0	0	67	0	17	2	0	0	104
6:45 AM	0	0	0	0	12	0	12	0	0	2	64	0	21	0	0	0	111
7:00 AM	0	0	0	0	11	0	24	0	0	0	78	0	32	2	0	0	147
7:15 AM	0	0	0	0	20	0	58	1	0	9	62	0	21	3	0	0	173
7:30 AM	0	0	0	0	21	0	55	6	0	23	60	1	41	11	0	0	211
7:45 AM	0	0	0	0	13	0	30	1	0	18	46	2	45	11	0	1	163
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 7:00 AM - 8:00 AM	0	0	0	0	65	0	167	8	0	50	246	3	139	27	0	1	694
PHF					0.77		0.72			0.54	0.79		0.77	0.61			
Approach Truck %					3.4%				1.0%				0.6%				

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Laurel Bay Rd				*Laurel Bay Rd*				*Laurel Bay Blvd*				*Laurel Bay Blvd*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	36	0	13	0	0	5	24	0	9	7	0	0	94
11:45 AM	0	0	0	0	37	0	14	3	0	3	25	0	8	7	0	0	94
12:00 PM	0	0	0	0	39	0	18	0	0	5	45	0	18	9	0	0	134
12:15 PM	0	0	0	0	31	0	12	0	0	4	36	0	15	3	0	0	101
12:30 PM	0	0	0	0	16	0	14	0	0	4	49	0	16	7	0	0	106
12:45 PM	0	0	0	0	18	0	14	0	0	3	39	0	23	7	0	0	104
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	0	0	0	0	104	0	58	0	0	16	169	0	72	26	0	0	445
PHF					0.67		0.81			0.80	0.86		0.78	0.72			
Approach Truck %					0.0%				0.0%				0.0%				

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound				
	Laurel Bay Rd				*Laurel Bay Rd*				*Laurel Bay Blvd*				*Laurel Bay Blvd*				
	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	Vehicles			Trucks	
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		TOTAL
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	64	0	21	0	0	6	36	0	24	2	0	0	153
3:45 PM	0	0	0	0	43	0	22	0	0	11	28	0	25	6	0	0	135
4:00 PM	0	0	0	0	44	0	29	1	0	8	18	1	34	6	0	0	139
4:15 PM	0	0	0	0	47	0	24	0	0	3	26	1	20	3	0	0	123
4:30 PM	0	0	0	0	87	0	25	0	0	5	24	0	21	10	0	0	172
4:45 PM	0	0	0	0	74	0	38	0	0	12	26	0	14	6	0	0	170
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:00 PM - 5:00 PM	0	0	0	0	252	0	116	1	0	28	94	2	89	25	0	0	604
PHF					0.72		0.76			0.58	0.90		0.65	0.63			
Approach Truck %					0.3%				1.6%				0.0%				

Intersection Turning Movement Count Summary

Intersection: Laurel Bay Rd and Laurel Bay Blvd
Date: 3/27/2019
Weather: Dry

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Laurel Bay Rd				*Laurel Bay Rd*				*Laurel Bay Blvd*				*Laurel Bay Blvd*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
5:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
AM PEAK HR 7:00 AM - 8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Laurel Bay Rd				*Laurel Bay Rd*				*Laurel Bay Blvd*				*Laurel Bay Blvd*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
11:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
11:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
MIDDAY PEAK HR 12:00 PM - 1:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

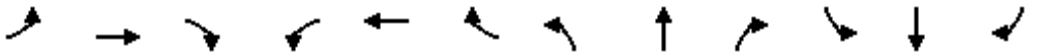
BEGIN TIME	Eastbound				Westbound				Northbound				Southbound			
	Laurel Bay Rd				*Laurel Bay Rd*				*Laurel Bay Blvd*				*Laurel Bay Blvd*			
	Bikes			Peds	Bikes			Peds	Bikes			Peds	Bikes			Peds
	Left	Thru	Right		Left	Thru	Right		Left	Thru	Right		Left	Thru	Right	
3:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
5:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
PM PEAK HOUR 4:00 PM - 5:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Time	Main Gate						Commercial Gate		Laurel Bay Gate	
	Inbound	Inbound	Inbound Total	Outbound	Outbound	Outbound Total	Inbound Total	Outbound Total	Inbound	Outbound
Counter Serial Number	4152	3005		2723	4153				Radar 2	Radar 4
3/26/2019 0:00	8	0	8	11	13	24	0	0	8	2
3/26/2019 0:15	3	0	3	4	6	10	0	0	11	3
3/26/2019 0:30	6	0	6	4	7	11	0	0	14	3
3/26/2019 0:45	3	1	4	3	8	11	1	0	2	*
3/26/2019 1:00	3	0	3	4	7	11	0	0	5	2
3/26/2019 1:15	4	0	4	3	3	6	0	0	4	3
3/26/2019 1:30	6	0	6	4	1	5	0	0	1	2
3/26/2019 1:45	3	0	3	4	5	9	0	0	*	*
3/26/2019 2:00	2	1	3	5	2	7	0	0	6	3
3/26/2019 2:15	3	0	3	6	2	8	0	0	1	*
3/26/2019 2:30	2	3	5	3	8	11	1	4	3	1
3/26/2019 2:45	3	1	4	3	3	6	0	0	3	2
3/26/2019 3:00	5	0	5	3	2	5	0	0	1	5
3/26/2019 3:15	2	0	2	0	2	2	0	0	2	2
3/26/2019 3:30	2	0	2	0	1	1	0	0	*	4
3/26/2019 3:45	8	2	10	3	5	8	0	0	3	8
3/26/2019 4:00	3	0	3	2	2	4	0	0	3	4
3/26/2019 4:15	12	2	14	3	1	4	0	0	1	6
3/26/2019 4:30	15	3	18	3	3	6	0	0	1	15
3/26/2019 4:45	37	3	40	2	2	4	0	0	3	14
3/26/2019 5:00	12	6	18	1	1	2	0	0	3	19
3/26/2019 5:15	29	13	42	5	2	7	0	0	4	24
3/26/2019 5:30	52	3	55	2	6	8	0	1	7	46
3/26/2019 5:45	96	3	99	11	18	29	2	0	17	75
3/26/2019 6:00	106	28	134	10	5	15	1	2	19	70
3/26/2019 6:15	84	70	154	10	3	13	1	0	15	72
3/26/2019 6:30	107	90	197	9	3	12	3	2	18	101
3/26/2019 6:45	103	96	199	14	19	33	8	29	33	107
3/26/2019 7:00	91	81	172	15	21	36	2	25	3	113
3/26/2019 7:15	119	111	230	18	9	27	4	7	37	115
3/26/2019 7:30	113	93	206	19	20	39	3	5	76	84
3/26/2019 7:45	93	63	156	24	19	43	2	0	31	90
3/26/2019 8:00	78	9	87	24	26	50	2	0	9	66
3/26/2019 8:15	72	6	78	27	25	52	7	0	6	56
3/26/2019 8:30	56	4	60	27	19	46	7	4	31	46
3/26/2019 8:45	55	10	65	16	18	34	3	2	18	39
3/26/2019 9:00	60	6	66	26	22	48	1	1	22	44
3/26/2019 9:15	45	3	48	13	22	35	3	2	21	38
3/26/2019 9:30	38	3	41	23	17	40	3	0	30	38
3/26/2019 9:45	49	5	54	22	21	43	2	1	25	32
3/26/2019 10:00	48	1	49	20	19	39	0	1	18	54
3/26/2019 10:15	40	1	41	33	27	60	1	0	32	34
3/26/2019 10:30	37	2	39	37	24	61	2	3	32	33
3/26/2019 10:45	47	8	55	24	34	58	5	8	33	34
3/26/2019 11:00	59	3	62	66	75	141	2	0	68	35
3/26/2019 11:15	47	2	49	63	63	126	2	2	46	26
3/26/2019 11:30	60	8	68	65	58	123	3	5	39	57
3/26/2019 11:45	91	6	97	42	48	90	2	2	43	53
3/26/2019 12:00	79	1	80	59	57	116	4	0	13	57
3/26/2019 12:15	93	4	97	29	18	47	3	2	50	46
3/26/2019 12:30	101	15	116	32	32	64	5	1	47	74
3/26/2019 12:45	122	16	138	32	26	58	6	0	48	59
3/26/2019 13:00	87	1	88	24	34	58	1	0	42	48
3/26/2019 13:15	38	2	40	26	25	51	2	2	42	29
3/26/2019 13:30	66	1	67	32	31	63	4	1	22	51
3/26/2019 13:45	62	3	65	35	27	62	2	0	29	56
3/26/2019 14:00	65	6	71	33	47	80	0	1	43	42
3/26/2019 14:15	125	3	128	22	30	52	1	0	41	33
3/26/2019 14:30	56	0	56	20	27	47	1	0	26	34
3/26/2019 14:45	152	7	159	28	38	66	1	1	32	27
3/26/2019 15:00	137	4	141	53	75	128	0	1	56	53
3/26/2019 15:15	79	4	83	36	57	93	1	0	64	39
3/26/2019 15:30	70	2	72	56	91	147	0	0	59	63
3/26/2019 15:45	39	4	43	65	68	133	1	2	74	77
3/26/2019 16:00	49	3	52	132	158	290	0	0	69	56
3/26/2019 16:15	50	1	51	85	112	197	1	0	117	60
3/26/2019 16:30	34	3	37	111	150	261	1	0	106	63
3/26/2019 16:45	51	5	56	98	122	220	3	0	117	47
3/26/2019 17:00	63	1	64	100	109	209	0	0	115	55
3/26/2019 17:15	55	1	56	63	94	157	1	0	115	52
3/26/2019 17:30	38	2	40	49	58	107	0	0	86	51
3/26/2019 17:45	47	1	48	36	34	70	2	1	66	55
3/26/2019 18:00	40	2	42	44	43	87	0	1	79	39
3/26/2019 18:15	39	1	40	38	37	75	0	0	62	47
3/26/2019 18:30	34	2	36	36	37	73	0	1	49	38
3/26/2019 18:45	44	1	45	23	33	56	1	0	59	26
3/26/2019 19:00	32	3	35	28	12	40	0	0	56	21
3/26/2019 19:15	27	0	27	24	18	42	1	3	54	33
3/26/2019 19:30	24	1	25	25	13	38	1	1	51	26
3/26/2019 19:45	20	1	21	20	18	38	0	0	37	13
3/26/2019 20:00	28	2	30	18	22	40	1	1	27	18
3/26/2019 20:15	26	3	29	14	16	30	0	0	43	12
3/26/2019 20:30	33	1	34	10	11	21	0	0	27	16
3/26/2019 20:45	21	0	21	16	15	31	0	0	29	10
3/26/2019 21:00	21	1	22	13	8	21	0	0	25	11
3/26/2019 21:15	19	1	20	13	11	24	0	0	23	10
3/26/2019 21:30	22	1	23	8	8	16	0	0	14	15
3/26/2019 21:45	9	11	20	6	13	19	0	1	20	16
3/26/2019 22:00	9	8	17	9	7	16	0	0	18	9
3/26/2019 22:15	3	8	11	11	17	28	0	0	20	12
3/26/2019 22:30	6	18	24	7	10	17	1	1	14	7
3/26/2019 22:45	2	7	9	13	12	25	0	0	8	6
3/26/2019 23:00	0	8	8	10	15	25	0	0	11	5
3/26/2019 23:15	4	6	10	14	14	28	0	0	20	3
3/26/2019 23:30	2	6	8	6	12	18	0	0	8	*
3/26/2019 23:45	4	6	10	9	4	13	0	0	4	4
AM Peak Hour	426	381	807	102	90	191	19	66	153	436
Midday Peak Hour	403	36	439	236	244	480	18	15	196	236
PM Peak Hour	325	14	339	426	542	968	5	3	455	256
24-Hour Volume	4244	938	5182	2407	2653	5060	118	127	3045	3304

MCAS Beaufort Final ECF Report

APPENDIX B

SYNCHRO ANALYSES



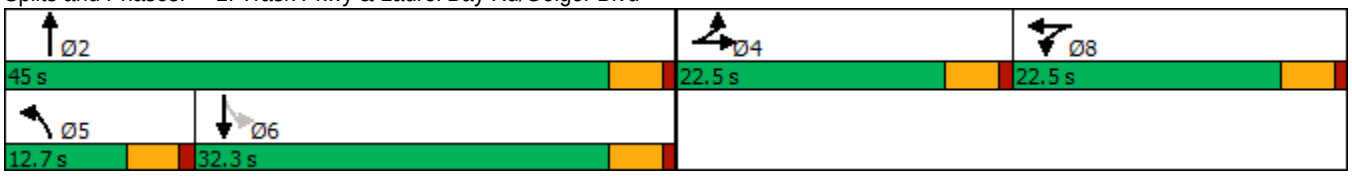
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	239	0	89	37	0	125	614	0	43	987	0
Future Volume (vph)	38	239	0	89	37	0	125	614	0	43	987	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	850		0	200		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt												
Flt Protected	0.950			0.950	0.977		0.950			0.950		
Satd. Flow (prot)	1770	3539	0	1610	3312	0	1770	3539	0	1752	3505	0
Flt Permitted	0.950			0.950	0.977		0.950			0.374		
Satd. Flow (perm)	1770	3539	0	1610	3312	0	1770	3539	0	690	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1946			1143			1311			1899	
Travel Time (s)		44.2			26.0			29.8			43.2	
Peak Hour Factor	0.73	0.79	0.85	0.82	0.62	0.44	0.84	0.84	0.81	0.77	0.90	0.74
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	52	303	0	109	60	0	149	731	0	56	1097	0
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	52	303	0	56	113	0	149	731	0	56	1097	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		Prot	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2			6	

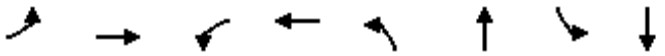
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases										6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		12.7	45.0		32.3	32.3	
Total Split (%)	25.0%	25.0%		25.0%	25.0%		14.1%	50.0%		35.9%	35.9%	
Maximum Green (s)	18.0	18.0		18.0	18.0		8.2	40.5		27.8	27.8	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	11.6	11.6		8.2	8.2		8.3	41.1		28.2	28.2	
Actuated g/C Ratio	0.16	0.16		0.11	0.11		0.12	0.57		0.39	0.39	
v/c Ratio	0.18	0.53		0.31	0.30		0.73	0.36		0.21	0.80	
Control Delay	28.8	32.0		35.7	33.0		56.3	10.4		20.0	26.9	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	28.8	32.0		35.7	33.0		56.3	10.4		20.0	26.9	
LOS	C	C		D	C		E	B		C	C	
Approach Delay		31.6			33.9			18.2			26.6	
Approach LOS		C			C			B			C	

Intersection Summary

Area Type: Other
Cycle Length: 90
Actuated Cycle Length: 71.9
Natural Cycle: 90
Control Type: Actuated-Uncoordinated
Maximum v/c Ratio: 0.80
Intersection Signal Delay: 24.9 Intersection LOS: C
Intersection Capacity Utilization 60.0% ICU Level of Service B
Analysis Period (min) 15

Splits and Phases: 1: Trask Pkwy & Laurel Bay Rd/Geiger Blvd

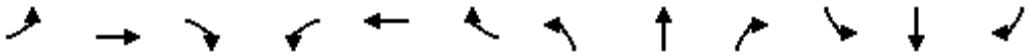




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	52	303	56	113	149	731	56	1097
v/c Ratio	0.18	0.53	0.31	0.30	0.73	0.36	0.21	0.80
Control Delay	28.8	32.0	35.7	33.0	56.3	10.4	20.0	26.9
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.8	32.0	35.7	33.0	56.3	10.4	20.0	26.9
Queue Length 50th (ft)	21	67	26	26	67	90	17	231
Queue Length 95th (ft)	42	94	59	36	#160	145	41	#404
Internal Link Dist (ft)		1866		1063		1231		1819
Turn Bay Length (ft)	180		850		200		250	
Base Capacity (vph)	449	898	408	840	204	2020	270	1373
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.34	0.14	0.13	0.73	0.36	0.21	0.80

Intersection Summary

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



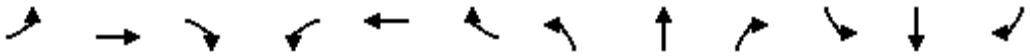
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	239	0	89	37	0	125	614	0	43	987	0
Future Volume (veh/h)	38	239	0	89	37	0	125	614	0	43	987	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	52	303	0	109	60	0	149	731	0	56	1097	0
Peak Hour Factor	0.73	0.79	0.85	0.82	0.62	0.44	0.84	0.84	0.81	0.77	0.90	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	3	3
Cap, veh/h	244	487	0	272	143	0	188	2020	0	397	1374	0
Arrive On Green	0.14	0.14	0.00	0.08	0.08	0.00	0.11	0.57	0.00	0.39	0.39	0.00
Sat Flow, veh/h	1781	3647	0	3563	1870	0	1781	3647	0	719	3618	0
Grp Volume(v), veh/h	52	303	0	109	60	0	149	731	0	56	1097	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	0	1781	1777	0	719	1763	0
Q Serve(g_s), s	1.6	5.0	0.0	1.8	1.9	0.0	5.1	6.9	0.0	3.2	17.1	0.0
Cycle Q Clear(g_c), s	1.6	5.0	0.0	1.8	1.9	0.0	5.1	6.9	0.0	3.2	17.1	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	244	487	0	272	143	0	188	2020	0	397	1374	0
V/C Ratio(X)	0.21	0.62	0.00	0.40	0.42	0.00	0.79	0.36	0.00	0.14	0.80	0.00
Avail Cap(c_a), veh/h	518	1034	0	1036	544	0	236	2326	0	440	1584	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.7	25.2	0.0	27.2	27.3	0.0	27.0	7.3	0.0	12.5	16.7	0.0
Incr Delay (d2), s/veh	0.4	1.3	0.0	1.0	2.0	0.0	13.3	0.1	0.0	0.2	2.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	2.1	0.0	0.8	0.9	0.0	2.7	2.1	0.0	0.5	6.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.2	26.5	0.0	28.2	29.2	0.0	40.3	7.4	0.0	12.7	19.3	0.0
LnGrp LOS	C	C	A	C	C	A	D	A	A	B	B	A
Approach Vol, veh/h		355			169			880			1153	
Approach Delay, s/veh		26.1			28.5			12.9			19.0	
Approach LOS		C			C			B			B	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		39.7		13.0	11.0	28.6		9.2				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		40.5		18.0	8.2	27.8		18.0				
Max Q Clear Time (g_c+I1), s		8.9		7.0	7.1	19.1		3.9				
Green Ext Time (p_c), s		5.8		1.5	0.0	5.1		0.5				

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	38	239	0	89	37	0	125	614	0	43	987	0
Future Volume (veh/h)	38	239	0	89	37	0	125	614	0	43	987	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	52	303	0	109	60	0	149	731	0	56	1097	0
Peak Hour Factor	0.73	0.79	0.85	0.82	0.62	0.44	0.84	0.84	0.81	0.77	0.90	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	3	3
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	244	487	0	272	143	0	188	2020	0	397	1374	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.14	0.14	0.00	0.08	0.08	0.00	0.11	0.57	0.00	0.39	0.39	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	24.2	26.5	0.0	28.2	29.2	0.0	40.3	7.4	0.0	12.7	19.3	0.0
Ln Grp LOS	C	C	A	C	C	A	D	A	A	B	B	A
Approach Vol, veh/h		355			169			880			1153	
Approach Delay, s/veh		26.1			28.5			12.9			19.0	
Approach LOS		C			C			B			B	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8	4	5	6		
Case No		4.0	10.0	10.0	2.0	6.3		
Phs Duration (G+Y+Rc), s		39.7	9.2	13.0	11.0	28.6		
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		
Max Green (Gmax), s		40.5	18.0	18.0	8.2	27.8		
Max Allow Headway (MAH), s		5.2	4.3	5.0	3.8	5.3		
Max Q Clear (g_c+I1), s		8.9	3.9	7.0	7.1	19.1		
Green Ext Time (g_e), s		5.8	0.5	1.5	0.0	5.1		
Prob of Phs Call (p_c)		1.00	0.95	1.00	0.92	1.00		
Prob of Max Out (p_x)		0.01	0.00	0.10	1.00	0.73		

Left-Turn Movement Data								
Assigned Mvmt			3	7	5	1		
Mvmt Sat Flow, veh/h			3563	1781	1781	719		

Through Movement Data								
Assigned Mvmt		2	8	4		6		
Mvmt Sat Flow, veh/h		3647	1870	3647		3618		

Right-Turn Movement Data								
Assigned Mvmt		12	18	14		16		
Mvmt Sat Flow, veh/h		0	0	0		0		

Left Lane Group Data								
Assigned Mvmt	0	0	3	7	5	1	0	0
Lane Assignment			L	L	L (Prot)	L		

Lanes in Grp	0	0	2	1	1	1	0	0
Grp Vol (v), veh/h	0	0	109	52	149	56	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	1781	1781	719	0	0
Q Serve Time (g_s), s	0.0	0.0	1.8	1.6	5.1	3.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	1.8	1.6	5.1	3.2	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	719	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	24.1	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	24.1	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	3.2	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	272	244	188	397	0	0
V/C Ratio (X)	0.00	0.00	0.40	0.21	0.79	0.14	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1036	518	236	440	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	27.2	23.7	27.0	12.5	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.0	0.4	13.3	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	28.2	24.2	40.3	12.7	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.7	0.6	2.0	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.7	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.8	0.7	2.7	0.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.02	0.09	0.35	0.05	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T	T		T		
Lanes in Grp	0	2	1	2	0	2	0	0
Grp Vol (v), veh/h	0	731	60	303	0	1097	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1870	1777	0	1763	0	0
Q Serve Time (g_s), s	0.0	6.9	1.9	5.0	0.0	17.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	6.9	1.9	5.0	0.0	17.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	2020	143	487	0	1374	0	0
V/C Ratio (X)	0.00	0.36	0.42	0.62	0.00	0.80	0.00	0.00
Avail Cap (c_a), veh/h	0	2326	544	1034	0	1584	0	0
Upstream Filter (I)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.3	27.3	25.2	0.0	16.7	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	2.0	1.3	0.0	2.6	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.4	29.2	26.5	0.0	19.3	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.1	0.8	2.0	0.0	6.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.1	0.0	0.5	0.0	0.0

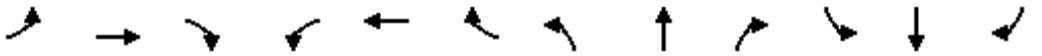
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.1	0.9	2.1	0.0	6.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.04	0.02	0.03	0.00	0.09	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	18.5
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	353	637	52	4	80	113	11	8	2	3	3	15
Future Volume (vph)	353	637	52	4	80	113	11	8	2	3	3	15
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		130
Storage Lanes	0		0	0		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.991				0.850		0.989				0.850
Flt Protected		0.983			0.997			0.976			0.971	
Satd. Flow (prot)	0	3448	0	0	3529	1583	0	1798	0	0	1809	1583
Flt Permitted		0.983			0.997			0.976			0.971	
Satd. Flow (perm)	0	3448	0	0	3529	1583	0	1798	0	0	1809	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1203			1331			1275			1294	
Travel Time (s)		27.3			30.3			29.0			29.4	
Confl. Bikes (#/hr)			2			1			1			1
Peak Hour Factor	0.81	0.84	0.72	0.50	0.71	0.50	0.46	0.40	0.50	0.25	0.38	0.63
Adj. Flow (vph)	436	758	72	8	113	226	24	20	4	12	8	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1266	0	0	121	226	0	48	0	0	20	24
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 49.9%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	32.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	353	637	52	4	80	113	11	8	2	3	3	15
Future Vol, veh/h	353	637	52	4	80	113	11	8	2	3	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	84	72	50	71	50	46	40	50	25	38	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	436	758	72	8	113	226	24	20	4	12	8	24

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	339	0	0	830	0	0	1743	2021	415	1390	1831	57
Stage 1	-	-	-	-	-	-	1666	1666	-	129	129	-
Stage 2	-	-	-	-	-	-	77	355	-	1261	1702	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1217	-	-	798	-	-	55	57	586	102	76	997
Stage 1	-	-	-	-	-	-	100	152	-	861	788	-
Stage 2	-	-	-	-	-	-	923	628	-	180	146	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1217	-	-	798	-	-	~ 19	~ 18	586	-	24	997
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 19	~ 18	-	-	24	-
Stage 1	-	-	-	-	-	-	33	49	-	280	778	-
Stage 2	-	-	-	-	-	-	880	620	-	34	47	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.2	0.3	$ 1040	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	20	1217	-	-	798	-	-	-	997
HCM Lane V/C Ratio	2.396	0.358	-	-	0.01	-	-	-	0.024
HCM Control Delay (s)	$ 1040	9.6	1.5	-	9.6	0.1	-	-	8.7
HCM Lane LOS	F	A	A	-	A	A	-	-	A
HCM 95th %tile Q(veh)	6.3	1.6	-	-	0	-	-	-	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	0	642	11	1	1030
Future Volume (vph)	1	0	642	11	1	1030
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	0	
Storage Lanes	1	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt				0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	0	3505	1568	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	0	3505	1568	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	435		1899			1323
Travel Time (s)	9.9		43.2			30.1
Peak Hour Factor	0.25	0.92	0.82	0.55	0.25	0.89
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	4	0	783	20	4	1157
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	783	20	4	1157
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 38.5%		ICU Level of Service A	
Analysis Period (min) 15			

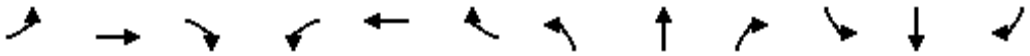
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	0	642	11	1	1030
Future Vol, veh/h	1	0	642	11	1	1030
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	200	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	92	82	55	25	89
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	4	0	783	20	4	1157

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1370	392	0	0	803	0
Stage 1	783	-	-	-	-	-
Stage 2	587	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	137	607	-	-	817	-
Stage 1	411	-	-	-	-	-
Stage 2	519	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	136	607	-	-	817	-
Mov Cap-2 Maneuver	136	-	-	-	-	-
Stage 1	411	-	-	-	-	-
Stage 2	516	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	32.3	0	0
HCM LOS	D		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	136	817	-
HCM Lane V/C Ratio	-	-	0.029	0.005	-
HCM Control Delay (s)	-	-	32.3	9.4	-
HCM Lane LOS	-	-	D	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	14	11	0	0	17	48	67	288	15	15	18	1
Future Volume (vph)	14	11	0	0	17	48	67	288	15	15	18	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.902			0.995			0.990	
Flt Protected		0.982						0.991			0.979	
Satd. Flow (prot)	0	1829	0	0	1680	0	0	1837	0	0	1805	0
Flt Permitted		0.982						0.991			0.979	
Satd. Flow (perm)	0	1829	0	0	1680	0	0	1837	0	0	1805	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		641			842			527			458	
Travel Time (s)		14.6			19.1			12.0			10.4	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.88	0.39	0.92	0.92	0.71	0.75	0.62	0.58	0.63	0.63	0.64	0.25
Adj. Flow (vph)	16	28	0	0	24	64	108	497	24	24	28	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	44	0	0	88	0	0	629	0	0	56	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 35.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.1

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	14	11	0	0	17	48	67	288	15	15	18	1
Future Vol, veh/h	14	11	0	0	17	48	67	288	15	15	18	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	39	92	92	71	75	62	58	63	63	64	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	28	0	0	24	64	108	497	24	24	28	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	847	816	30	818	806	510	32	0	0	522	0	0
Stage 1	78	78	-	726	726	-	-	-	-	-	-	-
Stage 2	769	738	-	92	80	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	282	311	1044	295	316	563	1580	-	-	1044	-	-
Stage 1	931	830	-	416	430	-	-	-	-	-	-	-
Stage 2	394	424	-	915	828	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	213	274	1044	248	278	562	1580	-	-	1043	-	-
Mov Cap-2 Maneuver	213	274	-	248	278	-	-	-	-	-	-	-
Stage 1	841	811	-	375	388	-	-	-	-	-	-	-
Stage 2	296	382	-	863	809	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	22.6	15.2	1.3	3.6
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1580	-	-	248	440	1043	-	-
HCM Lane V/C Ratio	0.068	-	-	0.178	0.2	0.023	-	-
HCM Control Delay (s)	7.4	0	-	22.6	15.2	8.5	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.6	0.7	0.1	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	388	155	9	199	96	10
Future Volume (vph)	388	155	9	199	96	10
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	85		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt		0.850			0.982	
Flt Protected			0.950		0.958	
Satd. Flow (prot)	1863	1583	1770	3539	1752	0
Flt Permitted			0.950		0.958	
Satd. Flow (perm)	1863	1583	1770	3539	1752	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	1207			212	795	
Travel Time (s)	27.4			4.8	18.1	
Peak Hour Factor	0.92	0.92	0.45	0.72	0.73	0.50
Adj. Flow (vph)	422	168	20	276	132	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	422	168	20	276	152	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.8

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	388	155	9	199	96	10
Future Vol, veh/h	388	155	9	199	96	10
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	85	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	45	72	73	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	422	168	20	276	132	20

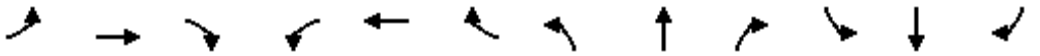
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	422	0	600	422
Stage 1	-	-	-	-	422	-
Stage 2	-	-	-	-	178	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	0	1135	-	448	631
Stage 1	-	0	-	-	661	-
Stage 2	-	0	-	-	835	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1135	-	440	631
Mov Cap-2 Maneuver	-	-	-	-	440	-
Stage 1	-	-	-	-	661	-
Stage 2	-	-	-	-	820	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	15.1
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	507	-	1135	-
HCM Lane V/C Ratio	0.299	-	0.018	-
HCM Control Delay (s)	15.1	-	8.2	-
HCM Lane LOS	C	-	A	-
HCM 95th %tile Q(veh)	1.2	-	0.1	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	65	167	50	0	139	27
Future Volume (vph)	65	167	50	0	139	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1568	1863	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	1568	1863	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	1094		1551			1097
Travel Time (s)	24.9		35.3			24.9
Peak Hour Factor	0.77	0.72	0.54	0.79	0.77	0.61
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	84	232	93	0	181	44
Shared Lane Traffic (%)						
Lane Group Flow (vph)	84	232	93	0	181	44
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 24.6%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	371	669	55	4	84	119	12	8	2	3	3	16
Future Volume (vph)	371	669	55	4	84	119	12	8	2	3	3	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		130
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.991			0.902			0.989				0.850
Flt Protected		0.983			0.999			0.975			0.971	
Satd. Flow (prot)	0	3448	0	0	3189	0	0	1796	0	0	1809	1583
Flt Permitted		0.983			0.999			0.975			0.971	
Satd. Flow (perm)	0	3448	0	0	3189	0	0	1796	0	0	1809	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1203			1331			1275			1294	
Travel Time (s)		27.3			30.3			29.0			29.4	
Confl. Bikes (#/hr)			2			1			1			1
Peak Hour Factor	0.81	0.84	0.72	0.50	0.71	0.50	0.46	0.40	0.50	0.25	0.38	0.63
Adj. Flow (vph)	458	796	76	8	118	238	26	20	4	12	8	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1330	0	0	364	0	0	50	0	0	20	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization 55.2%		ICU Level of Service B	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	2	2	2	2
Adj Approach Flow, veh/h	1330	364	50	45
Demand Flow Rate, veh/h	1357	371	51	46
Vehicles Circulating, veh/h	28	514	1291	155
Vehicles Exiting, veh/h	147	828	94	730
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	7.9	6.5	9.3	3.2
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left	Bypass
Designated Moves	LT	TR	LT	TR	LTR	LT	R
Assumed Moves	LT	TR	LT	R	LTR	LT	R
RT Channelized							Yield
Lane Util	0.470	0.530	0.345	0.655	1.000	1.000	
Follow-Up Headway, s	2.667	2.535	2.667	2.535	2.535	2.535	
Critical Headway, s	4.645	4.328	4.645	4.328	4.328	4.328	25
Entry Flow, veh/h	638	719	128	243	51	20	1188
Cap Entry Lane, veh/h	1316	1387	841	917	474	1245	0.980
Entry HV Adj Factor	0.980	0.980	0.982	0.979	0.973	0.992	25
Flow Entry, veh/h	625	705	126	238	50	20	1164
Cap Entry, veh/h	1289	1360	826	899	461	1235	0.021
V/C Ratio	0.485	0.518	0.152	0.265	0.108	0.016	3.3
Control Delay, s/veh	7.8	8.1	5.9	6.8	9.3	3.0	A
LOS	A	A	A	A	A	A	0
95th %tile Queue, veh	3	3	1	1	0	0	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	68	175	53	0	146	28
Future Volume (vph)	68	175	53	0	146	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1568	1863	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	1568	1863	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	547		1551			1097
Travel Time (s)	12.4		35.3			24.9
Peak Hour Factor	0.77	0.72	0.54	0.79	0.77	0.61
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	88	243	98	0	190	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	243	98	0	190	46
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	10.1
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	175	53	0	146	28
Future Vol, veh/h	68	175	53	0	146	28
Peak Hour Factor	0.77	0.72	0.54	0.79	0.77	0.61
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	88	243	98	0	190	46
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.8	9.5	10.9
HCM LOS	A	A	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	68	175	146	28
LT Vol	0	68	0	146	0
Through Vol	53	0	0	0	28
RT Vol	0	0	175	0	0
Lane Flow Rate	98	88	243	190	46
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.149	0.146	0.322	0.314	0.069
Departure Headway (Hd)	5.456	5.971	4.764	5.953	5.449
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	653	599	751	601	653
Service Time	3.531	3.723	2.515	3.722	3.218
HCM Lane V/C Ratio	0.15	0.147	0.324	0.316	0.07
HCM Control Delay	9.5	9.7	9.8	11.5	8.6
HCM Lane LOS	A	A	A	B	A
HCM 95th-tile Q	0.5	0.5	1.4	1.3	0.2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	68	175	53	258	146	28
Future Volume (vph)	68	175	53	258	146	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1568	1863	1583	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	1568	1863	1583	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	547		1551			1097
Travel Time (s)	12.4		35.3			24.9
Peak Hour Factor	0.77	0.72	0.54	0.79	0.77	0.61
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	88	243	98	327	190	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	243	98	327	190	46
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

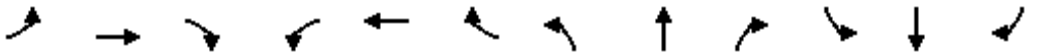
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 30.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	68	175	53	258	146	28
Future Vol, veh/h	68	175	53	258	146	28
Peak Hour Factor	0.77	0.72	0.54	0.79	0.77	0.61
Heavy Vehicles, %	3	3	2	2	2	2
Mvmt Flow	88	243	98	327	190	46
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	11.4	11.7	12
HCM LOS	B	B	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	53	258	68	175	146	28
LT Vol	0	0	68	0	146	0
Through Vol	53	0	0	0	0	28
RT Vol	0	258	0	175	0	0
Lane Flow Rate	98	327	88	243	190	46
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.16	0.467	0.166	0.374	0.344	0.077
Departure Headway (Hd)	5.855	5.145	6.756	5.544	6.53	6.023
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	613	702	532	649	552	595
Service Time	3.584	2.874	4.491	3.279	4.264	3.757
HCM Lane V/C Ratio	0.16	0.466	0.165	0.374	0.344	0.077
HCM Control Delay	9.7	12.3	10.8	11.6	12.7	9.3
HCM Lane LOS	A	B	B	B	B	A
HCM 95th-tile Q	0.6	2.5	0.6	1.7	1.5	0.2

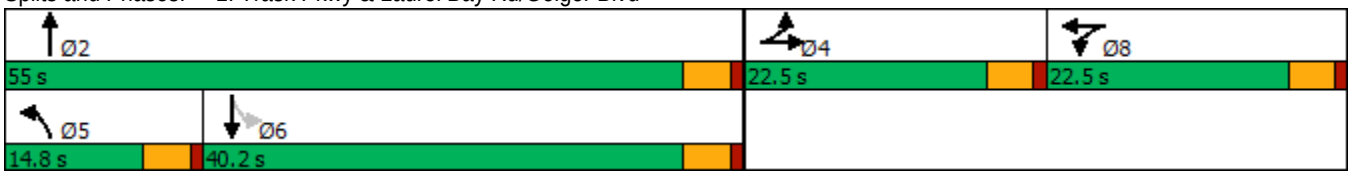


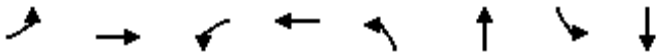
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	251	0	93	39	0	145	712	0	45	1145	0
Future Volume (vph)	44	251	0	93	39	0	145	712	0	45	1145	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	850		0	200		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Frt												
Flt Protected	0.950			0.950	0.977		0.950			0.950		
Satd. Flow (prot)	1770	3539	0	1610	3312	0	1770	3539	0	1752	3505	0
Flt Permitted	0.950			0.950	0.977		0.950			0.333		
Satd. Flow (perm)	1770	3539	0	1610	3312	0	1770	3539	0	614	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1946			1143			1311			1899	
Travel Time (s)		44.2			26.0			29.8			43.2	
Peak Hour Factor	0.73	0.79	0.85	0.82	0.62	0.44	0.84	0.84	0.81	0.77	0.90	0.74
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	60	318	0	113	63	0	173	848	0	58	1272	0
Shared Lane Traffic (%)				49%								
Lane Group Flow (vph)	60	318	0	58	118	0	173	848	0	58	1272	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	
Turn Type	Split	NA		Split	NA		Prot	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2			6	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Permitted Phases										6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		14.8	55.0		40.2	40.2	
Total Split (%)	22.5%	22.5%		22.5%	22.5%		14.8%	55.0%		40.2%	40.2%	
Maximum Green (s)	18.0	18.0		18.0	18.0		10.3	50.5		35.7	35.7	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	None		None	None	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	13.1	13.1		8.7	8.7		10.3	50.7		35.8	35.8	
Actuated g/C Ratio	0.15	0.15		0.10	0.10		0.12	0.59		0.42	0.42	
v/c Ratio	0.22	0.59		0.36	0.35		0.82	0.41		0.23	0.87	
Control Delay	34.3	38.9		43.1	39.5		68.3	11.0		21.1	32.2	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	34.3	38.9		43.1	39.5		68.3	11.0		21.1	32.2	
LOS	C	D		D	D		E	B		C	C	
Approach Delay		38.2			40.7			20.7			31.7	
Approach LOS		D			D			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 100			
Actuated Cycle Length: 86.1			
Natural Cycle: 100			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.87			
Intersection Signal Delay: 29.2		Intersection LOS: C	
Intersection Capacity Utilization 65.8%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Trask Pkwy & Laurel Bay Rd/Geiger Blvd

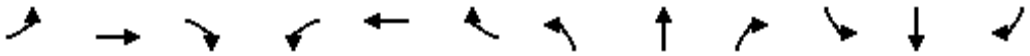




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	60	318	58	118	173	848	58	1272
v/c Ratio	0.22	0.59	0.36	0.35	0.82	0.41	0.23	0.87
Control Delay	34.3	38.9	43.1	39.5	68.3	11.0	21.1	32.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.3	38.9	43.1	39.5	68.3	11.0	21.1	32.2
Queue Length 50th (ft)	29	84	32	32	92	117	19	318
Queue Length 95th (ft)	52	113	69	42	#202	181	46	#532
Internal Link Dist (ft)		1866		1063		1231		1819
Turn Bay Length (ft)	180		850		200		250	
Base Capacity (vph)	371	742	337	695	212	2083	255	1458
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.16	0.43	0.17	0.17	0.82	0.41	0.23	0.87

Intersection Summary

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



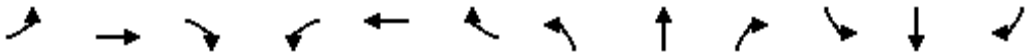
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	251	0	93	39	0	145	712	0	45	1145	0
Future Volume (veh/h)	44	251	0	93	39	0	145	712	0	45	1145	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	60	318	0	113	63	0	173	848	0	58	1272	0
Peak Hour Factor	0.73	0.79	0.85	0.82	0.62	0.44	0.84	0.84	0.81	0.77	0.90	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	3	3
Cap, veh/h	237	473	0	236	124	0	212	2190	0	379	1535	0
Arrive On Green	0.13	0.13	0.00	0.07	0.07	0.00	0.12	0.62	0.00	0.44	0.44	0.00
Sat Flow, veh/h	1781	3647	0	3563	1870	0	1781	3647	0	645	3618	0
Grp Volume(v), veh/h	60	318	0	113	63	0	173	848	0	58	1272	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	0	1781	1777	0	645	1763	0
Q Serve(g_s), s	2.2	6.2	0.0	2.2	2.4	0.0	6.9	8.8	0.0	4.1	23.3	0.0
Cycle Q Clear(g_c), s	2.2	6.2	0.0	2.2	2.4	0.0	6.9	8.8	0.0	4.1	23.3	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	237	473	0	236	124	0	212	2190	0	379	1535	0
V/C Ratio(X)	0.25	0.67	0.00	0.48	0.51	0.00	0.81	0.39	0.00	0.15	0.83	0.00
Avail Cap(c_a), veh/h	438	873	0	876	460	0	251	2450	0	413	1719	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	28.5	30.2	0.0	33.0	33.0	0.0	31.5	7.1	0.0	12.8	18.3	0.0
Incr Delay (d2), s/veh	0.6	1.7	0.0	1.5	3.2	0.0	16.1	0.1	0.0	0.2	3.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.0	2.7	0.0	1.0	1.2	0.0	3.8	2.8	0.0	0.6	9.2	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	29.0	31.9	0.0	34.5	36.2	0.0	47.5	7.2	0.0	13.0	21.5	0.0
LnGrp LOS	C	C	A	C	D	A	D	A	A	B	C	A
Approach Vol, veh/h		378			176			1021			1330	
Approach Delay, s/veh		31.4			35.1			14.0			21.1	
Approach LOS		C			D			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		49.6		14.3	13.2	36.4		9.4				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		50.5		18.0	10.3	35.7		18.0				
Max Q Clear Time (g_c+I1), s		10.8		8.2	8.9	25.3		4.4				
Green Ext Time (p_c), s		7.2		1.5	0.1	6.6		0.5				

Intersection Summary		
HCM 6th Ctrl Delay		20.8
HCM 6th LOS		C

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	44	251	0	93	39	0	145	712	0	45	1145	0
Future Volume (veh/h)	44	251	0	93	39	0	145	712	0	45	1145	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	60	318	0	113	63	0	173	848	0	58	1272	0
Peak Hour Factor	0.73	0.79	0.85	0.82	0.62	0.44	0.84	0.84	0.81	0.77	0.90	0.74
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	3	3
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	237	473	0	236	124	0	212	2190	0	379	1535	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.13	0.13	0.00	0.07	0.07	0.00	0.12	0.62	0.00	0.44	0.44	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	29.0	31.9	0.0	34.5	36.2	0.0	47.5	7.2	0.0	13.0	21.5	0.0
Ln Grp LOS	C	C	A	C	D	A	D	A	A	B	C	A
Approach Vol, veh/h		378			176			1021			1330	
Approach Delay, s/veh		31.4			35.1			14.0			21.1	
Approach LOS		C			D			B			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8	4	5	6		
Case No		4.0	10.0	10.0	2.0	6.3		
Phs Duration (G+Y+Rc), s		49.6	9.4	14.3	13.2	36.4		
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		
Max Green (Gmax), s		50.5	18.0	18.0	10.3	35.7		
Max Allow Headway (MAH), s		5.2	4.3	5.0	3.8	5.3		
Max Q Clear (g_c+I1), s		10.8	4.4	8.2	8.9	25.3		
Green Ext Time (g_e), s		7.2	0.5	1.5	0.1	6.6		
Prob of Phs Call (p_c)		1.00	0.97	1.00	0.97	1.00		
Prob of Max Out (p_x)		0.01	0.00	0.17	1.00	0.71		

Left-Turn Movement Data								
Assigned Mvmt			3	7	5	1		
Mvmt Sat Flow, veh/h			3563	1781	1781	645		

Through Movement Data								
Assigned Mvmt		2	8	4		6		
Mvmt Sat Flow, veh/h		3647	1870	3647		3618		

Right-Turn Movement Data								
Assigned Mvmt		12	18	14		16		
Mvmt Sat Flow, veh/h		0	0	0		0		

Left Lane Group Data								
Assigned Mvmt	0	0	3	7	5	1	0	0
Lane Assignment			L	L	L (Prot)	L		

Lanes in Grp	0	0	2	1	1	1	0	0
Grp Vol (v), veh/h	0	0	113	60	173	58	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	1781	1781	645	0	0
Q Serve Time (g_s), s	0.0	0.0	2.2	2.2	6.9	4.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	2.2	2.2	6.9	4.1	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	645	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	31.9	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	31.9	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	4.1	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	236	237	212	379	0	0
V/C Ratio (X)	0.00	0.00	0.48	0.25	0.81	0.15	0.00	0.00
Avail Cap (c_a), veh/h	0	0	876	438	251	413	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	33.0	28.5	31.5	12.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	1.5	0.6	16.1	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	34.5	29.0	47.5	13.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.9	0.9	2.9	0.5	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.9	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	1.0	1.0	3.8	0.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.03	0.13	0.49	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T	T		T		
Lanes in Grp	0	2	1	2	0	2	0	0
Grp Vol (v), veh/h	0	848	63	318	0	1272	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1870	1777	0	1763	0	0
Q Serve Time (g_s), s	0.0	8.8	2.4	6.2	0.0	23.3	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.8	2.4	6.2	0.0	23.3	0.0	0.0
Lane Grp Cap (c), veh/h	0	2190	124	473	0	1535	0	0
V/C Ratio (X)	0.00	0.39	0.51	0.67	0.00	0.83	0.00	0.00
Avail Cap (c_a), veh/h	0	2450	460	873	0	1719	0	0
Upstream Filter (I)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	7.1	33.0	30.2	0.0	18.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.1	3.2	1.7	0.0	3.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	7.2	36.2	31.9	0.0	21.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.7	1.0	2.6	0.0	8.6	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.1	0.0	0.7	0.0	0.0

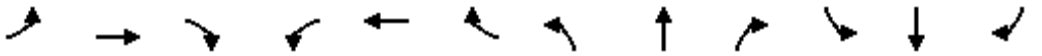
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.8	1.2	2.7	0.0	9.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.03	0.04	0.00	0.13	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	20.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	371	669	55	4	84	119	12	8	2	3	3	16
Future Volume (vph)	371	669	55	4	84	119	12	8	2	3	3	16
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		130
Storage Lanes	0		0	0		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.991				0.850		0.989				0.850
Flt Protected		0.983			0.997			0.975			0.971	
Satd. Flow (prot)	0	3448	0	0	3529	1583	0	1796	0	0	1809	1583
Flt Permitted		0.983			0.997			0.975			0.971	
Satd. Flow (perm)	0	3448	0	0	3529	1583	0	1796	0	0	1809	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1203			1331			1275			1294	
Travel Time (s)		27.3			30.3			29.0			29.4	
Confl. Bikes (#/hr)			2			1			1			1
Peak Hour Factor	0.81	0.84	0.72	0.50	0.71	0.50	0.46	0.40	0.50	0.25	0.38	0.63
Adj. Flow (vph)	458	796	76	8	118	238	26	20	4	12	8	25
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	1330	0	0	126	238	0	50	0	0	20	25
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	55.6

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	371	669	55	4	84	119	12	8	2	3	3	16
Future Vol, veh/h	371	669	55	4	84	119	12	8	2	3	3	16
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	81	84	72	50	71	50	46	40	50	25	38	63
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	458	796	76	8	118	238	26	20	4	12	8	25

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	356	0	0	872	0	0	1829	2122	436	1458	1922	59
Stage 1	-	-	-	-	-	-	1750	1750	-	134	134	-
Stage 2	-	-	-	-	-	-	79	372	-	1324	1788	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1199	-	-	769	-	-	48	50	568	91	66	994
Stage 1	-	-	-	-	-	-	89	138	-	855	785	-
Stage 2	-	-	-	-	-	-	921	617	-	165	132	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1199	-	-	769	-	-	~ 12	~ 12	568	-	16	994
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 12	~ 12	-	-	16	-
Stage 1	-	-	-	-	-	-	~ 22	34	-	210	775	-
Stage 2	-	-	-	-	-	-	877	609	-	17	32	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4.4	0.2	$ 1868.3	
HCM LOS			F	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	13	1199	-	-	769	-	-	-	994
HCM Lane V/C Ratio	3.853	0.382	-	-	0.01	-	-	-	0.026
HCM Control Delay (s)	$ 1868.3	9.8	1.7	-	9.7	0.1	-	-	8.7
HCM Lane LOS	F	A	A	-	A	A	-	-	A
HCM 95th %tile Q(veh)	7.2	1.8	-	-	0	-	-	-	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	1	0	745	12	1	1195
Future Volume (vph)	1	0	745	12	1	1195
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	0	
Storage Lanes	1	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt				0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	0	3505	1568	1770	3539
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	0	3505	1568	1770	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	435		1899			1323
Travel Time (s)	9.9		43.2			30.1
Peak Hour Factor	0.25	0.92	0.82	0.55	0.25	0.89
Heavy Vehicles (%)	2%	2%	3%	3%	2%	2%
Adj. Flow (vph)	4	0	909	22	4	1343
Shared Lane Traffic (%)						
Lane Group Flow (vph)	4	0	909	22	4	1343
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 43.0%		ICU Level of Service A	
Analysis Period (min) 15			

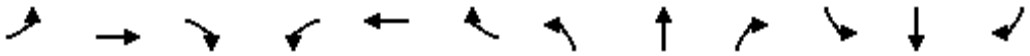
Intersection	
Int Delay, s/veh	0.1

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	1	0	745	12	1	1195
Future Vol, veh/h	1	0	745	12	1	1195
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	200	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	25	92	82	55	25	89
Heavy Vehicles, %	2	2	3	3	2	2
Mvmt Flow	4	0	909	22	4	1343

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1589	455	0	0	931	0
Stage 1	909	-	-	-	-	-
Stage 2	680	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	98	552	-	-	731	-
Stage 1	353	-	-	-	-	-
Stage 2	465	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	98	552	-	-	731	-
Mov Cap-2 Maneuver	98	-	-	-	-	-
Stage 1	353	-	-	-	-	-
Stage 2	463	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	43.3	0	0
HCM LOS	E		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	98	731	-
HCM Lane V/C Ratio	-	-	0.041	0.005	-
HCM Control Delay (s)	-	-	43.3	10	-
HCM Lane LOS	-	-	E	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	15	12	0	0	18	50	70	302	16	16	19	1
Future Volume (vph)	15	12	0	0	18	50	70	302	16	16	19	1
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt					0.902			0.995			0.991	
Flt Protected		0.983						0.991			0.979	
Satd. Flow (prot)	0	1831	0	0	1680	0	0	1837	0	0	1807	0
Flt Permitted		0.983						0.991			0.979	
Satd. Flow (perm)	0	1831	0	0	1680	0	0	1837	0	0	1807	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		641			842			527			458	
Travel Time (s)		14.6			19.1			12.0			10.4	
Confl. Peds. (#/hr)									1	1		
Confl. Bikes (#/hr)			1			1						
Peak Hour Factor	0.88	0.39	0.92	0.92	0.71	0.75	0.62	0.58	0.63	0.63	0.64	0.25
Adj. Flow (vph)	17	31	0	0	25	67	113	521	25	25	30	4
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	0	0	92	0	0	659	0	0	59	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 36.7%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	15	12	0	0	18	50	70	302	16	16	19	1
Future Vol, veh/h	15	12	0	0	18	50	70	302	16	16	19	1
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	1	1	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	88	39	92	92	71	75	62	58	63	63	64	25
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	17	31	0	0	25	67	113	521	25	25	30	4

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	888	855	32	859	845	535	34	0	0	547	0	0
Stage 1	82	82	-	761	761	-	-	-	-	-	-	-
Stage 2	806	773	-	98	84	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	264	296	1042	277	300	545	1578	-	-	1022	-	-
Stage 1	926	827	-	398	414	-	-	-	-	-	-	-
Stage 2	376	409	-	908	825	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	194	259	1042	228	262	544	1578	-	-	1021	-	-
Mov Cap-2 Maneuver	194	259	-	228	262	-	-	-	-	-	-	-
Stage 1	831	806	-	357	371	-	-	-	-	-	-	-
Stage 2	276	366	-	852	804	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	24.6	16	1.3	3.7
HCM LOS	C	C		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1578	-	-	231	420	1021	-	-
HCM Lane V/C Ratio	0.072	-	-	0.207	0.219	0.025	-	-
HCM Control Delay (s)	7.5	0	-	24.6	16	8.6	0	-
HCM Lane LOS	A	A	-	C	C	A	A	-
HCM 95th %tile Q(veh)	0.2	-	-	0.8	0.8	0.1	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	407	163	10	209	101	12
Future Volume (vph)	407	163	10	209	101	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	85		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt		0.850			0.980	
Flt Protected			0.950		0.959	
Satd. Flow (prot)	1863	1583	1770	3539	1751	0
Flt Permitted			0.950		0.959	
Satd. Flow (perm)	1863	1583	1770	3539	1751	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	1207			212	795	
Travel Time (s)	27.4			4.8	18.1	
Peak Hour Factor	0.92	0.92	0.45	0.72	0.73	0.50
Adj. Flow (vph)	442	177	22	290	138	24
Shared Lane Traffic (%)						
Lane Group Flow (vph)	442	177	22	290	162	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 34.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	407	163	10	209	101	12
Future Vol, veh/h	407	163	10	209	101	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	85	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	45	72	73	50
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	442	177	22	290	138	24

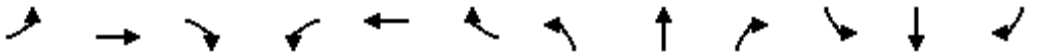
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	442	0	631	442
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	189	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	0	1116	-	429	615
Stage 1	-	0	-	-	647	-
Stage 2	-	0	-	-	825	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1116	-	420	615
Mov Cap-2 Maneuver	-	-	-	-	420	-
Stage 1	-	-	-	-	647	-
Stage 2	-	-	-	-	809	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.6	15.8
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	493	-	1116	-
HCM Lane V/C Ratio	0.329	-	0.02	-
HCM Control Delay (s)	15.8	-	8.3	-
HCM Lane LOS	C	-	A	-
HCM 95th %tile Q(veh)	1.4	-	0.1	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	68	175	53	0	146	28
Future Volume (vph)	68	175	53	0	146	28
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1752	1568	1863	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1752	1568	1863	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	1094		1551			1097
Travel Time (s)	24.9		35.3			24.9
Peak Hour Factor	0.77	0.72	0.54	0.79	0.77	0.61
Heavy Vehicles (%)	3%	3%	2%	2%	2%	2%
Adj. Flow (vph)	88	243	98	0	190	46
Shared Lane Traffic (%)						
Lane Group Flow (vph)	88	243	98	0	190	46
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.2%		ICU Level of Service A	
Analysis Period (min) 15			

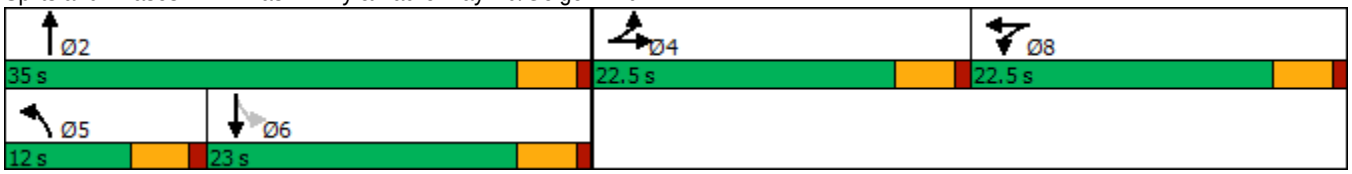


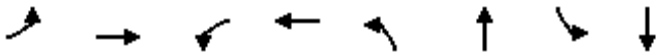
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	32	112	0	208	69	0	121	697	0	8	641	0
Future Volume (vph)	32	112	0	208	69	0	121	697	0	8	641	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	850		0	200		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.98											
Frt												
Flt Protected	0.950			0.950	0.971		0.950			0.950		
Satd. Flow (prot)	1770	3539	0	1610	3292	0	1770	3539	0	1752	3505	0
Flt Permitted	0.950			0.950	0.971		0.950			0.364		
Satd. Flow (perm)	1733	3539	0	1610	3292	0	1770	3539	0	671	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1946			1143			1311			1899	
Travel Time (s)		44.2			26.0			29.8			43.2	
Confl. Peds. (#/hr)	23					23						
Peak Hour Factor	0.80	0.51	0.85	0.60	0.58	0.81	0.86	0.92	0.88	0.40	0.94	0.85
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	40	220	0	347	119	0	141	758	0	20	682	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	40	220	0	173	293	0	141	758	0	20	682	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA		Split	NA		Prot	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2			6	
Permitted Phases										6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		12.0	35.0		23.0	23.0	
Total Split (%)	28.1%	28.1%		28.1%	28.1%		15.0%	43.8%		28.8%	28.8%	
Maximum Green (s)	18.0	18.0		18.0	18.0		7.5	30.5		18.5	18.5	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	9.4	9.4		12.5	12.5		7.6	29.2		17.0	17.0	
Actuated g/C Ratio	0.15	0.15		0.19	0.19		0.12	0.45		0.26	0.26	
v/c Ratio	0.16	0.43		0.56	0.46		0.68	0.48		0.11	0.74	
Control Delay	27.4	29.0		31.7	26.0		49.4	14.6		22.4	28.8	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.4	29.0		31.7	26.0		49.4	14.6		22.4	28.8	
LOS	C	C		C	C		D	B		C	C	
Approach Delay		28.8			28.1			20.0			28.6	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 64.8			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.74			
Intersection Signal Delay: 25.2		Intersection LOS: C	
Intersection Capacity Utilization 49.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Trask Pkwy & Laurel Bay Rd/Geiger Blvd

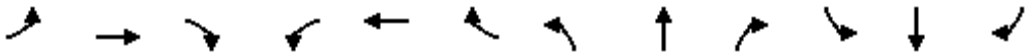




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	40	220	173	293	141	758	20	682
v/c Ratio	0.16	0.43	0.56	0.46	0.68	0.48	0.11	0.74
Control Delay	27.4	29.0	31.7	26.0	49.4	14.6	22.4	28.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.4	29.0	31.7	26.0	49.4	14.6	22.4	28.8
Queue Length 50th (ft)	14	43	70	58	56	102	6	127
Queue Length 95th (ft)	37	43	84	59	#146	184	10	#220
Internal Link Dist (ft)		1866		1063		1231		1819
Turn Bay Length (ft)	180		850		200		250	
Base Capacity (vph)	499	998	453	928	208	1691	194	1015
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.08	0.22	0.38	0.32	0.68	0.45	0.10	0.67

Intersection Summary

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



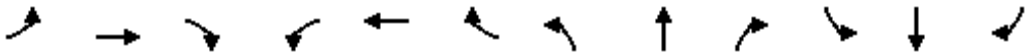
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	112	0	208	69	0	121	697	0	8	641	0
Future Volume (veh/h)	32	112	0	208	69	0	121	697	0	8	641	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	40	220	0	347	119	0	141	758	0	20	682	0
Peak Hour Factor	0.80	0.51	0.85	0.60	0.58	0.81	0.86	0.92	0.88	0.40	0.94	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	3	3
Cap, veh/h	258	515	0	635	334	0	180	1557	0	308	909	0
Arrive On Green	0.14	0.14	0.00	0.18	0.18	0.00	0.10	0.44	0.00	0.26	0.26	0.00
Sat Flow, veh/h	1781	3647	0	3563	1870	0	1781	3647	0	701	3618	0
Grp Volume(v), veh/h	40	220	0	347	119	0	141	758	0	20	682	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	0	1781	1777	0	701	1763	0
Q Serve(g_s), s	1.1	3.2	0.0	5.0	3.2	0.0	4.4	8.6	0.0	1.2	10.1	0.0
Cycle Q Clear(g_c), s	1.1	3.2	0.0	5.0	3.2	0.0	4.4	8.6	0.0	1.2	10.1	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	258	515	0	635	334	0	180	1557	0	308	909	0
V/C Ratio(X)	0.15	0.43	0.00	0.55	0.36	0.00	0.78	0.49	0.00	0.06	0.75	0.00
Avail Cap(c_a), veh/h	566	1130	0	1133	595	0	236	1915	0	356	1152	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	21.2	22.1	0.0	21.2	20.4	0.0	24.8	11.4	0.0	16.1	19.3	0.0
Incr Delay (d2), s/veh	0.3	0.6	0.0	0.7	0.6	0.0	11.9	0.2	0.0	0.1	2.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	1.3	0.0	2.0	1.3	0.0	2.3	2.9	0.0	0.2	4.0	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.4	22.6	0.0	21.9	21.0	0.0	36.8	11.6	0.0	16.1	21.4	0.0
LnGrp LOS	C	C	A	C	C	A	D	B	A	B	C	A
Approach Vol, veh/h		260			466			899			702	
Approach Delay, s/veh		22.4			21.7			15.5			21.3	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		29.3		12.7	10.2	19.1		14.6				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		30.5		18.0	7.5	18.5		18.0				
Max Q Clear Time (g_c+I1), s		10.6		5.2	6.4	12.1		7.0				
Green Ext Time (p_c), s		5.3		1.1	0.0	2.5		1.5				

Intersection Summary												
HCM 6th Ctrl Delay			19.3									
HCM 6th LOS			B									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	32	112	0	208	69	0	121	697	0	8	641	0
Future Volume (veh/h)	32	112	0	208	69	0	121	697	0	8	641	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	40	220	0	347	119	0	141	758	0	20	682	0
Peak Hour Factor	0.80	0.51	0.85	0.60	0.58	0.81	0.86	0.92	0.88	0.40	0.94	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	3	3
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	258	515	0	635	334	0	180	1557	0	308	909	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.14	0.14	0.00	0.18	0.18	0.00	0.10	0.44	0.00	0.26	0.26	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	21.4	22.6	0.0	21.9	21.0	0.0	36.8	11.6	0.0	16.1	21.4	0.0
Ln Grp LOS	C	C	A	C	C	A	D	B	A	B	C	A
Approach Vol, veh/h		260			466			899			702	
Approach Delay, s/veh		22.4			21.7			15.5			21.3	
Approach LOS		C			C			B			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8	4	5	6		
Case No		4.0	10.0	10.0	2.0	6.3		
Phs Duration (G+Y+Rc), s		29.3	14.6	12.7	10.2	19.1		
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		
Max Green (Gmax), s		30.5	18.0	18.0	7.5	18.5		
Max Allow Headway (MAH), s		5.2	4.2	5.0	3.8	5.3		
Max Q Clear (g_c+I1), s		10.6	7.0	5.2	6.4	12.1		
Green Ext Time (g_e), s		5.3	1.5	1.1	0.0	2.5		
Prob of Phs Call (p_c)		1.00	1.00	0.99	0.89	1.00		
Prob of Max Out (p_x)		0.08	0.05	0.02	1.00	0.81		

Left-Turn Movement Data								
Assigned Mvmt			3	7	5	1		
Mvmt Sat Flow, veh/h			3563	1781	1781	701		

Through Movement Data								
Assigned Mvmt		2	8	4		6		
Mvmt Sat Flow, veh/h		3647	1870	3647		3618		

Right-Turn Movement Data								
Assigned Mvmt		12	18	14		16		
Mvmt Sat Flow, veh/h		0	0	0		0		

Left Lane Group Data								
Assigned Mvmt	0	0	3	7	5	1	0	0
Lane Assignment			L	L	L (Prot)	L		

Lanes in Grp	0	0	2	1	1	1	0	0
Grp Vol (v), veh/h	0	0	347	40	141	20	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	1781	1781	701	0	0
Q Serve Time (g_s), s	0.0	0.0	5.0	1.1	4.4	1.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	5.0	1.1	4.4	1.2	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	701	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	14.6	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	14.6	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	1.2	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	635	258	180	308	0	0
V/C Ratio (X)	0.00	0.00	0.55	0.15	0.78	0.06	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1133	566	236	356	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	21.2	21.2	24.8	16.1	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.7	0.3	11.9	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	21.9	21.4	36.8	16.1	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	1.9	0.4	1.7	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	0.6	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.0	0.5	2.3	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.06	0.06	0.29	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T	T		T		
Lanes in Grp	0	2	1	2	0	2	0	0
Grp Vol (v), veh/h	0	758	119	220	0	682	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1870	1777	0	1763	0	0
Q Serve Time (g_s), s	0.0	8.6	3.2	3.2	0.0	10.1	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	8.6	3.2	3.2	0.0	10.1	0.0	0.0
Lane Grp Cap (c), veh/h	0	1557	334	515	0	909	0	0
V/C Ratio (X)	0.00	0.49	0.36	0.43	0.00	0.75	0.00	0.00
Avail Cap (c_a), veh/h	0	1915	595	1130	0	1152	0	0
Upstream Filter (I)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.4	20.4	22.1	0.0	19.3	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.2	0.6	0.6	0.0	2.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	11.6	21.0	22.6	0.0	21.4	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	2.9	1.3	1.2	0.0	3.7	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.0	0.3	0.0	0.0

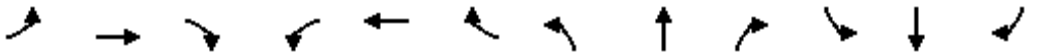
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	2.9	1.3	1.3	0.0	4.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.06	0.03	0.02	0.00	0.06	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	19.3
HCM 6th LOS	B

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	127	279	30	9	201	81	25	20	26	30	11	57
Future Volume (vph)	127	279	30	9	201	81	25	20	26	30	11	57
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		130
Storage Lanes	0		0	0		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.990				0.850		0.943				0.850
Flt Protected		0.986			0.997			0.985			0.963	
Satd. Flow (prot)	0	3455	0	0	3529	1583	0	1713	0	0	1794	1583
Flt Permitted		0.986			0.997			0.985			0.963	
Satd. Flow (perm)	0	3455	0	0	3529	1583	0	1713	0	0	1794	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1203			1331			1275			1294	
Travel Time (s)		27.3			30.3			29.0			29.4	
Confl. Peds. (#/hr)	1		1	1		1			1	1		
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.77	0.76	0.75	0.45	0.64	0.78	0.78	0.71	0.59	0.54	0.69	0.59
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	165	367	40	20	314	104	32	28	44	56	16	97
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	572	0	0	334	104	0	104	0	0	72	97
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 39.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	7.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	127	279	30	9	201	81	25	20	26	30	11	57
Future Vol, veh/h	127	279	30	9	201	81	25	20	26	30	11	57
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	76	75	45	64	78	78	71	59	54	69	59
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	165	367	40	20	314	104	32	28	44	56	16	97

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	419	0	0	408	0	0	923	1177	206	884	1093	158
Stage 1	-	-	-	-	-	-	718	718	-	355	355	-
Stage 2	-	-	-	-	-	-	205	459	-	529	738	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.56	6.56	6.96	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.53	4.03	3.33	3.52	4.02	3.32
Pot Cap-1 Maneuver	1137	-	-	1147	-	-	223	188	797	240	213	859
Stage 1	-	-	-	-	-	-	384	429	-	635	628	-
Stage 2	-	-	-	-	-	-	775	562	-	501	422	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1136	-	-	1146	-	-	155	149	795	163	168	858
Mov Cap-2 Maneuver	-	-	-	-	-	-	155	149	-	163	168	-
Stage 1	-	-	-	-	-	-	311	347	-	514	613	-
Stage 2	-	-	-	-	-	-	654	549	-	352	342	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.8	0.4	32.8	23.8
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	231	1136	-	-	1146	-	-	164	858
HCM Lane V/C Ratio	0.451	0.145	-	-	0.017	-	-	0.436	0.113
HCM Control Delay (s)	32.8	8.7	0.4	-	8.2	0.1	-	42.9	9.7
HCM Lane LOS	D	A	A	-	A	A	-	E	A
HCM 95th %tile Q(veh)	2.2	0.5	-	-	0.1	-	-	2	0.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	2	710	9	7	645
Future Volume (vph)	2	2	710	9	7	645
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	0	
Storage Lanes	1	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.910			0.850		
Flt Protected	0.984				0.950	
Satd. Flow (prot)	1134	0	3539	1583	1752	3505
Flt Permitted	0.984				0.950	
Satd. Flow (perm)	1134	0	3539	1583	1752	3505
Link Speed (mph)	30		30			30
Link Distance (ft)	435		1899			1323
Travel Time (s)	9.9		43.2			30.1
Peak Hour Factor	0.50	0.25	0.93	0.75	0.58	0.92
Heavy Vehicles (%)	50%	50%	2%	2%	3%	3%
Adj. Flow (vph)	4	8	763	12	12	701
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	763	12	12	701
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 29.6%		ICU Level of Service A	
Analysis Period (min) 15			

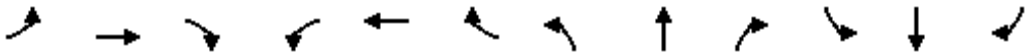
Intersection	
Int Delay, s/veh	0.3

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	2	710	9	7	645
Future Vol, veh/h	2	2	710	9	7	645
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	200	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	25	93	75	58	92
Heavy Vehicles, %	50	50	2	2	3	3
Mvmt Flow	4	8	763	12	12	701

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1138	382	0	0	775	0
Stage 1	763	-	-	-	-	-
Stage 2	375	-	-	-	-	-
Critical Hdwy	7.8	7.9	-	-	4.16	-
Critical Hdwy Stg 1	6.8	-	-	-	-	-
Critical Hdwy Stg 2	6.8	-	-	-	-	-
Follow-up Hdwy	4	3.8	-	-	2.23	-
Pot Cap-1 Maneuver	135	498	-	-	830	-
Stage 1	316	-	-	-	-	-
Stage 2	542	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	133	498	-	-	830	-
Mov Cap-2 Maneuver	133	-	-	-	-	-
Stage 1	316	-	-	-	-	-
Stage 2	534	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	19.5	0	0.2
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	260	830	-
HCM Lane V/C Ratio	-	-	0.046	0.015	-
HCM Control Delay (s)	-	-	19.5	9.4	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.1	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	17	8	7	10	38	22	110	10	45	94	12
Future Volume (vph)	6	17	8	7	10	38	22	110	10	45	94	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.966			0.925			0.981			0.983	
Flt Protected		0.988			0.992			0.990			0.986	
Satd. Flow (prot)	0	1778	0	0	1709	0	0	1809	0	0	1805	0
Flt Permitted		0.988			0.992			0.990			0.986	
Satd. Flow (perm)	0	1778	0	0	1709	0	0	1809	0	0	1805	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		641			842			527			458	
Travel Time (s)		14.6			19.1			12.0			10.4	
Peak Hour Factor	0.50	0.71	0.67	0.58	0.50	0.95	0.50	0.72	0.31	0.80	0.84	0.50
Adj. Flow (vph)	12	24	12	12	20	40	44	153	32	56	112	24
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	48	0	0	72	0	0	229	0	0	192	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 25.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	17	8	7	10	38	22	110	10	45	94	12
Future Vol, veh/h	6	17	8	7	10	38	22	110	10	45	94	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	71	67	58	50	95	50	72	31	80	84	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	24	12	12	20	40	44	153	32	56	112	24

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	523	509	124	511	505	169	136	0	0	185	0	0
Stage 1	236	236	-	257	257	-	-	-	-	-	-	-
Stage 2	287	273	-	254	248	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	465	467	927	473	470	875	1448	-	-	1390	-	-
Stage 1	767	710	-	748	695	-	-	-	-	-	-	-
Stage 2	720	684	-	750	701	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	403	431	927	421	434	875	1448	-	-	1390	-	-
Mov Cap-2 Maneuver	403	431	-	421	434	-	-	-	-	-	-	-
Stage 1	741	679	-	723	671	-	-	-	-	-	-	-
Stage 2	644	661	-	683	670	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.2	11.8	1.5	2.3
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1448	-	-	488	598	1390	-	-
HCM Lane V/C Ratio	0.03	-	-	0.098	0.121	0.04	-	-
HCM Control Delay (s)	7.6	0	-	13.2	11.8	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.3	0.4	0.1	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	212	79	4	139	67	11
Future Volume (vph)	212	79	4	139	67	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	85		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt		0.850			0.979	
Flt Protected			0.950		0.959	
Satd. Flow (prot)	1863	1583	1770	3539	1749	0
Flt Permitted			0.950		0.959	
Satd. Flow (perm)	1863	1583	1770	3539	1749	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	1207			212	795	
Travel Time (s)	27.4			4.8	18.1	
Peak Hour Factor	0.90	0.86	0.50	0.72	0.76	0.69
Adj. Flow (vph)	236	92	8	193	88	16
Shared Lane Traffic (%)						
Lane Group Flow (vph)	236	92	8	193	104	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 22.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	212	79	4	139	67	11
Future Vol, veh/h	212	79	4	139	67	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	85	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	86	50	72	76	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	236	92	8	193	88	16

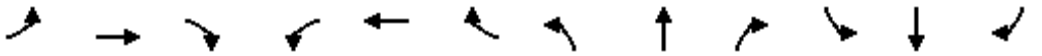
Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	236	0	349	236
Stage 1	-	-	-	-	236	-
Stage 2	-	-	-	-	113	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	0	1330	-	635	802
Stage 1	-	0	-	-	802	-
Stage 2	-	0	-	-	900	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1330	-	631	802
Mov Cap-2 Maneuver	-	-	-	-	631	-
Stage 1	-	-	-	-	802	-
Stage 2	-	-	-	-	895	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.3	10.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	745	-	1330	-
HCM Lane V/C Ratio	0.14	-	0.006	-
HCM Control Delay (s)	10.6	-	7.7	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0.5	-	0	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	104	58	16	0	72	26
Future Volume (vph)	104	58	16	0	72	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	1094		1551			1097
Travel Time (s)	24.9		35.3			24.9
Peak Hour Factor	0.67	0.81	0.80	0.86	0.78	0.72
Adj. Flow (vph)	155	72	20	0	92	36
Shared Lane Traffic (%)						
Lane Group Flow (vph)	155	72	20	0	92	36
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.1%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	293	32	9	211	85	26	21	27	32	12	60
Future Volume (vph)	133	293	32	9	211	85	26	21	27	32	12	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		130
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.989			0.964			0.943				0.850
Flt Protected		0.986			0.998			0.985			0.963	
Satd. Flow (prot)	0	3451	0	0	3405	0	0	1713	0	0	1794	1583
Flt Permitted		0.986			0.998			0.985			0.963	
Satd. Flow (perm)	0	3451	0	0	3405	0	0	1713	0	0	1794	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1203			1331			1275			647	
Travel Time (s)		27.3			30.3			29.0			14.7	
Confl. Peds. (#/hr)	1		1	1		1			1	1		
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.77	0.76	0.75	0.45	0.64	0.78	0.78	0.71	0.59	0.54	0.69	0.59
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	173	386	43	20	330	109	33	30	46	59	17	102
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	602	0	0	459	0	0	109	0	0	76	102
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization 43.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	6.2
Intersection LOS	A

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	602	459	109	178
Demand Flow Rate, veh/h	614	468	112	181
Vehicles Circulating, veh/h	97	241	630	391
Vehicles Exiting, veh/h	371	501	81	318
Ped Vol Crossing Leg, #/h	0	1	1	1
Ped Cap Adj	1.000	0.999	1.000	1.000
Approach Delay, s/veh	6.9	5.7	6.8	4.8
Approach LOS	A	A	A	A

Lane	Left	Right	Left	Right	Left	Left	Bypass
Designated Moves	LT	R	LT	R	LTR	LT	R
Assumed Moves	LT	R	LT	R	LTR	LT	R
RT Channelized							Yield
Lane Util	0.928	0.072	0.763	0.237	1.000	1.000	
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.609	2.609	
Critical Headway, s	4.544	4.544	4.544	4.544	4.976	4.976	104
Entry Flow, veh/h	570	44	357	111	112	77	945
Cap Entry Lane, veh/h	1300	1300	1140	1140	726	926	0.980
Entry HV Adj Factor	0.981	0.977	0.981	0.982	0.974	0.983	102
Flow Entry, veh/h	559	43	350	109	109	76	926
Cap Entry, veh/h	1276	1271	1118	1119	707	910	0.110
V/C Ratio	0.438	0.034	0.313	0.097	0.154	0.083	4.9
Control Delay, s/veh	7.2	3.1	6.2	4.1	6.8	4.7	A
LOS	A	A	A	A	A	A	0
95th %tile Queue, veh	2	0	1	0	1	0	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	109	61	17	0	76	27
Future Volume (vph)	109	61	17	0	76	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	547		1551			1097
Travel Time (s)	12.4		35.3			24.9
Peak Hour Factor	0.67	0.81	0.80	0.86	0.78	0.72
Adj. Flow (vph)	163	75	21	0	97	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	163	75	21	0	97	38
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	9.1
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	61	17	0	76	27
Future Vol, veh/h	109	61	17	0	76	27
Peak Hour Factor	0.67	0.81	0.80	0.86	0.78	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	75	21	0	97	38
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.2	8.3	9.1
HCM LOS	A	A	A

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	109	61	76	27
LT Vol	0	109	0	76	0
Through Vol	17	0	0	0	27
RT Vol	0	0	61	0	0
Lane Flow Rate	21	163	75	97	38
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.03	0.247	0.089	0.153	0.054
Departure Headway (Hd)	5.119	5.466	4.263	5.67	5.168
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	700	659	843	634	695
Service Time	3.145	3.18	1.977	3.391	2.888
HCM Lane V/C Ratio	0.03	0.247	0.089	0.153	0.055
HCM Control Delay	8.3	10	7.4	9.4	8.2
HCM Lane LOS	A	A	A	A	A
HCM 95th-tile Q	0.1	1	0.3	0.5	0.2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	109	61	17	177	76	27
Future Volume (vph)	109	61	17	177	76	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	1094		1551			1097
Travel Time (s)	24.9		35.3			24.9
Peak Hour Factor	0.67	0.81	0.80	0.86	0.78	0.72
Adj. Flow (vph)	163	75	21	206	97	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	163	75	21	206	97	38
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

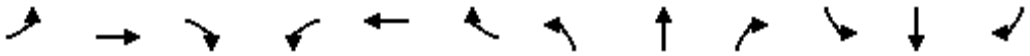
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	9.4
Intersection LOS	A

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	109	61	17	177	76	27
Future Vol, veh/h	109	61	17	177	76	27
Peak Hour Factor	0.67	0.81	0.80	0.86	0.78	0.72
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	163	75	21	206	97	38
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	9.9	9	9.4
HCM LOS	A	A	A

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	17	177	109	61	76	27
LT Vol	0	0	109	0	76	0
Through Vol	17	0	0	0	0	27
RT Vol	0	177	0	61	0	0
Lane Flow Rate	21	206	163	75	97	38
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.032	0.265	0.267	0.098	0.16	0.056
Departure Headway (Hd)	5.346	4.641	5.903	4.698	5.906	5.401
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	668	772	607	758	606	661
Service Time	3.09	2.384	3.657	2.452	3.657	3.152
HCM Lane V/C Ratio	0.031	0.267	0.269	0.099	0.16	0.057
HCM Control Delay	8.3	9.1	10.8	8	9.8	8.5
HCM Lane LOS	A	A	B	A	A	A
HCM 95th-tile Q	0.1	1.1	1.1	0.3	0.6	0.2

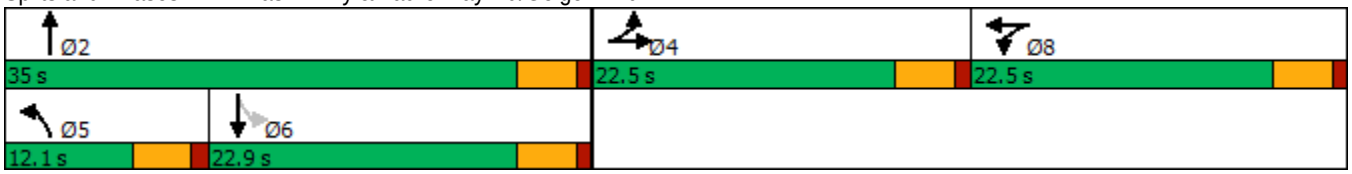


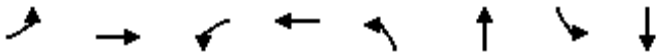
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	37	118	0	218	72	0	140	809	0	8	744	0
Future Volume (vph)	37	118	0	218	72	0	140	809	0	8	744	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	850		0	200		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor	0.98											
Frt												
Flt Protected	0.950			0.950	0.971		0.950			0.950		
Satd. Flow (prot)	1770	3539	0	1610	3292	0	1770	3539	0	1752	3505	0
Flt Permitted	0.950			0.950	0.971		0.950			0.323		
Satd. Flow (perm)	1734	3539	0	1610	3292	0	1770	3539	0	596	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1946			1143			1311			1899	
Travel Time (s)		44.2			26.0			29.8			43.2	
Confl. Peds. (#/hr)	23					23						
Peak Hour Factor	0.80	0.51	0.85	0.60	0.58	0.81	0.86	0.92	0.88	0.40	0.94	0.85
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	2%	2%	2%	3%	3%	3%
Adj. Flow (vph)	46	231	0	363	124	0	163	879	0	20	791	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	46	231	0	181	306	0	163	879	0	20	791	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA		Split	NA		Prot	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2			6	
Permitted Phases										6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		22.5	22.5		12.1	35.0		22.9	22.9	
Total Split (%)	28.1%	28.1%		28.1%	28.1%		15.1%	43.8%		28.6%	28.6%	
Maximum Green (s)	18.0	18.0		18.0	18.0		7.6	30.5		18.4	18.4	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	9.7	9.7		13.0	13.0		7.7	30.7		18.5	18.5	
Actuated g/C Ratio	0.14	0.14		0.19	0.19		0.11	0.46		0.28	0.28	
v/c Ratio	0.18	0.45		0.58	0.48		0.81	0.54		0.12	0.82	
Control Delay	27.9	29.8		32.6	26.6		63.1	15.7		23.2	32.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	27.9	29.8		32.6	26.6		63.1	15.7		23.2	32.7	
LOS	C	C		C	C		E	B		C	C	
Approach Delay		29.5			28.9			23.1			32.5	
Approach LOS		C			C			C			C	

Intersection Summary			
Area Type:	Other		
Cycle Length: 80			
Actuated Cycle Length: 67.1			
Natural Cycle: 80			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.82			
Intersection Signal Delay: 27.8		Intersection LOS: C	
Intersection Capacity Utilization 53.5%		ICU Level of Service A	
Analysis Period (min) 15			

Splits and Phases: 1: Trask Pkwy & Laurel Bay Rd/Geiger Blvd

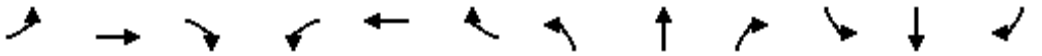




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	46	231	181	306	163	879	20	791
v/c Ratio	0.18	0.45	0.58	0.48	0.81	0.54	0.12	0.82
Control Delay	27.9	29.8	32.6	26.6	63.1	15.7	23.2	32.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	27.9	29.8	32.6	26.6	63.1	15.7	23.2	32.7
Queue Length 50th (ft)	17	46	74	61	67	132	6	160
Queue Length 95th (ft)	40	44	89	62	#173	222	10	#295
Internal Link Dist (ft)		1866		1063		1231		1819
Turn Bay Length (ft)	180		850		200		250	
Base Capacity (vph)	478	956	435	889	201	1620	164	968
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.10	0.24	0.42	0.34	0.81	0.54	0.12	0.82

Intersection Summary

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



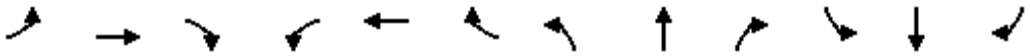
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	118	0	218	72	0	140	809	0	8	744	0
Future Volume (veh/h)	37	118	0	218	72	0	140	809	0	8	744	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	46	231	0	363	124	0	163	879	0	20	791	0
Peak Hour Factor	0.80	0.51	0.85	0.60	0.58	0.81	0.86	0.92	0.88	0.40	0.94	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	3	3
Cap, veh/h	256	511	0	629	330	0	204	1634	0	288	959	0
Arrive On Green	0.14	0.14	0.00	0.18	0.18	0.00	0.11	0.46	0.00	0.27	0.27	0.00
Sat Flow, veh/h	1781	3647	0	3563	1870	0	1781	3647	0	626	3618	0
Grp Volume(v), veh/h	46	231	0	363	124	0	163	879	0	20	791	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	0	1781	1777	0	626	1763	0
Q Serve(g_s), s	1.4	3.7	0.0	5.7	3.6	0.0	5.5	10.9	0.0	1.5	12.9	0.0
Cycle Q Clear(g_c), s	1.4	3.7	0.0	5.7	3.6	0.0	5.5	10.9	0.0	1.5	12.9	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	256	511	0	629	330	0	204	1634	0	288	959	0
V/C Ratio(X)	0.18	0.45	0.00	0.58	0.38	0.00	0.80	0.54	0.00	0.07	0.82	0.00
Avail Cap(c_a), veh/h	523	1043	0	1046	549	0	221	1767	0	305	1058	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	23.1	24.0	0.0	23.2	22.3	0.0	26.5	11.9	0.0	16.8	21.0	0.0
Incr Delay (d2), s/veh	0.3	0.6	0.0	0.8	0.7	0.0	17.5	0.3	0.0	0.1	5.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.6	1.5	0.0	2.3	1.5	0.0	3.2	3.7	0.0	0.2	5.5	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	23.4	24.7	0.0	24.0	23.0	0.0	44.0	12.2	0.0	16.9	26.0	0.0
LnGrp LOS	C	C	A	C	C	A	D	B	A	B	C	A
Approach Vol, veh/h		277			487			1042			811	
Approach Delay, s/veh		24.5			23.7			17.1			25.8	
Approach LOS		C			C			B			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		32.7		13.3	11.5	21.2		15.3				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		30.5		18.0	7.6	18.4		18.0				
Max Q Clear Time (g_c+I1), s		12.9		5.7	7.5	14.9		7.7				
Green Ext Time (p_c), s		5.9		1.2	0.0	1.8		1.5				

Intersection Summary												
HCM 6th Ctrl Delay			21.8									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	118	0	218	72	0	140	809	0	8	744	0
Future Volume (veh/h)	37	118	0	218	72	0	140	809	0	8	744	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1856	1856	1856
Adj Flow Rate, veh/h	46	231	0	363	124	0	163	879	0	20	791	0
Peak Hour Factor	0.80	0.51	0.85	0.60	0.58	0.81	0.86	0.92	0.88	0.40	0.94	0.85
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	3	3	3
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	256	511	0	629	330	0	204	1634	0	288	959	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.14	0.14	0.00	0.18	0.18	0.00	0.11	0.46	0.00	0.27	0.27	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	23.4	24.7	0.0	24.0	23.0	0.0	44.0	12.2	0.0	16.9	26.0	0.0
Ln Grp LOS	C	C	A	C	C	A	D	B	A	B	C	A
Approach Vol, veh/h		277			487			1042			811	
Approach Delay, s/veh		24.5			23.7			17.1			25.8	
Approach LOS		C			C			B			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8	4	5	6		
Case No		4.0	10.0	10.0	2.0	6.3		
Phs Duration (G+Y+Rc), s		32.7	15.3	13.3	11.5	21.2		
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		
Max Green (Gmax), s		30.5	18.0	18.0	7.6	18.4		
Max Allow Headway (MAH), s		5.2	4.2	5.0	3.8	5.3		
Max Q Clear (g_c+I1), s		12.9	7.7	5.7	7.5	14.9		
Green Ext Time (g_e), s		5.9	1.5	1.2	0.0	1.8		
Prob of Phs Call (p_c)		1.00	1.00	0.99	0.94	1.00		
Prob of Max Out (p_x)		0.17	0.08	0.03	1.00	1.00		

Left-Turn Movement Data								
Assigned Mvmt			3	7	5	1		
Mvmt Sat Flow, veh/h			3563	1781	1781	626		

Through Movement Data								
Assigned Mvmt		2	8	4		6		
Mvmt Sat Flow, veh/h		3647	1870	3647		3618		

Right-Turn Movement Data								
Assigned Mvmt		12	18	14		16		
Mvmt Sat Flow, veh/h		0	0	0		0		

Left Lane Group Data								
Assigned Mvmt	0	0	3	7	5	1	0	0
Lane Assignment			L	L	L (Prot)	L		

Lanes in Grp	0	0	2	1	1	1	0	0
Grp Vol (v), veh/h	0	0	363	46	163	20	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	1781	1781	626	0	0
Q Serve Time (g_s), s	0.0	0.0	5.7	1.4	5.5	1.5	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	5.7	1.4	5.5	1.5	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	626	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	16.7	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	1.5	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	629	256	204	288	0	0
V/C Ratio (X)	0.00	0.00	0.58	0.18	0.80	0.07	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1046	523	221	305	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	23.2	23.1	26.5	16.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.8	0.3	17.5	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	24.0	23.4	44.0	16.9	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	2.3	0.6	2.2	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.1	0.0	1.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	2.3	0.6	3.2	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.07	0.08	0.40	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T	T		T		
Lanes in Grp	0	2	1	2	0	2	0	0
Grp Vol (v), veh/h	0	879	124	231	0	791	0	0
Grp Sat Flow (s), veh/h/ln	0	1777	1870	1777	0	1763	0	0
Q Serve Time (g_s), s	0.0	10.9	3.6	3.7	0.0	12.9	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	10.9	3.6	3.7	0.0	12.9	0.0	0.0
Lane Grp Cap (c), veh/h	0	1634	330	511	0	959	0	0
V/C Ratio (X)	0.00	0.54	0.38	0.45	0.00	0.82	0.00	0.00
Avail Cap (c_a), veh/h	0	1767	549	1043	0	1058	0	0
Upstream Filter (I)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	11.9	22.3	24.0	0.0	21.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.3	0.7	0.6	0.0	5.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	12.2	23.0	24.7	0.0	26.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	3.7	1.5	1.4	0.0	4.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.1	0.0	0.0	0.7	0.0	0.0

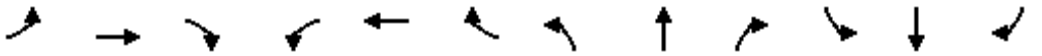
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	3.7	1.5	1.5	0.0	5.5	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.08	0.04	0.02	0.00	0.08	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	21.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	133	293	32	9	211	85	26	21	27	32	12	60
Future Volume (vph)	133	293	32	9	211	85	26	21	27	32	12	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		130
Storage Lanes	0		0	0		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.989				0.850		0.943				0.850
Flt Protected		0.986			0.997			0.985			0.963	
Satd. Flow (prot)	0	3451	0	0	3529	1583	0	1713	0	0	1794	1583
Flt Permitted		0.986			0.997			0.985			0.963	
Satd. Flow (perm)	0	3451	0	0	3529	1583	0	1713	0	0	1794	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1203			1331			1275			1294	
Travel Time (s)		27.3			30.3			29.0			29.4	
Confl. Peds. (#/hr)	1		1	1		1			1	1		
Confl. Bikes (#/hr)						1						
Peak Hour Factor	0.77	0.76	0.75	0.45	0.64	0.78	0.78	0.71	0.59	0.54	0.69	0.59
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	2%	2%	2%
Adj. Flow (vph)	173	386	43	20	330	109	33	30	46	59	17	102
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	602	0	0	350	109	0	109	0	0	76	102
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 40.3%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	8.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	133	293	32	9	211	85	26	21	27	32	12	60
Future Vol, veh/h	133	293	32	9	211	85	26	21	27	32	12	60
Conflicting Peds, #/hr	1	0	1	1	0	1	0	0	1	1	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	77	76	75	45	64	78	78	71	59	54	69	59
Heavy Vehicles, %	2	2	2	2	2	2	3	3	3	2	2	2
Mvmt Flow	173	386	43	20	330	109	33	30	46	59	17	102

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	440	0	0	430	0	0	969	1235	217	926	1147	166
Stage 1	-	-	-	-	-	-	755	755	-	371	371	-
Stage 2	-	-	-	-	-	-	214	480	-	555	776	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.56	6.56	6.96	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.56	5.56	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.56	5.56	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.53	4.03	3.33	3.52	4.02	3.32
Pot Cap-1 Maneuver	1116	-	-	1126	-	-	206	174	784	224	198	849
Stage 1	-	-	-	-	-	-	365	412	-	622	618	-
Stage 2	-	-	-	-	-	-	765	550	-	484	406	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1115	-	-	1125	-	-	137	135	783	146	153	848
Mov Cap-2 Maneuver	-	-	-	-	-	-	137	135	-	146	153	-
Stage 1	-	-	-	-	-	-	290	327	-	494	603	-
Stage 2	-	-	-	-	-	-	638	536	-	329	322	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.9	0.4	39.5	28.3
HCM LOS			E	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	209	1115	-	-	1125	-	-	148	848
HCM Lane V/C Ratio	0.52	0.155	-	-	0.018	-	-	0.518	0.12
HCM Control Delay (s)	39.5	8.8	0.5	-	8.3	0.1	-	52.9	9.8
HCM Lane LOS	E	A	A	-	A	A	-	F	A
HCM 95th %tile Q(veh)	2.7	0.5	-	-	0.1	-	-	2.5	0.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	2	2	824	9	7	748
Future Volume (vph)	2	2	824	9	7	748
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	0	
Storage Lanes	1	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt	0.910			0.850		
Flt Protected	0.984				0.950	
Satd. Flow (prot)	1134	0	3539	1583	1752	3505
Flt Permitted	0.984				0.950	
Satd. Flow (perm)	1134	0	3539	1583	1752	3505
Link Speed (mph)	30		30			30
Link Distance (ft)	435		1899			1323
Travel Time (s)	9.9		43.2			30.1
Peak Hour Factor	0.50	0.25	0.93	0.75	0.58	0.92
Heavy Vehicles (%)	50%	50%	2%	2%	3%	3%
Adj. Flow (vph)	4	8	886	12	12	813
Shared Lane Traffic (%)						
Lane Group Flow (vph)	12	0	886	12	12	813
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.8%		ICU Level of Service A	
Analysis Period (min) 15			

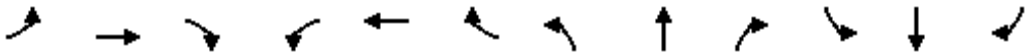
Intersection	
Int Delay, s/veh	0.2

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	2	2	824	9	7	748
Future Vol, veh/h	2	2	824	9	7	748
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	200	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	50	25	93	75	58	92
Heavy Vehicles, %	50	50	2	2	3	3
Mvmt Flow	4	8	886	12	12	813

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1317	443	0	0	898	0
Stage 1	886	-	-	-	-	-
Stage 2	431	-	-	-	-	-
Critical Hdwy	7.8	7.9	-	-	4.16	-
Critical Hdwy Stg 1	6.8	-	-	-	-	-
Critical Hdwy Stg 2	6.8	-	-	-	-	-
Follow-up Hdwy	4	3.8	-	-	2.23	-
Pot Cap-1 Maneuver	99	449	-	-	746	-
Stage 1	265	-	-	-	-	-
Stage 2	502	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	97	449	-	-	746	-
Mov Cap-2 Maneuver	97	-	-	-	-	-
Stage 1	265	-	-	-	-	-
Stage 2	494	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	23.8	0	0.1
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	203	746	-
HCM Lane V/C Ratio	-	-	0.059	0.016	-
HCM Control Delay (s)	-	-	23.8	9.9	-
HCM Lane LOS	-	-	C	A	-
HCM 95th %tile Q(veh)	-	-	0.2	0	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	18	8	7	11	40	23	116	11	47	99	13
Future Volume (vph)	6	18	8	7	11	40	23	116	11	47	99	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.967			0.925			0.980			0.983	
Flt Protected		0.988			0.992			0.991			0.986	
Satd. Flow (prot)	0	1780	0	0	1709	0	0	1809	0	0	1805	0
Flt Permitted		0.988			0.992			0.991			0.986	
Satd. Flow (perm)	0	1780	0	0	1709	0	0	1809	0	0	1805	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		641			842			527			458	
Travel Time (s)		14.6			19.1			12.0			10.4	
Peak Hour Factor	0.50	0.71	0.67	0.58	0.50	0.95	0.50	0.72	0.31	0.80	0.84	0.50
Adj. Flow (vph)	12	25	12	12	22	42	46	161	35	59	118	26
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	49	0	0	76	0	0	242	0	0	203	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.0%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	18	8	7	11	40	23	116	11	47	99	13
Future Vol, veh/h	6	18	8	7	11	40	23	116	11	47	99	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	71	67	58	50	95	50	72	31	80	84	50
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	12	25	12	12	22	42	46	161	35	59	118	26

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	552	537	131	539	533	179	144	0	0	196	0	0
Stage 1	249	249	-	271	271	-	-	-	-	-	-	-
Stage 2	303	288	-	268	262	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.12	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.218	-	-	2.218	-	-
Pot Cap-1 Maneuver	444	450	919	453	453	864	1438	-	-	1377	-	-
Stage 1	755	701	-	735	685	-	-	-	-	-	-	-
Stage 2	706	674	-	738	691	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	381	414	919	400	416	864	1438	-	-	1377	-	-
Mov Cap-2 Maneuver	381	414	-	400	416	-	-	-	-	-	-	-
Stage 1	728	668	-	709	660	-	-	-	-	-	-	-
Stage 2	626	650	-	668	659	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13.6	12.2	1.4	2.2
HCM LOS	B	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1438	-	-	466	578	1377	-	-
HCM Lane V/C Ratio	0.032	-	-	0.106	0.132	0.043	-	-
HCM Control Delay (s)	7.6	0	-	13.6	12.2	7.7	0	-
HCM Lane LOS	A	A	-	B	B	A	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0.4	0.5	0.1	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	223	83	5	146	70	13
Future Volume (vph)	223	83	5	146	70	13
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	85		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt		0.850			0.977	
Flt Protected			0.950		0.960	
Satd. Flow (prot)	1863	1583	1770	3539	1747	0
Flt Permitted			0.950		0.960	
Satd. Flow (perm)	1863	1583	1770	3539	1747	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	1207			212	795	
Travel Time (s)	27.4			4.8	18.1	
Peak Hour Factor	0.90	0.86	0.50	0.72	0.76	0.69
Adj. Flow (vph)	248	97	10	203	92	19
Shared Lane Traffic (%)						
Lane Group Flow (vph)	248	97	10	203	111	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.1%		ICU Level of Service A	
Analysis Period (min) 15			

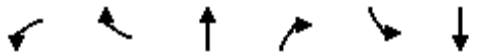
Intersection	
Int Delay, s/veh	2.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	223	83	5	146	70	13
Future Vol, veh/h	223	83	5	146	70	13
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	85	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	86	50	72	76	69
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	248	97	10	203	92	19

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	248	0	370	248
Stage 1	-	-	-	-	248	-
Stage 2	-	-	-	-	122	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	0	1316	-	617	790
Stage 1	-	0	-	-	793	-
Stage 2	-	0	-	-	891	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1316	-	612	790
Mov Cap-2 Maneuver	-	-	-	-	612	-
Stage 1	-	-	-	-	793	-
Stage 2	-	-	-	-	884	-

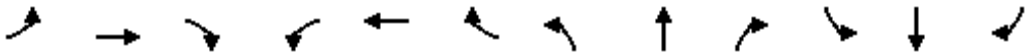
Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	10.7
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	737	-	1316	-
HCM Lane V/C Ratio	0.151	-	0.008	-
HCM Control Delay (s)	10.7	-	7.8	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	0.5	-	0	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	109	61	17	0	76	27
Future Volume (vph)	109	61	17	0	76	27
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	1094		1551			1097
Travel Time (s)	24.9		35.3			24.9
Peak Hour Factor	0.67	0.81	0.80	0.86	0.78	0.72
Adj. Flow (vph)	163	75	21	0	97	38
Shared Lane Traffic (%)						
Lane Group Flow (vph)	163	75	21	0	97	38
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 23.6%		ICU Level of Service A	
Analysis Period (min) 15			

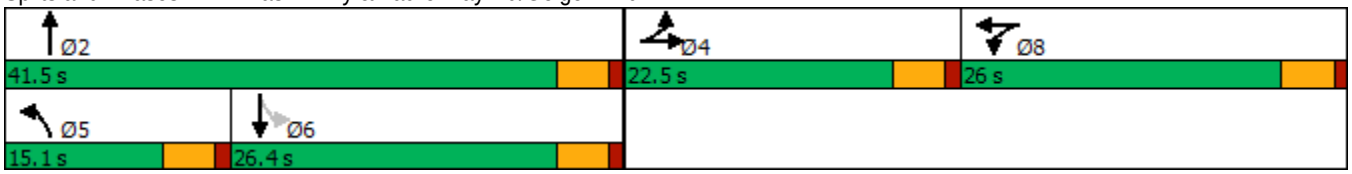


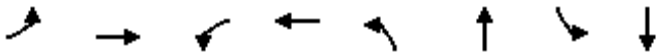
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	39	0	638	251	0	195	973	0	8	819	0
Future Volume (vph)	59	39	0	638	251	0	195	973	0	8	819	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	850		0	200		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor				1.00	1.00		1.00					
Frt												
Flt Protected	0.950			0.950	0.973		0.950			0.950		
Satd. Flow (prot)	1770	3539	0	1610	3299	0	1752	3505	0	1752	3505	0
Flt Permitted	0.950			0.950	0.973		0.950			0.277		
Satd. Flow (perm)	1770	3539	0	1608	3296	0	1752	3505	0	511	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1946			1143			1311			1899	
Travel Time (s)		44.2			26.0			29.8			43.2	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.74	0.70	0.90	0.82	0.81	0.61	0.94	0.94	0.85	0.50	0.98	0.72
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	80	56	0	778	310	0	207	1035	0	16	836	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	80	56	0	389	699	0	207	1035	0	16	836	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA		Split	NA		Prot	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2			6	
Permitted Phases										6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		26.0	26.0		15.1	41.5		26.4	26.4	
Total Split (%)	25.0%	25.0%		28.9%	28.9%		16.8%	46.1%		29.3%	29.3%	
Maximum Green (s)	18.0	18.0		21.5	21.5		10.6	37.0		21.9	21.9	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	8.9	8.9		21.7	21.7		10.7	37.2		22.0	22.0	
Actuated g/C Ratio	0.11	0.11		0.27	0.27		0.14	0.47		0.28	0.28	
v/c Ratio	0.40	0.14		0.88	0.77		0.88	0.63		0.11	0.86	
Control Delay	39.5	32.9		52.8	34.6		71.6	18.8		26.0	38.6	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	39.5	32.9		52.8	34.6		71.6	18.8		26.0	38.6	
LOS	D	C		D	C		E	B		C	D	
Approach Delay		36.8			41.1			27.6			38.4	
Approach LOS		D			D			C			D	

Intersection Summary			
Area Type:	Other		
Cycle Length: 90			
Actuated Cycle Length: 79			
Natural Cycle: 90			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.88			
Intersection Signal Delay: 35.2		Intersection LOS: D	
Intersection Capacity Utilization 70.6%		ICU Level of Service C	
Analysis Period (min) 15			

Splits and Phases: 1: Trask Pkwy & Laurel Bay Rd/Geiger Blvd

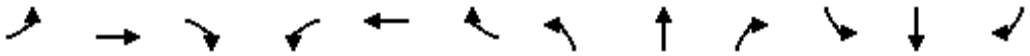




Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	80	56	389	699	207	1035	16	836
v/c Ratio	0.40	0.14	0.88	0.77	0.88	0.63	0.11	0.86
Control Delay	39.5	32.9	52.8	34.6	71.6	18.8	26.0	38.6
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	39.5	32.9	52.8	34.6	71.6	18.8	26.0	38.6
Queue Length 50th (ft)	38	13	209	180	105	204	6	213
Queue Length 95th (ft)	64	23	#353	228	#241	292	13	#339
Internal Link Dist (ft)		1866		1063		1231		1819
Turn Bay Length (ft)	180		850		200		250	
Base Capacity (vph)	406	812	441	904	236	1653	142	978
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.20	0.07	0.88	0.77	0.88	0.63	0.11	0.85

Intersection Summary

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



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	39	0	638	251	0	195	973	0	8	819	0
Future Volume (veh/h)	59	39	0	638	251	0	195	973	0	8	819	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	80	56	0	778	310	0	207	1035	0	16	836	0
Peak Hour Factor	0.74	0.70	0.90	0.82	0.81	0.61	0.94	0.94	0.85	0.50	0.98	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	3	3	3
Cap, veh/h	130	260	0	936	491	0	247	1689	0	241	979	0
Arrive On Green	0.07	0.07	0.00	0.26	0.26	0.00	0.14	0.48	0.00	0.28	0.28	0.00
Sat Flow, veh/h	1781	3647	0	3563	1870	0	1767	3618	0	541	3618	0
Grp Volume(v), veh/h	80	56	0	778	310	0	207	1035	0	16	836	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	0	1767	1763	0	541	1763	0
Q Serve(g_s), s	3.2	1.1	0.0	15.0	10.7	0.0	8.3	15.8	0.0	1.6	16.4	0.0
Cycle Q Clear(g_c), s	3.2	1.1	0.0	15.0	10.7	0.0	8.3	15.8	0.0	2.7	16.4	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	130	260	0	936	491	0	247	1689	0	241	979	0
V/C Ratio(X)	0.62	0.22	0.00	0.83	0.63	0.00	0.84	0.61	0.00	0.07	0.85	0.00
Avail Cap(c_a), veh/h	440	878	0	1051	552	0	257	1790	0	253	1059	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.8	31.8	0.0	25.3	23.7	0.0	30.5	14.0	0.0	20.4	24.9	0.0
Incr Delay (d2), s/veh	4.7	0.4	0.0	5.3	1.9	0.0	20.5	0.6	0.0	0.1	6.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	0.5	0.0	6.7	4.7	0.0	4.8	5.7	0.0	0.2	7.3	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	37.4	32.2	0.0	30.6	25.7	0.0	51.1	14.6	0.0	20.5	31.5	0.0
LnGrp LOS	D	C	A	C	C	A	D	B	A	C	C	A
Approach Vol, veh/h		136			1088			1242			852	
Approach Delay, s/veh		35.3			29.2			20.7			31.3	
Approach LOS		D			C			C			C	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		39.4		9.8	14.7	24.7		23.6				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		37.0		18.0	10.6	21.9		21.5				
Max Q Clear Time (g_c+I1), s		17.8		5.2	10.3	18.4		17.0				
Green Ext Time (p_c), s		7.5		0.4	0.0	1.9		2.1				

Intersection Summary												
HCM 6th Ctrl Delay			26.8									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	59	39	0	638	251	0	195	973	0	8	819	0
Future Volume (veh/h)	59	39	0	638	251	0	195	973	0	8	819	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	80	56	0	778	310	0	207	1035	0	16	836	0
Peak Hour Factor	0.74	0.70	0.90	0.82	0.81	0.61	0.94	0.94	0.85	0.50	0.98	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	3	3	3
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	130	260	0	936	491	0	247	1689	0	241	979	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.07	0.07	0.00	0.26	0.26	0.00	0.14	0.48	0.00	0.28	0.28	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	37.4	32.2	0.0	30.6	25.7	0.0	51.1	14.6	0.0	20.5	31.5	0.0
Ln Grp LOS	D	C	A	C	C	A	D	B	A	C	C	A
Approach Vol, veh/h		136			1088			1242			852	
Approach Delay, s/veh		35.3			29.2			20.7			31.3	
Approach LOS		D			C			C			C	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8	4	5	6		
Case No		4.0	10.0	10.0	2.0	6.3		
Phs Duration (G+Y+Rc), s		39.4	23.6	9.8	14.7	24.7		
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		
Max Green (Gmax), s		37.0	21.5	18.0	10.6	21.9		
Max Allow Headway (MAH), s		5.2	4.2	4.4	3.8	5.3		
Max Q Clear (g_c+I1), s		17.8	17.0	5.2	10.3	18.4		
Green Ext Time (g_e), s		7.5	2.1	0.4	0.0	1.9		
Prob of Phs Call (p_c)		1.00	1.00	0.94	0.98	1.00		
Prob of Max Out (p_x)		0.21	0.95	0.00	1.00	1.00		

Left-Turn Movement Data								
Assigned Mvmt			3	7	5	1		
Mvmt Sat Flow, veh/h			3563	1781	1767	541		

Through Movement Data								
Assigned Mvmt		2	8	4		6		
Mvmt Sat Flow, veh/h		3618	1870	3647		3618		

Right-Turn Movement Data								
Assigned Mvmt		12	18	14		16		
Mvmt Sat Flow, veh/h		0	0	0		0		

Left Lane Group Data								
Assigned Mvmt	0	0	3	7	5	1	0	0
Lane Assignment			L	L	L (Prot)	L		

Lanes in Grp	0	0	2	1	1	1	0	0
Grp Vol (v), veh/h	0	0	778	80	207	16	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	1781	1767	541	0	0
Q Serve Time (g_s), s	0.0	0.0	15.0	3.2	8.3	1.6	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	15.0	3.2	8.3	2.7	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	541	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	20.2	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	19.1	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	1.6	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	936	130	247	241	0	0
V/C Ratio (X)	0.00	0.00	0.83	0.62	0.84	0.07	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1051	440	257	253	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	25.3	32.8	30.5	20.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	5.3	4.7	20.5	0.1	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	30.6	37.4	51.1	20.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	6.0	1.3	3.4	0.2	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.7	0.2	1.4	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	6.7	1.5	4.8	0.2	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.20	0.21	0.62	0.02	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T	T		T		
Lanes in Grp	0	2	1	2	0	2	0	0
Grp Vol (v), veh/h	0	1035	310	56	0	836	0	0
Grp Sat Flow (s), veh/h/ln	0	1763	1870	1777	0	1763	0	0
Q Serve Time (g_s), s	0.0	15.8	10.7	1.1	0.0	16.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	15.8	10.7	1.1	0.0	16.4	0.0	0.0
Lane Grp Cap (c), veh/h	0	1689	491	260	0	979	0	0
V/C Ratio (X)	0.00	0.61	0.63	0.22	0.00	0.85	0.00	0.00
Avail Cap (c_a), veh/h	0	1790	552	878	0	1059	0	0
Upstream Filter (I)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	14.0	23.7	31.8	0.0	24.9	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.6	1.9	0.4	0.0	6.5	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	14.6	25.7	32.2	0.0	31.5	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	5.6	4.5	0.5	0.0	6.4	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.1	0.3	0.0	0.0	0.9	0.0	0.0

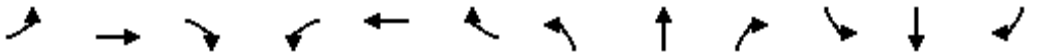
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	5.7	4.7	0.5	0.0	7.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.12	0.11	0.01	0.00	0.10	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	26.8
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	29	120	22	4	612	31	72	2	11	49	18	286
Future Volume (vph)	29	120	22	4	612	31	72	2	11	49	18	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		130
Storage Lanes	0		0	0		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.977				0.850		0.982				0.850
Flt Protected		0.990						0.960			0.963	
Satd. Flow (prot)	0	3423	0	0	3539	1583	0	1756	0	0	1794	1583
Flt Permitted		0.990						0.960			0.963	
Satd. Flow (perm)	0	3423	0	0	3539	1583	0	1756	0	0	1794	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1203			1331			1275			1294	
Travel Time (s)		27.3			30.3			29.0			29.4	
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.66	0.88	0.69	0.50	0.72	0.70	0.72	0.50	0.69	0.58	0.75	0.89
Adj. Flow (vph)	44	136	32	8	850	44	100	4	16	84	24	321
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	212	0	0	858	44	0	120	0	0	108	321
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization	49.5%	ICU Level of Service	A
Analysis Period (min)	15		

Intersection	
Int Delay, s/veh	14.5

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	120	22	4	612	31	72	2	11	49	18	286
Future Vol, veh/h	29	120	22	4	612	31	72	2	11	49	18	286
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	88	69	50	72	70	72	50	69	58	75	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	44	136	32	8	850	44	100	4	16	84	24	321

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	894	0	0	168	0	0	693	1150	84	1024	1122	425
Stage 1	-	-	-	-	-	-	240	240	-	866	866	-
Stage 2	-	-	-	-	-	-	453	910	-	158	256	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	755	-	-	1407	-	-	330	197	958	190	205	578
Stage 1	-	-	-	-	-	-	742	706	-	314	369	-
Stage 2	-	-	-	-	-	-	556	352	-	828	694	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	755	-	-	1407	-	-	125	182	958	173	190	578
Mov Cap-2 Maneuver	-	-	-	-	-	-	125	182	-	173	190	-
Stage 1	-	-	-	-	-	-	694	660	-	294	365	-
Stage 2	-	-	-	-	-	-	228	348	-	757	649	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.1	97.9	27.5
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	143	755	-	-	1407	-	-	176	578
HCM Lane V/C Ratio	0.839	0.058	-	-	0.006	-	-	0.616	0.556
HCM Control Delay (s)	97.9	10.1	0.2	-	7.6	0	-	53.7	18.7
HCM Lane LOS	F	B	A	-	A	A	-	F	C
HCM 95th %tile Q(veh)	5.4	0.2	-	-	0	-	-	3.4	3.4

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	0	
Storage Lanes	1	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	3539	1863	1863	3539
Flt Permitted						
Satd. Flow (perm)	1863	0	3539	1863	1863	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	435		1899			1323
Travel Time (s)	9.9		43.2			30.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

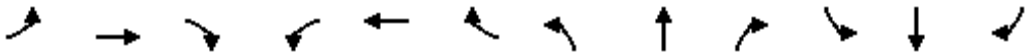
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	200	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1021	-	-	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	18	7	7	3	22	2	69	1	86	207	5
Future Volume (vph)	6	18	7	7	3	22	2	69	1	86	207	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.971			0.902			0.995			0.996	
Flt Protected		0.989			0.992			0.996			0.985	
Satd. Flow (prot)	0	1789	0	0	1667	0	0	1776	0	0	1827	0
Flt Permitted		0.989			0.992			0.996			0.985	
Satd. Flow (perm)	0	1789	0	0	1667	0	0	1776	0	0	1827	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		641			842			527			458	
Travel Time (s)		14.6			19.1			12.0			10.4	
Peak Hour Factor	0.50	0.56	0.58	0.58	0.38	0.42	0.25	0.69	0.25	0.69	0.76	0.42
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	2%	2%	2%
Adj. Flow (vph)	12	32	12	12	8	52	8	100	4	125	272	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	56	0	0	72	0	0	112	0	0	409	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.2

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	18	7	7	3	22	2	69	1	86	207	5
Future Vol, veh/h	6	18	7	7	3	22	2	69	1	86	207	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	56	58	58	38	42	25	69	25	69	76	42
Heavy Vehicles, %	2	2	2	2	2	2	6	6	6	2	2	2
Mvmt Flow	12	32	12	12	8	52	8	100	4	125	272	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	676	648	278	668	652	102	284	0	0	104	0	0
Stage 1	528	528	-	118	118	-	-	-	-	-	-	-
Stage 2	148	120	-	550	534	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.16	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.254	-	-	2.218	-	-
Pot Cap-1 Maneuver	367	389	761	372	387	953	1256	-	-	1488	-	-
Stage 1	534	528	-	887	798	-	-	-	-	-	-	-
Stage 2	855	796	-	519	524	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	313	348	761	313	346	953	1256	-	-	1488	-	-
Mov Cap-2 Maneuver	313	348	-	313	346	-	-	-	-	-	-	-
Stage 1	530	475	-	881	792	-	-	-	-	-	-	-
Stage 2	794	790	-	429	472	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16	11.5	0.6	2.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1256	-	-	384	622	1488	-	-
HCM Lane V/C Ratio	0.006	-	-	0.146	0.116	0.084	-	-
HCM Control Delay (s)	7.9	0	-	16	11.5	7.6	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.5	0.4	0.3	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	173	87	14	361	137	12
Future Volume (vph)	173	87	14	361	137	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	85		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt		0.850			0.985	
Flt Protected			0.950		0.957	
Satd. Flow (prot)	1863	1583	1770	3539	1756	0
Flt Permitted			0.950		0.957	
Satd. Flow (perm)	1863	1583	1770	3539	1756	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	1207			212	795	
Travel Time (s)	27.4			4.8	18.1	
Peak Hour Factor	0.90	0.95	0.58	0.82	0.84	0.60
Adj. Flow (vph)	192	92	24	440	163	20
Shared Lane Traffic (%)						
Lane Group Flow (vph)	192	92	24	440	183	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 26.6%		ICU Level of Service A	
Analysis Period (min) 15			

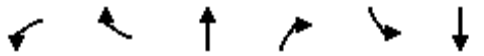
Intersection	
Int Delay, s/veh	3.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	173	87	14	361	137	12
Future Vol, veh/h	173	87	14	361	137	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	85	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	95	58	82	84	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	192	92	24	440	163	20

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	192	0	460	192
Stage 1	-	-	-	-	192	-
Stage 2	-	-	-	-	268	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	0	1380	-	544	849
Stage 1	-	0	-	-	840	-
Stage 2	-	0	-	-	753	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1380	-	535	849
Mov Cap-2 Maneuver	-	-	-	-	535	-
Stage 1	-	-	-	-	840	-
Stage 2	-	-	-	-	740	-

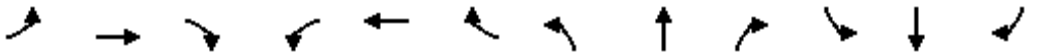
Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	13.6
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	601	-	1380	-
HCM Lane V/C Ratio	0.305	-	0.017	-
HCM Control Delay (s)	13.6	-	7.7	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	1.3	-	0.1	-



Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	252	116	28	0	89	25
Future Volume (vph)	252	116	28	0	89	25
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	1094		1551			1097
Travel Time (s)	24.9		35.3			24.9
Peak Hour Factor	0.72	0.76	0.58	0.90	0.65	0.63
Adj. Flow (vph)	350	153	48	0	137	40
Shared Lane Traffic (%)						
Lane Group Flow (vph)	350	153	48	0	137	40
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 32.2%		ICU Level of Service A	
Analysis Period (min) 15			



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	126	23	4	643	33	76	2	12	51	19	300
Future Volume (vph)	30	126	23	4	643	33	76	2	12	51	19	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		130
Storage Lanes	0		0	0		0	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.978			0.993			0.982				0.850
Flt Protected		0.990						0.960			0.963	
Satd. Flow (prot)	0	3427	0	0	3514	0	0	1756	0	0	1794	1583
Flt Permitted		0.990						0.960			0.963	
Satd. Flow (perm)	0	3427	0	0	3514	0	0	1756	0	0	1794	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1203			1331			1275			647	
Travel Time (s)		27.3			30.3			29.0			14.7	
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.66	0.88	0.69	0.50	0.72	0.70	0.72	0.50	0.69	0.58	0.75	0.89
Adj. Flow (vph)	45	143	33	8	893	47	106	4	17	88	25	337
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	0	0	948	0	0	127	0	0	113	337
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Yield			Yield			Yield			Yield	

Intersection Summary			
Area Type:	Other		
Control Type: Roundabout			
Intersection Capacity Utilization 52.6%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	14.6
Intersection LOS	B

Approach	EB	WB	NB	SB
Entry Lanes	2	2	1	1
Conflicting Circle Lanes	1	1	1	1
Adj Approach Flow, veh/h	221	948	127	450
Demand Flow Rate, veh/h	226	967	129	460
Vehicles Circulating, veh/h	123	158	282	1027
Vehicles Exiting, veh/h	1019	253	67	98
Ped Vol Crossing Leg, #/h	0	0	0	0
Ped Cap Adj	1.000	1.000	1.000	1.000
Approach Delay, s/veh	4.0	14.4	4.7	23.0
Approach LOS	A	B	A	C

Lane	Left	Right	Left	Right	Left	Left	Bypass
Designated Moves	LT	R	LT	R	LTR	LT	R
Assumed Moves	LT	R	LT	R	LTR	LT	R
RT Channelized							Yield
Lane Util	0.850	0.150	0.950	0.050	1.000	1.000	
Follow-Up Headway, s	2.535	2.535	2.535	2.535	2.609	2.609	
Critical Headway, s	4.544	4.544	4.544	4.544	4.976	4.976	344
Entry Flow, veh/h	192	34	919	48	129	116	488
Cap Entry Lane, veh/h	1270	1270	1230	1230	1035	484	0.980
Entry HV Adj Factor	0.980	0.971	0.981	0.979	0.984	0.978	337
Flow Entry, veh/h	188	33	901	47	127	113	479
Cap Entry, veh/h	1244	1232	1206	1204	1018	474	0.704
V/C Ratio	0.151	0.027	0.747	0.039	0.125	0.240	27.0
Control Delay, s/veh	4.2	3.1	14.9	3.3	4.7	11.2	D
LOS	A	A	B	A	A	B	5
95th %tile Queue, veh	1	0	7	0	0	1	

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	265	122	29	0	93	26
Future Volume (vph)	265	122	29	0	93	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	547		1551			1097
Travel Time (s)	12.4		35.3			24.9
Peak Hour Factor	0.72	0.76	0.58	0.90	0.65	0.63
Adj. Flow (vph)	368	161	50	0	143	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	368	161	50	0	143	41
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	12.9
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	265	122	29	0	93	26
Future Vol, veh/h	265	122	29	0	93	26
Peak Hour Factor	0.72	0.76	0.58	0.90	0.65	0.63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	368	161	50	0	143	41
Number of Lanes	1	1	1	0	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	1
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	1	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	13.9	9.5	11
HCM LOS	B	A	B

Lane	NBLn1	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	100%
Vol Right, %	0%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	265	122	93	26
LT Vol	0	265	0	93	0
Through Vol	29	0	0	0	26
RT Vol	0	0	122	0	0
Lane Flow Rate	50	368	161	143	41
Geometry Grp	4	7	7	7	7
Degree of Util (X)	0.082	0.585	0.202	0.256	0.068
Departure Headway (Hd)	5.909	5.725	4.52	6.442	5.937
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	601	629	788	554	599
Service Time	3.999	3.485	2.28	4.222	3.716
HCM Lane V/C Ratio	0.083	0.585	0.204	0.258	0.068
HCM Control Delay	9.5	16.3	8.4	11.5	9.2
HCM Lane LOS	A	C	A	B	A
HCM 95th-tile Q	0.3	3.8	0.8	1	0.2

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	265	122	29	99	93	26
Future Volume (vph)	265	122	29	99	93	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850		0.850		
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	1583	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	1583	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	547		1551			1097
Travel Time (s)	12.4		35.3			24.9
Peak Hour Factor	0.72	0.76	0.58	0.90	0.65	0.63
Adj. Flow (vph)	368	161	50	110	143	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	368	161	50	110	143	41
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Stop			Stop

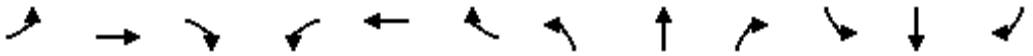
Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.2%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Intersection Delay, s/veh	13.5
Intersection LOS	B

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	265	122	29	99	93	26
Future Vol, veh/h	265	122	29	99	93	26
Peak Hour Factor	0.72	0.76	0.58	0.90	0.65	0.63
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	368	161	50	110	143	41
Number of Lanes	1	1	1	1	1	1

Approach	WB	NB	SB
Opposing Approach		SB	NB
Opposing Lanes	0	2	2
Conflicting Approach Left	NB		WB
Conflicting Lanes Left	2	0	2
Conflicting Approach Right	SB	WB	
Conflicting Lanes Right	2	2	0
HCM Control Delay	15.4	9.6	11.4
HCM LOS	C	A	B

Lane	NBLn1	NBLn2	WBLn1	WBLn2	SBLn1	SBLn2
Vol Left, %	0%	0%	100%	0%	100%	0%
Vol Thru, %	100%	0%	0%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	29	99	265	122	93	26
LT Vol	0	0	265	0	93	0
Through Vol	29	0	0	0	0	26
RT Vol	0	99	0	122	0	0
Lane Flow Rate	50	110	368	161	143	41
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.088	0.172	0.623	0.218	0.269	0.072
Departure Headway (Hd)	6.327	5.615	6.093	4.886	6.758	6.25
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	567	639	596	738	532	574
Service Time	4.062	3.35	3.793	2.586	4.492	3.984
HCM Lane V/C Ratio	0.088	0.172	0.617	0.218	0.269	0.071
HCM Control Delay	9.7	9.5	18.3	8.9	12	9.5
HCM Lane LOS	A	A	C	A	B	A
HCM 95th-tile Q	0.3	0.6	4.3	0.8	1.1	0.2

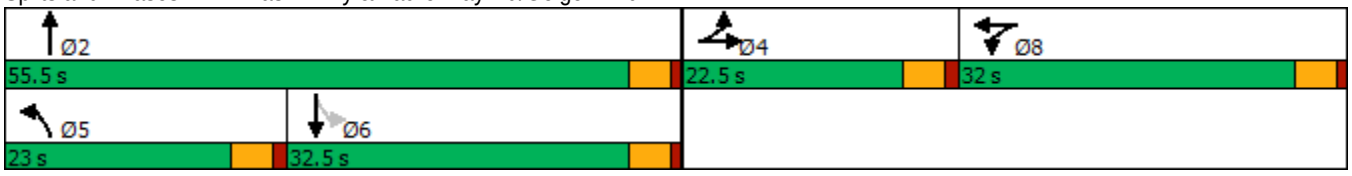


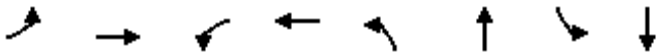
Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	41	0	670	264	0	226	1129	0	8	950	0
Future Volume (vph)	68	41	0	670	264	0	226	1129	0	8	950	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	180		0	850		0	200		0	250		0
Storage Lanes	1		0	1		0	1		0	1		0
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	1.00	0.95	0.95	0.91	0.91	0.95	1.00	0.95	0.95	1.00	0.95	0.95
Ped Bike Factor				1.00	1.00		1.00					
Frt												
Flt Protected	0.950			0.950	0.973		0.950			0.950		
Satd. Flow (prot)	1770	3539	0	1610	3299	0	1752	3505	0	1752	3505	0
Flt Permitted	0.950			0.950	0.973		0.950			0.224		
Satd. Flow (perm)	1770	3539	0	1608	3296	0	1752	3505	0	413	3505	0
Right Turn on Red			Yes			Yes			Yes			Yes
Satd. Flow (RTOR)												
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1946			1143			1311			1899	
Travel Time (s)		44.2			26.0			29.8			43.2	
Confl. Peds. (#/hr)			1	1			1					1
Peak Hour Factor	0.74	0.70	0.90	0.82	0.81	0.61	0.94	0.94	0.85	0.50	0.98	0.72
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	3%	3%	3%	3%	3%	3%
Adj. Flow (vph)	92	59	0	817	326	0	240	1201	0	16	969	0
Shared Lane Traffic (%)				50%								
Lane Group Flow (vph)	92	59	0	408	735	0	240	1201	0	16	969	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		12			12			12			12	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Number of Detectors	1	2		1	2		1	2		1	2	
Detector Template	Left	Thru		Left	Thru		Left	Thru		Left	Thru	
Leading Detector (ft)	20	100		20	100		20	100		20	100	
Trailing Detector (ft)	0	0		0	0		0	0		0	0	
Detector 1 Position(ft)	0	0		0	0		0	0		0	0	
Detector 1 Size(ft)	20	6		20	6		20	6		20	6	
Detector 1 Type	Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex		Cl+Ex	Cl+Ex	
Detector 1 Channel												
Detector 1 Extend (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Queue (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 1 Delay (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Detector 2 Position(ft)		94			94			94			94	
Detector 2 Size(ft)		6			6			6			6	
Detector 2 Type		Cl+Ex			Cl+Ex			Cl+Ex			Cl+Ex	
Detector 2 Channel												
Detector 2 Extend (s)		0.0			0.0			0.0			0.0	

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Turn Type	Split	NA		Split	NA		Prot	NA		Perm	NA	
Protected Phases	4	4		8	8		5	2			6	
Permitted Phases										6		
Detector Phase	4	4		8	8		5	2		6	6	
Switch Phase												
Minimum Initial (s)	5.0	5.0		5.0	5.0		5.0	5.0		5.0	5.0	
Minimum Split (s)	22.5	22.5		22.5	22.5		9.5	22.5		22.5	22.5	
Total Split (s)	22.5	22.5		32.0	32.0		23.0	55.5		32.5	32.5	
Total Split (%)	20.5%	20.5%		29.1%	29.1%		20.9%	50.5%		29.5%	29.5%	
Maximum Green (s)	18.0	18.0		27.5	27.5		18.5	51.0		28.0	28.0	
Yellow Time (s)	3.5	3.5		3.5	3.5		3.5	3.5		3.5	3.5	
All-Red Time (s)	1.0	1.0		1.0	1.0		1.0	1.0		1.0	1.0	
Lost Time Adjust (s)	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Lost Time (s)	4.5	4.5		4.5	4.5		4.5	4.5		4.5	4.5	
Lead/Lag							Lead			Lag	Lag	
Lead-Lag Optimize?							Yes			Yes	Yes	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Recall Mode	None	None		None	None		None	Min		Min	Min	
Walk Time (s)	7.0	7.0		7.0	7.0			7.0		7.0	7.0	
Flash Dont Walk (s)	11.0	11.0		11.0	11.0			11.0		11.0	11.0	
Pedestrian Calls (#/hr)	0	0		0	0			0		0	0	
Act Effct Green (s)	10.5	10.5		27.8	27.8		16.9	49.7		28.3	28.3	
Actuated g/C Ratio	0.11	0.11		0.28	0.28		0.17	0.50		0.29	0.29	
v/c Ratio	0.49	0.16		0.90	0.87dl		0.81	0.68		0.14	0.97	
Control Delay	52.1	42.3		61.5	42.0		61.6	22.0		33.4	58.7	
Queue Delay	0.0	0.0		0.0	0.0		0.0	0.0		0.0	0.0	
Total Delay	52.1	42.3		61.5	42.0		61.6	22.0		33.4	58.7	
LOS	D	D		E	D		E	C		C	E	
Approach Delay		48.3			48.9			28.6			58.3	
Approach LOS		D			D			C			E	

Intersection Summary			
Area Type:	Other		
Cycle Length: 110			
Actuated Cycle Length: 99			
Natural Cycle: 110			
Control Type: Actuated-Uncoordinated			
Maximum v/c Ratio: 0.97			
Intersection Signal Delay: 43.5		Intersection LOS: D	
Intersection Capacity Utilization 76.9%		ICU Level of Service D	
Analysis Period (min) 15			
dl Defacto Left Lane. Recode with 1 though lane as a left lane.			

Splits and Phases: 1: Trask Pkwy & Laurel Bay Rd/Geiger Blvd





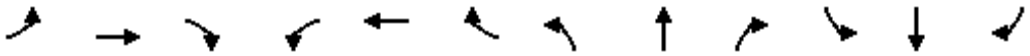
Lane Group	EBL	EBT	WBL	WBT	NBL	NBT	SBL	SBT
Lane Group Flow (vph)	92	59	408	735	240	1201	16	969
v/c Ratio	0.49	0.16	0.90	0.87dl	0.81	0.68	0.14	0.97
Control Delay	52.1	42.3	61.5	42.0	61.6	22.0	33.4	58.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	52.1	42.3	61.5	42.0	61.6	22.0	33.4	58.7
Queue Length 50th (ft)	58	18	287	249	151	304	8	~342
Queue Length 95th (ft)	88	29	#449	298	#283	416	15	#512
Internal Link Dist (ft)		1866		1063		1231		1819
Turn Bay Length (ft)	180		850		200		250	
Base Capacity (vph)	325	650	451	925	330	1824	118	1001
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.28	0.09	0.90	0.79	0.73	0.66	0.14	0.97

Intersection Summary

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

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

dl Defacto Left Lane. Recode with 1 though lane as a left lane.



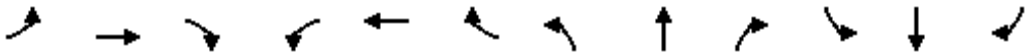
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	41	0	670	264	0	226	1129	0	8	950	0
Future Volume (veh/h)	68	41	0	670	264	0	226	1129	0	8	950	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	92	59	0	817	326	0	240	1201	0	16	969	0
Peak Hour Factor	0.74	0.70	0.90	0.82	0.81	0.61	0.94	0.94	0.85	0.50	0.98	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	3	3	3
Cap, veh/h	136	271	0	958	503	0	278	1786	0	195	1058	0
Arrive On Green	0.08	0.08	0.00	0.27	0.27	0.00	0.16	0.51	0.00	0.30	0.30	0.00
Sat Flow, veh/h	1781	3647	0	3563	1870	0	1767	3618	0	462	3618	0
Grp Volume(v), veh/h	92	59	0	817	326	0	240	1201	0	16	969	0
Grp Sat Flow(s),veh/h/ln	1781	1777	0	1781	1870	0	1767	1763	0	462	1763	0
Q Serve(g_s), s	4.6	1.4	0.0	19.8	14.1	0.0	12.1	23.2	0.0	2.4	24.2	0.0
Cycle Q Clear(g_c), s	4.6	1.4	0.0	19.8	14.1	0.0	12.1	23.2	0.0	6.9	24.2	0.0
Prop In Lane	1.00		0.00	1.00		0.00	1.00		0.00	1.00		0.00
Lane Grp Cap(c), veh/h	136	271	0	958	503	0	278	1786	0	195	1058	0
V/C Ratio(X)	0.68	0.22	0.00	0.85	0.65	0.00	0.86	0.67	0.00	0.08	0.92	0.00
Avail Cap(c_a), veh/h	352	702	0	1075	565	0	359	1974	0	199	1084	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.0	39.5	0.0	31.6	29.5	0.0	37.4	16.8	0.0	26.4	30.8	0.0
Incr Delay (d2), s/veh	5.7	0.4	0.0	6.2	2.2	0.0	15.8	0.8	0.0	0.2	11.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.2	0.6	0.0	9.1	6.5	0.0	6.3	8.9	0.0	0.3	11.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	46.7	39.9	0.0	37.8	31.7	0.0	53.2	17.6	0.0	26.6	42.6	0.0
LnGrp LOS	D	D	A	D	C	A	D	B	A	C	D	A
Approach Vol, veh/h		151			1143			1441			985	
Approach Delay, s/veh		44.1			36.1			23.5			42.3	
Approach LOS		D			D			C			D	

Timer - Assigned Phs		2		4	5	6		8				
Phs Duration (G+Y+Rc), s		50.6		11.5	18.8	31.8		29.0				
Change Period (Y+Rc), s		4.5		4.5	4.5	4.5		4.5				
Max Green Setting (Gmax), s		51.0		18.0	18.5	28.0		27.5				
Max Q Clear Time (g_c+I1), s		25.2		6.6	14.1	26.2		21.8				
Green Ext Time (p_c), s		10.3		0.4	0.3	1.2		2.7				

Intersection Summary												
HCM 6th Ctrl Delay			33.2									
HCM 6th LOS			C									

Notes

User approved volume balancing among the lanes for turning movement.



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	68	41	0	670	264	0	226	1129	0	8	950	0
Future Volume (veh/h)	68	41	0	670	264	0	226	1129	0	8	950	0
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q, veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj (A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Lanes Open During Work Zone												
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1856	1856	1856	1856	1856	1856
Adj Flow Rate, veh/h	92	59	0	817	326	0	240	1201	0	16	969	0
Peak Hour Factor	0.74	0.70	0.90	0.82	0.81	0.61	0.94	0.94	0.85	0.50	0.98	0.72
Percent Heavy Veh, %	2	2	2	2	2	2	3	3	3	3	3	3
Opposing Right Turn Influence	Yes			Yes			Yes			Yes		
Cap, veh/h	136	271	0	958	503	0	278	1786	0	195	1058	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Prop Arrive On Green	0.08	0.08	0.00	0.27	0.27	0.00	0.16	0.51	0.00	0.30	0.30	0.00
Unsig. Movement Delay												
Ln Grp Delay, s/veh	46.7	39.9	0.0	37.8	31.7	0.0	53.2	17.6	0.0	26.6	42.6	0.0
Ln Grp LOS	D	D	A	D	C	A	D	B	A	C	D	A
Approach Vol, veh/h		151			1143			1441			985	
Approach Delay, s/veh		44.1			36.1			23.5			42.3	
Approach LOS		D			D			C			D	

Timer:	1	2	3	4	5	6	7	8
Assigned Phs		2	8	4	5	6		
Case No		4.0	10.0	10.0	2.0	6.3		
Phs Duration (G+Y+Rc), s		50.6	29.0	11.5	18.8	31.8		
Change Period (Y+Rc), s		4.5	4.5	4.5	4.5	4.5		
Max Green (Gmax), s		51.0	27.5	18.0	18.5	28.0		
Max Allow Headway (MAH), s		5.2	4.2	4.4	3.8	5.3		
Max Q Clear (g_c+I1), s		25.2	21.8	6.6	14.1	26.2		
Green Ext Time (g_e), s		10.3	2.7	0.4	0.3	1.2		
Prob of Phs Call (p_c)		1.00	1.00	0.98	1.00	1.00		
Prob of Max Out (p_x)		0.17	0.79	0.00	0.65	1.00		

Left-Turn Movement Data								
Assigned Mvmt			3	7	5	1		
Mvmt Sat Flow, veh/h			3563	1781	1767	462		

Through Movement Data								
Assigned Mvmt		2	8	4		6		
Mvmt Sat Flow, veh/h		3618	1870	3647		3618		

Right-Turn Movement Data								
Assigned Mvmt		12	18	14		16		
Mvmt Sat Flow, veh/h		0	0	0		0		

Left Lane Group Data								
Assigned Mvmt	0	0	3	7	5	1	0	0
Lane Assignment			L	L	L (Prot)	L		

Lanes in Grp	0	0	2	1	1	1	0	0
Grp Vol (v), veh/h	0	0	817	92	240	16	0	0
Grp Sat Flow (s), veh/h/ln	0	0	1781	1781	1767	462	0	0
Q Serve Time (g_s), s	0.0	0.0	19.8	4.6	12.1	2.4	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	19.8	4.6	12.1	6.9	0.0	0.0
Perm LT Sat Flow (s_l), veh/h/ln	0	0	1781	1781	0	462	0	0
Shared LT Sat Flow (s_sh), veh/h/ln	0	0	0	0	0	0	0	0
Perm LT Eff Green (g_p), s	0.0	0.0	0.0	0.0	0.0	27.3	0.0	0.0
Perm LT Serve Time (g_u), s	0.0	0.0	0.0	0.0	0.0	22.9	0.0	0.0
Perm LT Q Serve Time (g_ps), s	0.0	0.0	0.0	0.0	0.0	2.4	0.0	0.0
Time to First Blk (g_f), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Serve Time pre Blk (g_fs), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop LT Inside Lane (P_L)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	958	136	278	195	0	0
V/C Ratio (X)	0.00	0.00	0.85	0.68	0.86	0.08	0.00	0.00
Avail Cap (c_a), veh/h	0	0	1075	352	359	199	0	0
Upstream Filter (I)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	31.6	41.0	37.4	26.4	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	6.2	5.7	15.8	0.2	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	37.8	46.7	53.2	26.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	8.3	2.0	5.1	0.3	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.8	0.2	1.2	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	0.00	1.00	1.00	1.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	9.1	2.2	6.3	0.3	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.27	0.31	0.81	0.03	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Middle Lane Group Data								
Assigned Mvmt	0	2	8	4	0	6	0	0
Lane Assignment		T	T	T		T		
Lanes in Grp	0	2	1	2	0	2	0	0
Grp Vol (v), veh/h	0	1201	326	59	0	969	0	0
Grp Sat Flow (s), veh/h/ln	0	1763	1870	1777	0	1763	0	0
Q Serve Time (g_s), s	0.0	23.2	14.1	1.4	0.0	24.2	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	23.2	14.1	1.4	0.0	24.2	0.0	0.0
Lane Grp Cap (c), veh/h	0	1786	503	271	0	1058	0	0
V/C Ratio (X)	0.00	0.67	0.65	0.22	0.00	0.92	0.00	0.00
Avail Cap (c_a), veh/h	0	1974	565	702	0	1084	0	0
Upstream Filter (I)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	16.8	29.5	39.5	0.0	30.8	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.8	2.2	0.4	0.0	11.8	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	17.6	31.7	39.9	0.0	42.6	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	8.7	6.2	0.6	0.0	9.9	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.2	0.3	0.0	0.0	1.7	0.0	0.0

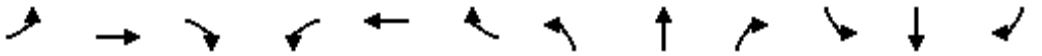
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	8.9	6.5	0.6	0.0	11.6	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.18	0.16	0.01	0.00	0.16	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Right Lane Group Data								
Assigned Mvmt	0	12	18	14	0	16	0	0
Lane Assignment								
Lanes in Grp	0	0	0	0	0	0	0	0
Grp Vol (v), veh/h	0	0	0	0	0	0	0	0
Grp Sat Flow (s), veh/h/ln	0	0	0	0	0	0	0	0
Q Serve Time (g_s), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Cycle Q Clear Time (g_c), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Sat Flow (s_R), veh/h/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prot RT Eff Green (g_R), s	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Prop RT Outside Lane (P_R)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Lane Grp Cap (c), veh/h	0	0	0	0	0	0	0	0
V/C Ratio (X)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Avail Cap (c_a), veh/h	0	0	0	0	0	0	0	0
Upstream Filter (I)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uniform Delay (d1), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Initial Q Delay (d3), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Control Delay (d), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
1st-Term Q (Q1), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2nd-Term Q (Q2), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3rd-Term Q (Q3), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Back of Q Factor (f_B%)	0.00	1.00	1.00	1.00	0.00	1.00	0.00	0.00
%ile Back of Q (50%), veh/ln	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile Storage Ratio (RQ%)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Initial Q (Qb), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Final (Residual) Q (Qe), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Delay (ds), s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Q (Qs), veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Sat Cap (cs), veh/h	0	0	0	0	0	0	0	0
Initial Q Clear Time (tc), h	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Intersection Summary	
HCM 6th Ctrl Delay	33.2
HCM 6th LOS	C

Notes

User approved volume balancing among the lanes for turning movement.



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	30	126	23	4	643	33	76	2	12	51	19	300
Future Volume (vph)	30	126	23	4	643	33	76	2	12	51	19	300
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0		0	0		100	0		0	0		130
Storage Lanes	0		0	0		1	0		0	0		1
Taper Length (ft)	25			25			25			25		
Lane Util. Factor	0.95	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Ped Bike Factor												
Frt		0.978				0.850		0.982				0.850
Flt Protected		0.990						0.960			0.963	
Satd. Flow (prot)	0	3427	0	0	3539	1583	0	1756	0	0	1794	1583
Flt Permitted		0.990						0.960			0.963	
Satd. Flow (perm)	0	3427	0	0	3539	1583	0	1756	0	0	1794	1583
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		1203			1331			1275			1294	
Travel Time (s)		27.3			30.3			29.0			29.4	
Confl. Bikes (#/hr)												1
Peak Hour Factor	0.66	0.88	0.69	0.50	0.72	0.70	0.72	0.50	0.69	0.58	0.75	0.89
Adj. Flow (vph)	45	143	33	8	893	47	106	4	17	88	25	337
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	221	0	0	901	47	0	127	0	0	113	337
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Free			Free			Stop			Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 51.5%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	20.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	30	126	23	4	643	33	76	2	12	51	19	300
Future Vol, veh/h	30	126	23	4	643	33	76	2	12	51	19	300
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	100	-	-	-	-	-	130
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	66	88	69	50	72	70	72	50	69	58	75	89
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	45	143	33	8	893	47	106	4	17	88	25	337

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	940	0	0	176	0	0	725	1206	88	1073	1175	447
Stage 1	-	-	-	-	-	-	250	250	-	909	909	-
Stage 2	-	-	-	-	-	-	475	956	-	164	266	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	725	-	-	1398	-	-	313	182	953	175	190	559
Stage 1	-	-	-	-	-	-	732	699	-	296	352	-
Stage 2	-	-	-	-	-	-	539	335	-	822	687	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	725	-	-	1398	-	-	~ 104	167	953	158	175	559
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 104	167	-	158	175	-
Stage 1	-	-	-	-	-	-	681	651	-	276	348	-
Stage 2	-	-	-	-	-	-	196	331	-	747	640	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	2.2	0.1	168.2	32.4
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	120	725	-	-	1398	-	-	162	559
HCM Lane V/C Ratio	1.058	0.063	-	-	0.006	-	-	0.699	0.603
HCM Control Delay (s)	168.2	10.3	0.2	-	7.6	0	-	67.1	20.7
HCM Lane LOS	F	B	A	-	A	A	-	F	C
HCM 95th %tile Q(veh)	7.3	0.2	-	-	0	-	-	4.1	4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	0	0	0	0	0	0
Future Volume (vph)	0	0	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)	0	0		200	0	
Storage Lanes	1	0		1	1	
Taper Length (ft)	25				25	
Lane Util. Factor	1.00	1.00	0.95	1.00	1.00	0.95
Frt						
Flt Protected						
Satd. Flow (prot)	1863	0	3539	1863	1863	3539
Flt Permitted						
Satd. Flow (perm)	1863	0	3539	1863	1863	3539
Link Speed (mph)	30		30			30
Link Distance (ft)	435		1899			1323
Travel Time (s)	9.9		43.2			30.1
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0	0	0
Shared Lane Traffic (%)						
Lane Group Flow (vph)	0	0	0	0	0	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Stop		Free			Free

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 0.0%		ICU Level of Service A	
Analysis Period (min) 15			

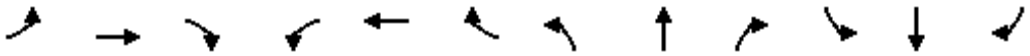
Intersection	
Int Delay, s/veh	0

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	0	0	0	0	0
Future Vol, veh/h	0	0	0	0	0	0
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	200	0	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	0	0	0	0	0

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	1	0	0	0	0	0
Stage 1	0	-	-	-	-	-
Stage 2	1	-	-	-	-	-
Critical Hdwy	6.84	6.94	-	-	4.14	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	-	-	2.22	-
Pot Cap-1 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	1021	-	-	-	-	-
Mov Cap-2 Maneuver	1021	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	1022	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	0	0	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	-	-	-
HCM Lane V/C Ratio	-	-	-	-	-
HCM Control Delay (s)	-	-	0	0	-
HCM Lane LOS	-	-	A	A	-
HCM 95th %tile Q(veh)	-	-	-	-	-



Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	6	19	7	7	3	23	2	72	1	90	217	5
Future Volume (vph)	6	19	7	7	3	23	2	72	1	90	217	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.972			0.901			0.995			0.996	
Flt Protected		0.990			0.992			0.997			0.985	
Satd. Flow (prot)	0	1792	0	0	1665	0	0	1778	0	0	1827	0
Flt Permitted		0.990			0.992			0.997			0.985	
Satd. Flow (perm)	0	1792	0	0	1665	0	0	1778	0	0	1827	0
Link Speed (mph)		30			30			30			30	
Link Distance (ft)		641			842			527			458	
Travel Time (s)		14.6			19.1			12.0			10.4	
Peak Hour Factor	0.50	0.56	0.58	0.58	0.38	0.42	0.25	0.69	0.25	0.69	0.76	0.42
Heavy Vehicles (%)	2%	2%	2%	2%	2%	2%	6%	6%	6%	2%	2%	2%
Adj. Flow (vph)	12	34	12	12	8	55	8	104	4	130	286	12
Shared Lane Traffic (%)												
Lane Group Flow (vph)	0	58	0	0	75	0	0	116	0	0	428	0
Enter Blocked Intersection	No	No	No	No	No	No	No	No	No	No	No	No
Lane Alignment	Left	Left	Right	Left	Left	Right	Left	Left	Right	Left	Left	Right
Median Width(ft)		0			0			0			0	
Link Offset(ft)		0			0			0			0	
Crosswalk Width(ft)		16			16			16			16	
Two way Left Turn Lane												
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15		9	15		9	15		9	15		9
Sign Control		Stop			Stop			Free			Free	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.4%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕			↕			↕	
Traffic Vol, veh/h	6	19	7	7	3	23	2	72	1	90	217	5
Future Vol, veh/h	6	19	7	7	3	23	2	72	1	90	217	5
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	50	56	58	58	38	42	25	69	25	69	76	42
Heavy Vehicles, %	2	2	2	2	2	2	6	6	6	2	2	2
Mvmt Flow	12	34	12	12	8	55	8	104	4	130	286	12

Major/Minor	Minor2			Minor1			Major1			Major2		
Conflicting Flow All	706	676	292	697	680	106	298	0	0	108	0	0
Stage 1	552	552	-	122	122	-	-	-	-	-	-	-
Stage 2	154	124	-	575	558	-	-	-	-	-	-	-
Critical Hdwy	7.12	6.52	6.22	7.12	6.52	6.22	4.16	-	-	4.12	-	-
Critical Hdwy Stg 1	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.12	5.52	-	6.12	5.52	-	-	-	-	-	-	-
Follow-up Hdwy	3.518	4.018	3.318	3.518	4.018	3.318	2.254	-	-	2.218	-	-
Pot Cap-1 Maneuver	351	375	747	356	373	948	1241	-	-	1483	-	-
Stage 1	518	515	-	882	795	-	-	-	-	-	-	-
Stage 2	848	793	-	503	512	-	-	-	-	-	-	-
Platoon blocked, %								-	-		-	-
Mov Cap-1 Maneuver	297	333	747	296	332	948	1241	-	-	1483	-	-
Mov Cap-2 Maneuver	297	333	-	296	332	-	-	-	-	-	-	-
Stage 1	514	461	-	876	789	-	-	-	-	-	-	-
Stage 2	785	787	-	410	458	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	16.7	11.7	0.5	2.3
HCM LOS	C	B		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	SBL	SBT	SBR
Capacity (veh/h)	1241	-	-	366	611	1483	-	-
HCM Lane V/C Ratio	0.006	-	-	0.158	0.122	0.088	-	-
HCM Control Delay (s)	7.9	0	-	16.7	11.7	7.7	0	-
HCM Lane LOS	A	A	-	C	B	A	A	-
HCM 95th %tile Q(veh)	0	-	-	0.6	0.4	0.3	-	-

Lane Group	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Volume (vph)	182	91	16	379	144	14
Future Volume (vph)	182	91	16	379	144	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Storage Length (ft)		0	85		0	0
Storage Lanes		1	1		1	0
Taper Length (ft)			25		25	
Lane Util. Factor	1.00	1.00	1.00	0.95	1.00	1.00
Frt		0.850			0.984	
Flt Protected			0.950		0.958	
Satd. Flow (prot)	1863	1583	1770	3539	1756	0
Flt Permitted			0.950		0.958	
Satd. Flow (perm)	1863	1583	1770	3539	1756	0
Link Speed (mph)	30			30	30	
Link Distance (ft)	1207			212	795	
Travel Time (s)	27.4			4.8	18.1	
Peak Hour Factor	0.90	0.95	0.58	0.82	0.84	0.60
Adj. Flow (vph)	202	96	28	462	171	23
Shared Lane Traffic (%)						
Lane Group Flow (vph)	202	96	28	462	194	0
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Left	Left	Right
Median Width(ft)	12			12	12	
Link Offset(ft)	0			0	0	
Crosswalk Width(ft)	16			16	16	
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)		9	15		15	9
Sign Control	Free			Free	Stop	

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 28.8%		ICU Level of Service A	
Analysis Period (min) 15			

Intersection	
Int Delay, s/veh	3.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	182	91	16	379	144	14
Future Vol, veh/h	182	91	16	379	144	14
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	Free	-	None	-	Yield
Storage Length	-	0	85	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	90	95	58	82	84	60
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	202	96	28	462	171	23

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	-	202	0	489	202
Stage 1	-	-	-	-	202	-
Stage 2	-	-	-	-	287	-
Critical Hdwy	-	-	4.13	-	6.63	6.23
Critical Hdwy Stg 1	-	-	-	-	5.43	-
Critical Hdwy Stg 2	-	-	-	-	5.83	-
Follow-up Hdwy	-	-	2.219	-	3.519	3.319
Pot Cap-1 Maneuver	-	0	1369	-	523	838
Stage 1	-	0	-	-	831	-
Stage 2	-	0	-	-	737	-
Platoon blocked, %	-			-		
Mov Cap-1 Maneuver	-	-	1369	-	513	838
Mov Cap-2 Maneuver	-	-	-	-	513	-
Stage 1	-	-	-	-	831	-
Stage 2	-	-	-	-	722	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	14.2
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	WBL	WBT
Capacity (veh/h)	583	-	1369	-
HCM Lane V/C Ratio	0.334	-	0.02	-
HCM Control Delay (s)	14.2	-	7.7	-
HCM Lane LOS	B	-	A	-
HCM 95th %tile Q(veh)	1.5	-	0.1	-

Lane Group	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	265	122	29	0	93	26
Future Volume (vph)	265	122	29	0	93	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Lane Util. Factor	1.00	1.00	1.00	1.00	1.00	1.00
Frt		0.850				
Flt Protected	0.950				0.950	
Satd. Flow (prot)	1770	1583	1863	0	1770	1863
Flt Permitted	0.950				0.950	
Satd. Flow (perm)	1770	1583	1863	0	1770	1863
Link Speed (mph)	30		30			30
Link Distance (ft)	1094		1551			1097
Travel Time (s)	24.9		35.3			24.9
Peak Hour Factor	0.72	0.76	0.58	0.90	0.65	0.63
Adj. Flow (vph)	368	161	50	0	143	41
Shared Lane Traffic (%)						
Lane Group Flow (vph)	368	161	50	0	143	41
Enter Blocked Intersection	No	No	No	No	No	No
Lane Alignment	Left	Right	Left	Right	Left	Left
Median Width(ft)	12		12			12
Link Offset(ft)	0		0			0
Crosswalk Width(ft)	16		16			16
Two way Left Turn Lane						
Headway Factor	1.00	1.00	1.00	1.00	1.00	1.00
Turning Speed (mph)	15	9		9	15	
Sign Control	Free		Stop			Stop

Intersection Summary			
Area Type:	Other		
Control Type: Unsignalized			
Intersection Capacity Utilization 33.2%		ICU Level of Service A	
Analysis Period (min) 15			

APPENDIX B - Trip Generation

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2019 Existing Conditions

Node 3	ITE Code	Variable	Method	Area (Sq Ft)	Average Rate/Equation (AM/PM)		Total Trips AM	Total Trips PM	Entering (AM/PM)		Exiting (AM/PM)	
Elrod St												
Super Convenience Market/Gas Station (Marine Mart)	960	1000 GFA	Adj/Rate	6251	83.14	69.28	520	433	0.50	0.50	0.50	0.50
Supermarket (USPS, Surplus, Other)	850	1000 GFA	Adj/Rate	30325	3.82	9.24	116	280	0.60	0.51	0.40	0.49
Library (MCCS Library)	590	1000 GFA	Gen/Eqn	17416	7.21X - 14.35	8.48X +0.80	111	148	0.49	0.52	0.51	0.48
Office (NATEC)	710	1000 GFA	Gen/Eqn	44465	0.88 Ln(X) + 1.06	1.10X + 65.39	4	114	0.88	0.18	0.12	0.82
TOTAL							751	975				

Notes:

Assume rate instead of local data, wherever applicable.

Assume 1000 Sq Ft GFA instead of other variables, wherever applicable.

Node 3	2019 AM	2019 PM	
EBL	253	160	
EBT	389	20	
WBT	69	308	Based on Synchro
WBR	137	298	
SBL	237	183	
SBR	128	339	

35%-65% split assumed for side streets

2019 Existing Conditions

Node 4	ITE Code	Variable	Method	Area (Sq Ft)	Average Rate/Equation (AM/PM)		Total Trips AM	Total Trips PM	Entering (AM/PM)		Exiting (AM/PM)	
N Gordon St												
Clinic (MCAS Beaufort Medical)	630	1000GFA	Gen/Local	32668	5.22	4.64	171	152	0.58	0.46	0.42	0.54
TOTAL							171	152				
S Gordon St												
Government Office Building (Barracks*)	730	1000 GFA	Adj/Local	118065	3.34	1.71	394	202	0.75	0.25	0.25	0.75
TOTAL							394	202				

Notes:

Assume rate instead of local data, wherever applicable.

Assume 1000 Sq Ft GFA instead of other variables, wherever applicable.

***'Govt Office Building' code for Barracks due to lack of ind variable data.**

Node 4	2019 AM	2019 PM	
EBL	20	14	
EBT	547	179	Based on Synchro
EBR	59	10	
WBL	59	10	
WBT	171	558	Based on Synchro
WBR	20	14	
NBL	20	31	
NBT	60	91	
NBR	20	31	
SBL	15	17	
SBT	44	50	
SBR	15	17	

20% assumed for turning movements

2019 Existing Conditions

Node 5	ITE Code	Variable	Method	Area (Sq Ft)	Average Rate/Equation (AM/PM)		Total Trips AM	Total Trips PM	Entering (AM/PM)		Exiting (AM/PM)	
W Delalio St												
Office (to the west)	710	1000 GFA	Gen/Eqn	9201	0.88 Ln(X) + 1.06	1.10X + 65.39	3	76	0.88	0.18	0.12	0.82
TOTAL							3	76				

Notes:

Assume rate instead of local data, wherever applicable.

Assume 1000 Sq Ft GFA instead of other variables, wherever applicable.

Node 5	2019 AM	2019 PM	
EBL	0	41	
EBT	1	22	
WBT	1	9	
WBR	21	44	Based on Synchro
SBL	58	39	Based on Synchro
SBR	1	5	

35%-65% split assumed for side streets

2019 Existing Conditions

Node 6	ITE Code	Variable	Method	Area (Sq Ft)	Average Rate/Equation (AM/PM)		Total Trips AM	Total Trips PM	Entering (AM/PM)		Exiting (AM/PM)	
Sunset Rd												
Government Office Building (Barracks*)	730	1000 GFA	Adj/Local	62493	3.34	1.71	209	107	0.75	0.25	0.25	0.75
TOTAL							209	107				
Gordon St												
Bowling Alley (Bowling and Snack Bar)	437	Bowling Lanes	Adj/Local	12840	0.81	1.16	10	15	0.95	0.65	0.05	0.35
Sporting Goods Superstore (Boat and Camper Rentals)	861	1000 GFA	Adj/Local	14478	0.34	2.02	5	29	0.80	0.48	0.20	0.52
Government Office Building (Barracks*)	730	1000 GFA	Adj/Local	85764	3.34	1.71	286	147	0.75	0.25	0.25	0.75
TOTAL							15	44				

Notes:

Assume rate instead of local data, wherever applicable.

Assume 1000 Sq Ft GFA instead of other variables, wherever applicable.

Node 6	2019 AM	2019 PM	
EBL	46	12	
EBT	0	44	Based on Synchro
EBR	31	5	
WBL	31	5	
WBT	0	11	Based on Synchro
WBR	46	12	
NBL	10	16	
NBT	31	48	
NBR	10	16	
SBL	14	26	
SBT	14	28	
SBR	14	26	

20% assumed for turning movements

2029 No Build - AM and PM Peak Hour Volumes - Volume Development

Node 1	2019 AM	2029 AM (1.16 GF)	2019 PM	2029 PM (1.16 GF)
EBL	38	44	59	68
EBT	239	277	39	45
EBR	217	252	187	217
WBL	89	103	638	740
WBT	37	43	251	291
WBR	7	8	61	71
NBL	125	145	195	226
NBT	614	712	973	1129
NBR	531	616	112	130
SBL	43	50	8	9
SBT	987	1145	819	950
SBR	43	50	75	87

Node 2	2019 AM	2029 AM (1.16 GF)	2019 PM	2029 PM (1.16 GF)
EBL	353	409	29	34
EBT	637	739	120	139
EBR	52	60	22	26
WBL	4	5	4	5
WBT	80	93	612	710
WBR	113	131	31	36
NBL	11	13	72	84
NBT	8	9	2	2
NBR	2	2	11	13
SBL	3	3	49	57
SBT	3	3	18	21
SBR	15	17	286	332

Node 3	2019 AM	2029 AM (1.16 GF)	2019 PM	2029 PM (1.16 GF)
EBL	253	293	160	186
EBT	389	451	20	23
WBT	69	80	308	357
WBR	137	159	298	346
SBL	237	275	183	212
SBR	128	148	339	393

Node 4	2019 AM	2029 AM (1.16 GF)	2019 PM	2029 PM (1.16 GF)
EBL	20	23	14	16
EBT	547	635	179	208
EBR	59	68	10	12
WBL	59	68	10	12
WBT	171	198	558	647
WBR	20	23	14	16
NBL	20	23	31	36
NBT	60	70	91	106
NBR	20	23	31	36
SBL	15	17	17	20
SBT	44	51	50	58
SBR	15	17	17	20

Node 5	2019 AM	2029 AM (1.16 GF)	2019 PM	2029 PM (1.16 GF)
EBL	0	0	41	48
EBT	1	1	22	26
WBT	1	1	9	10
WBR	21	24	44	51
SBL	58	67	39	45
SBR	1	1	5	6

Node 6	2019 AM	2029 AM (1.16 GF)	2019 PM	2029 PM (1.16 GF)
EBL	46	53	12	14
EBT	0	0	44	51
EBR	31	36	5	6
WBL	31	36	5	6
WBT	0	0	11	13
WBR	46	53	12	14
NBL	10	12	16	19
NBT	31	36	48	56
NBR	10	12	16	19
SBL	14	16	26	30
SBT	14	16	28	32
SBR	14	16	26	30

Growth Rate:	1.50%
Growth Factor:	1.16

2029 Build - AM and PM Peak Hour Volumes - Site Trips Only

Node 1	2029 AM	2029 PM
EBL	0	0
EBT	94	66
EBR	0	0
WBL	136	155
WBT	68	78
WBR	17	19
NBL	0	0
NBT	0	0
NBR	188	133
SBL	23	17
SBT	0	0
SBR	0	0

Node 4	2029 AM	2029 PM
EBL	0	0
EBT	17	19
EBR	0	0
WBL	0	0
WBT	23	17
WBR	0	0
NBL	0	0
NBT	34	39
NBR	0	0
SBL	0	0
SBT	47	33
SBR	0	0

Node 5	ITE Code	Area	Average Rate/Equation (AM/PM)		Total Trips AM	Total Trips PM	Entering (AM/PM)		Exiting (AM/PM)	
Clinic	630	155189	5.22	4.64	810	720	0.58	0.46	0.42	0.54
TOTAL					810	720				

Note: The ACC is 155,189 sf.

Node 2	2029 AM	2029 PM
EBL	0	0
EBT	0	0
EBR	305	216
WBL	47	33
WBT	0	0
WBR	0	0
NBL	221	252
NBT	34	39
NBR	34	39
SBL	0	0
SBT	47	33
SBR	0	0

Node 5	2029 AM	2029 PM
EBL	289	330
EBT	51	58
WBT	70	50
WBR		
SBL		
SBR	399	282

Based on Synchro

Based on Synchro

Total Site Trips	AM	PM
Enter	469	332
Exit	340	388

Node 3	2029 AM	2029 PM
EBL	17	20
EBT	17	19
WBT	23	17
WBR	0	0
SBL	0	0
SBR	23	17

Node 6	2029 AM	2029 PM
EBL	34	39
EBT	17	19
EBR	0	0
WBL	0	0
WBT	23	17
WBR	0	0
NBL	0	0
NBT	0	0
NBR	0	0
SBL	0	0
SBT	0	0
SBR	47	33

Note: The site trip assignment percentages are shown in Figure 5A.

2029 Build Final - AM and PM Peak Hour Volumes - Volume Development

Node 1	2029 AM	2029 PM
EBL	44	68
EBT	371	111
EBR	252	217
WBL	239	895
WBT	111	369
WBR	25	90
NBL	145	226
NBT	712	1129
NBR	804	263
SBL	73	26
SBT	1145	950
SBR	50	87

Node 2	2029 AM	2029 PM
EBL	409	34
EBT	739	139
EBR	365	242
WBL	51	38
WBT	93	710
WBR	131	36
NBL	234	336
NBT	43	41
NBR	36	52
SBL	3	57
SBT	50	54
SBR	17	332

Node 3	2029 AM	2029 PM
EBL	310	206
EBT	468	42
WBT	103	374
WBR	159	346
SBL	275	212
SBR	171	410

Node 4	2029 AM	2029 PM
EBL	23	16
EBT	652	227
EBR	68	12
WBL	68	12
WBT	221	664
WBR	23	16
NBL	23	36
NBT	104	145
NBR	23	36
SBL	17	20
SBT	98	91
SBR	17	20

Node 5	2029 AM	2029 PM	
EBL	289	378	
EBT	52	84	
WBT	71	60	
WBR	24	51	Based on Synchro
SBL	66	229	Based on Synchro
SBR	400	288	

Node 6	2029 AM	2029 PM
EBL	87	53
EBT	17	70
EBR	36	6
WBL	36	6
WBT	23	30
WBR	53	14
NBL	12	19
NBT	36	56
NBR	12	19
SBL	16	30
SBT	16	32
SBR	63	63

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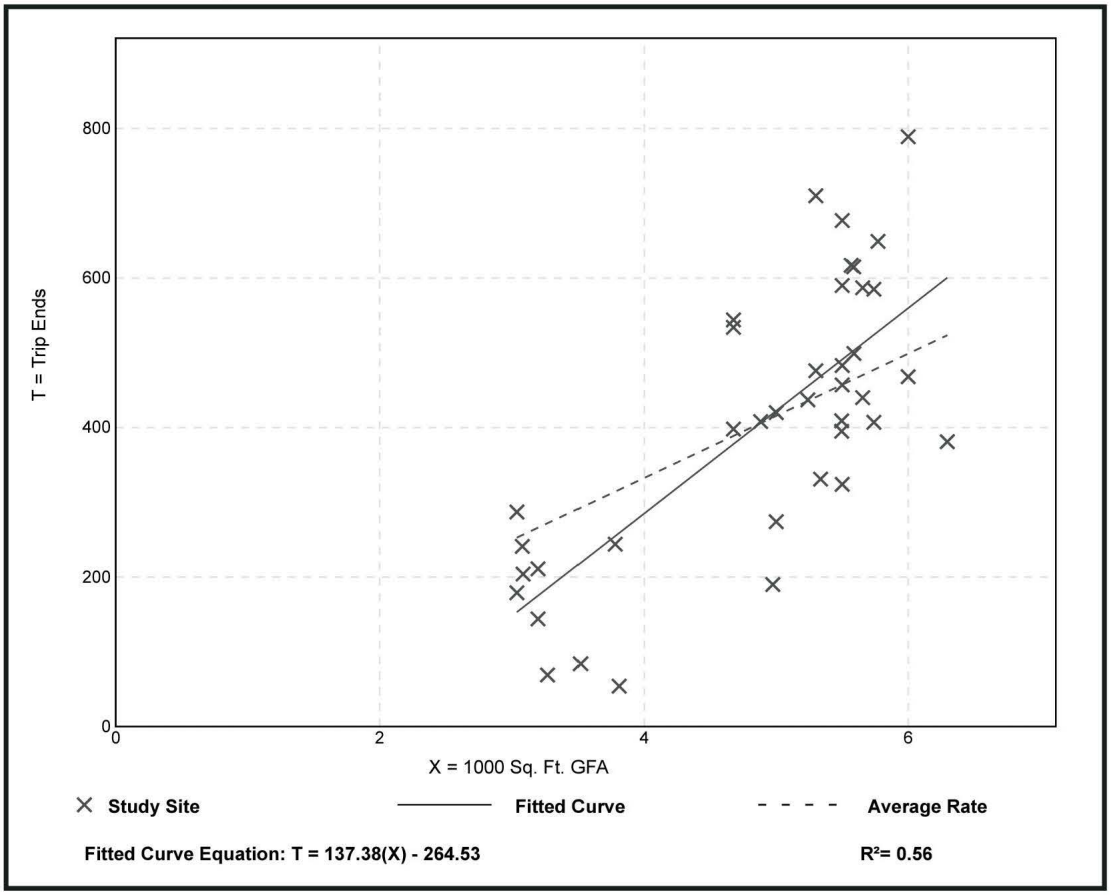
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 39
1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
83.14	14.17 - 133.96	28.07

Data Plot and Equation



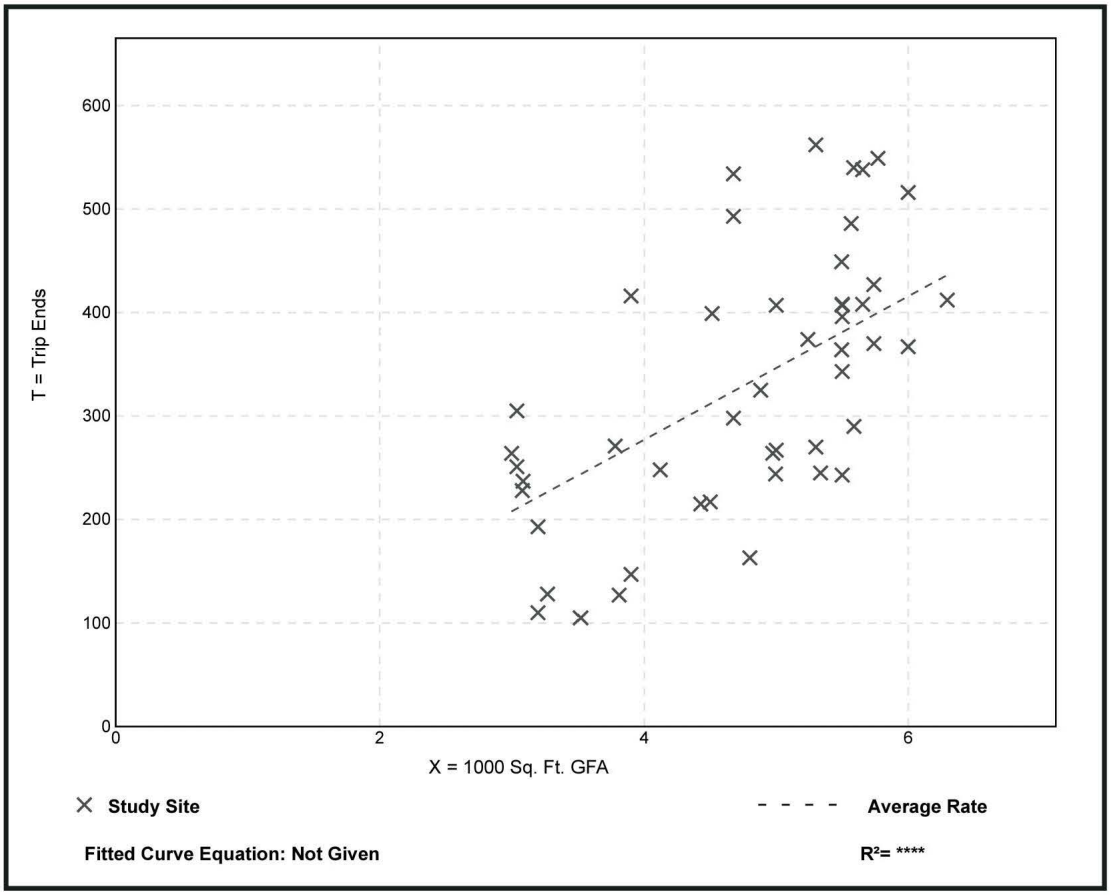
Super Convenience Market/Gas Station
(960)

Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 48
1000 Sq. Ft. GFA: 5
Directional Distribution: 50% entering, 50% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
69.28	29.83 - 114.20	21.07

Data Plot and Equation



Fitted Curve Equation: Not Given

R^2= ****

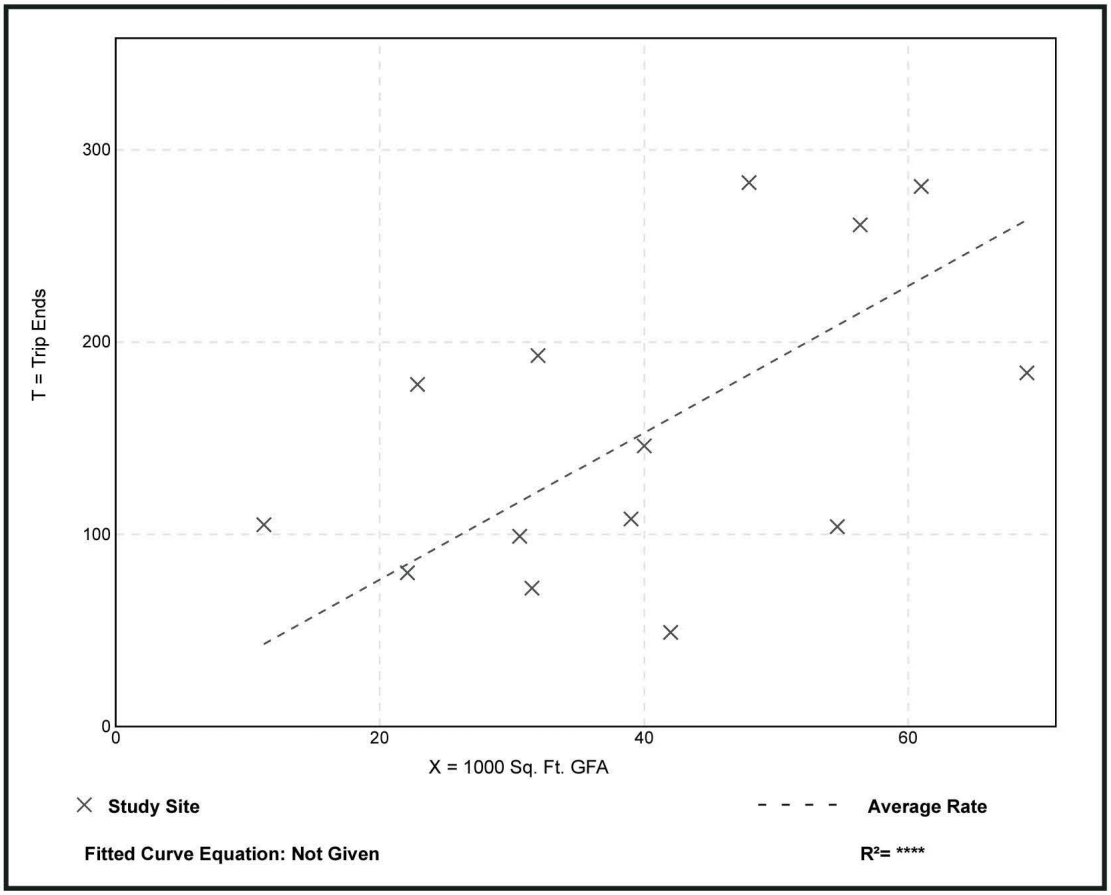
Supermarket
(850)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	14
1000 Sq. Ft. GFA:	40
Directional Distribution:	60% entering, 40% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.82	1.17 - 9.35	1.89

Data Plot and Equation



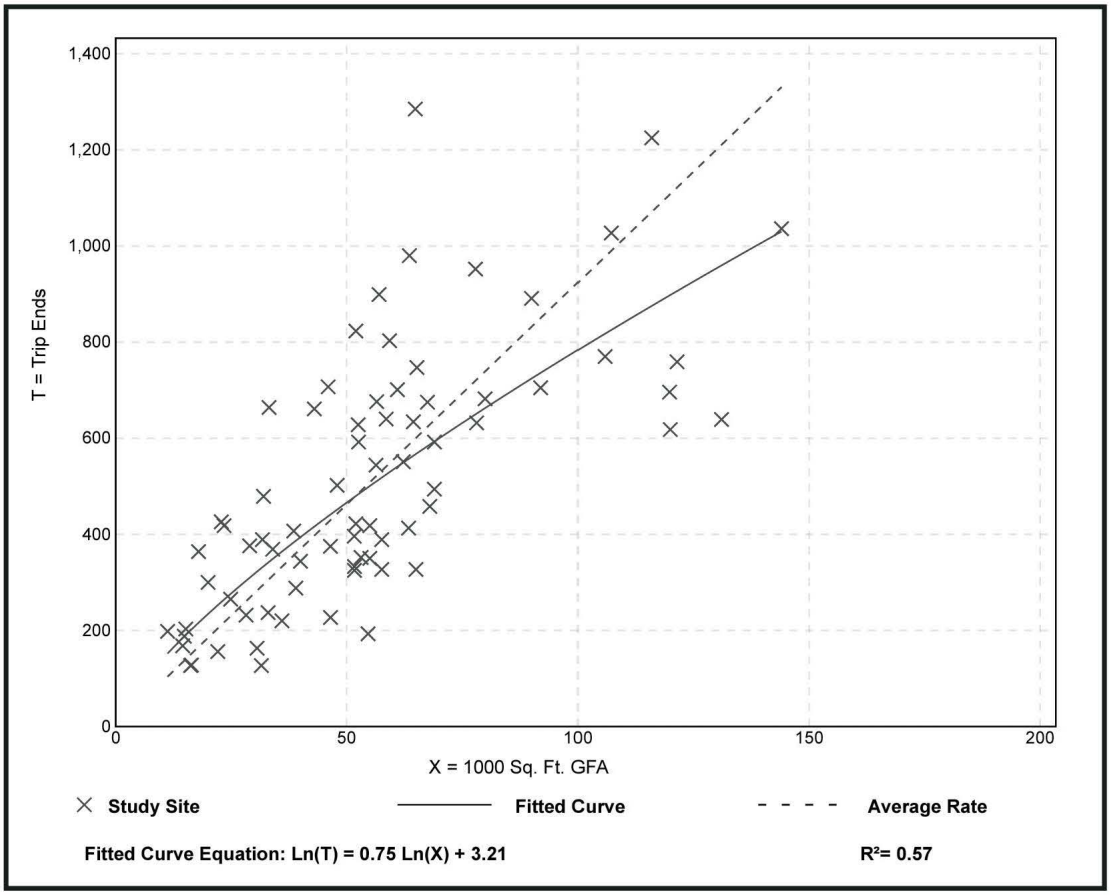
Supermarket
(850)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	73
1000 Sq. Ft. GFA:	55
Directional Distribution:	51% entering, 49% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
9.24	3.53 - 20.30	3.69

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.75 Ln(X) + 3.21

R^2= 0.57

Library
(590)

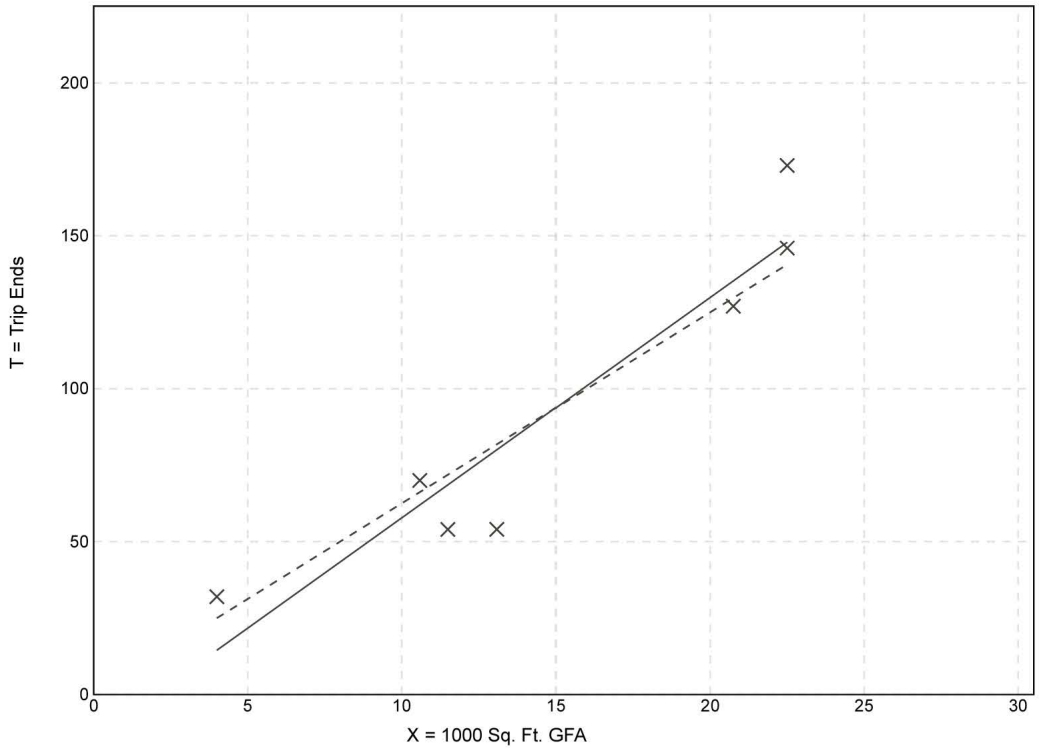
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 7
1000 Sq. Ft. GFA: 15
Directional Distribution: 49% entering, 51% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
6.25	4.13 - 8.00	1.29

Data Plot and Equation



Fitted Curve Equation: T = 7.21(X) - 14.35 **R^2= 0.89**

General Office Building
(710)

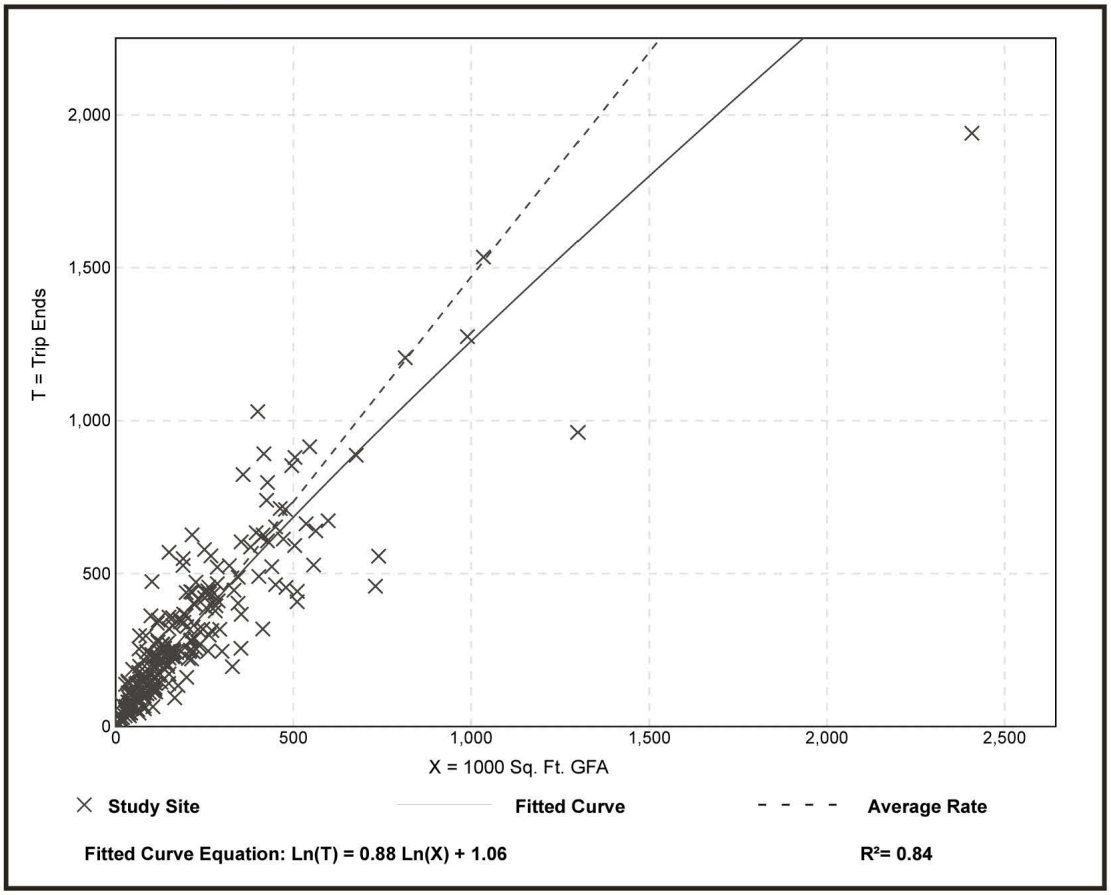
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 228
1000 Sq. Ft. GFA: 209
Directional Distribution: 88% entering, 12% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.47	0.57 - 4.93	0.60

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.88 Ln(X) + 1.06 **R^2= 0.84**

General Office Building
(710)

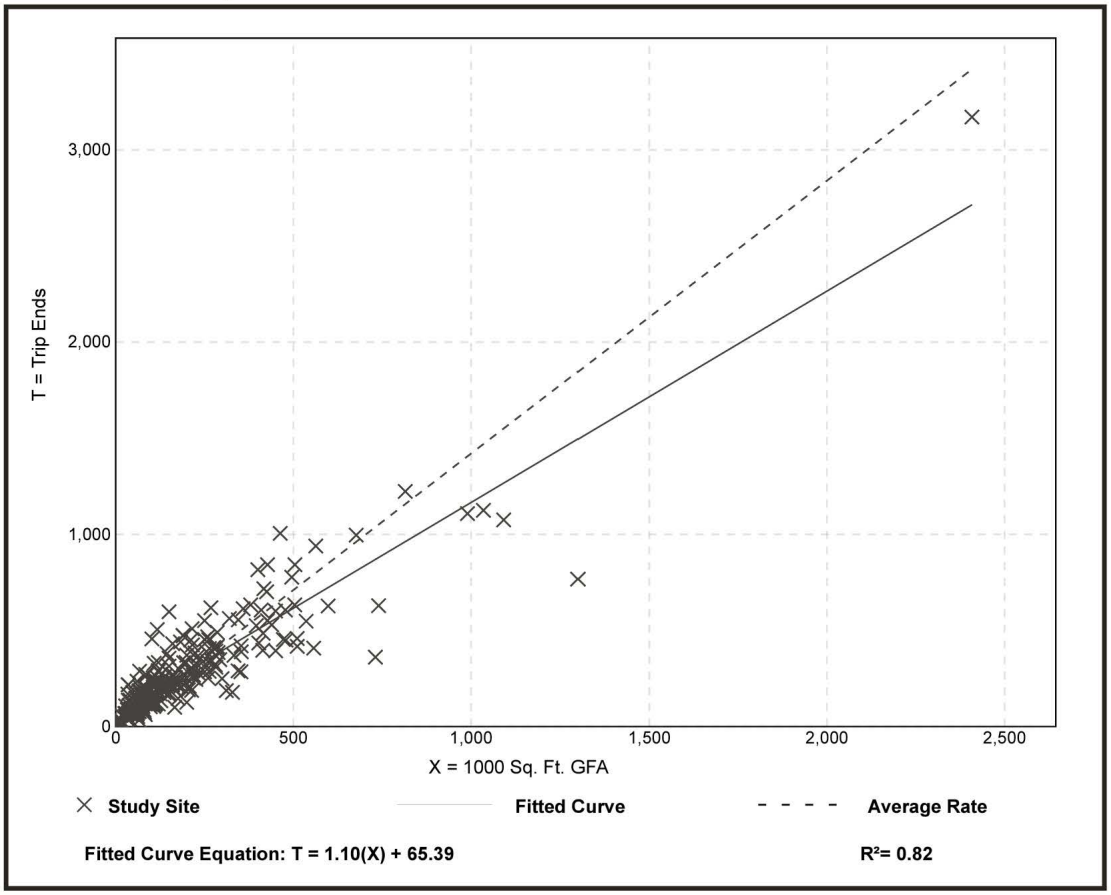
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 243
1000 Sq. Ft. GFA: 205
Directional Distribution: 18% entering, 82% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.42	0.49 - 6.20	0.61

Data Plot and Equation



Fitted Curve Equation: T = 1.10(X) + 65.39 **R^2= 0.82**

Library
(590)

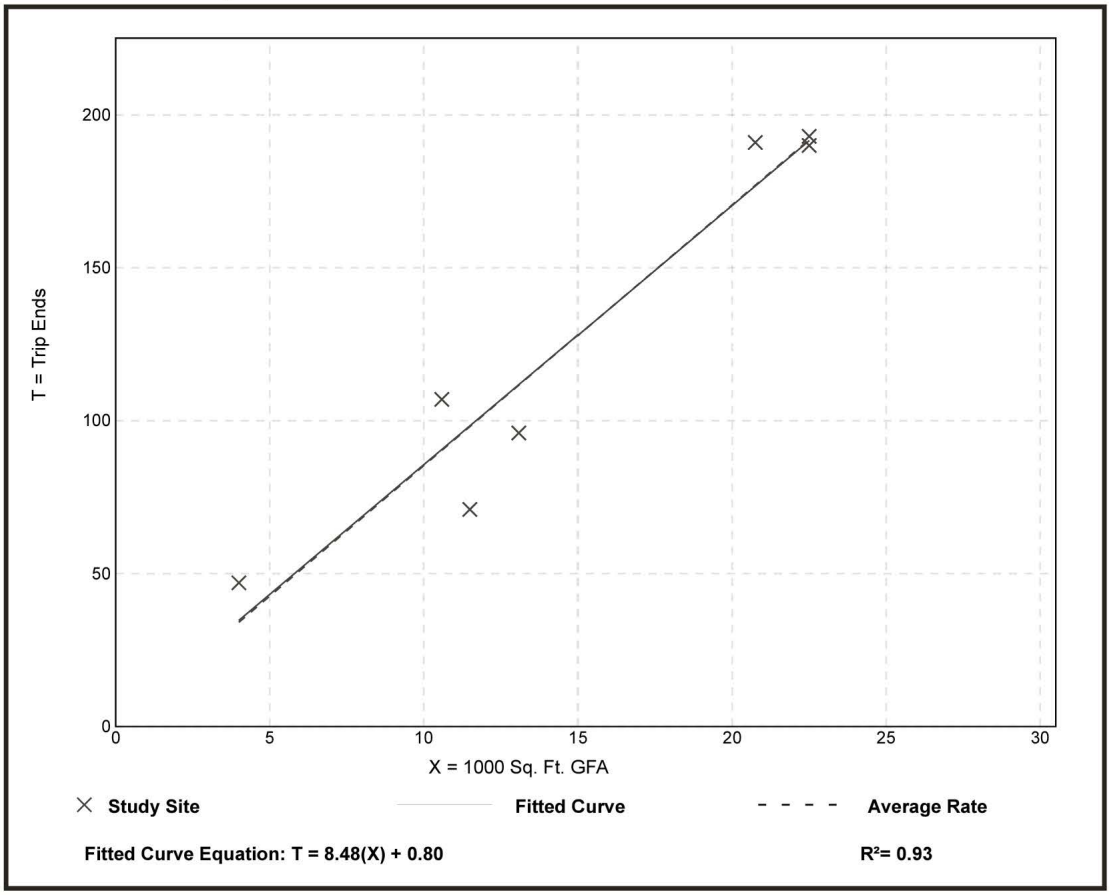
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 7
1000 Sq. Ft. GFA: 15
Directional Distribution: 52% entering, 48% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
8.53	6.17 - 11.75	1.33

Data Plot and Equation



Fitted Curve Equation: T = 8.48(X) + 0.80

R^2= 0.93

Clinic
(630)

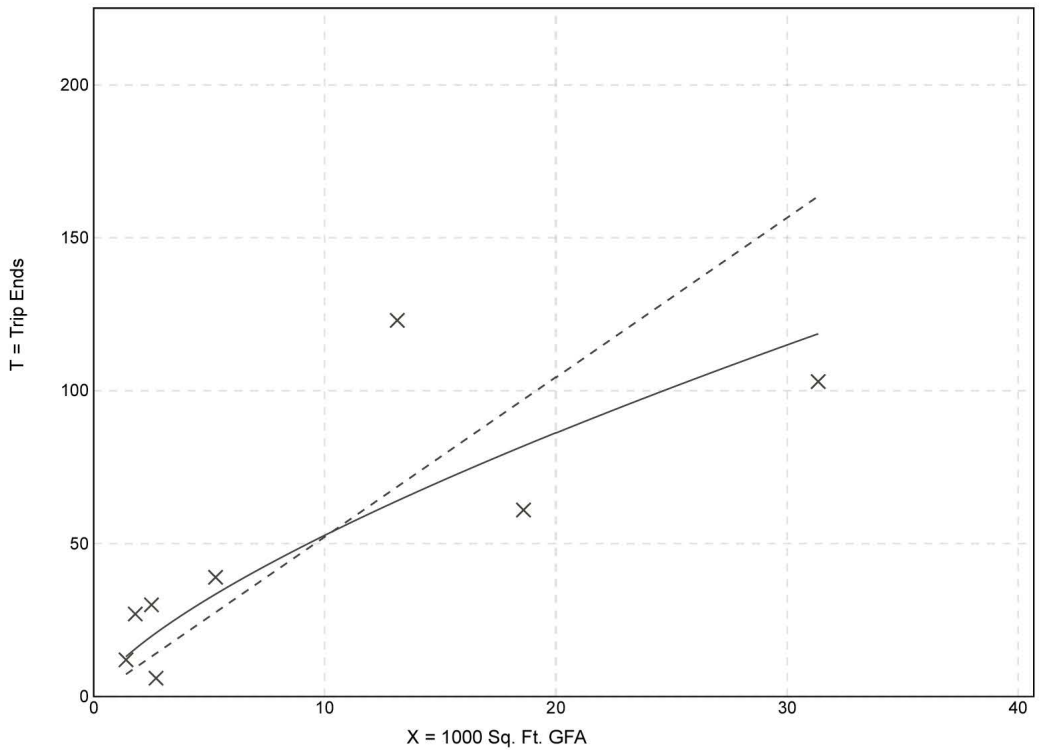
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
AM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 8
1000 Sq. Ft. GFA: 10
Directional Distribution: 58% entering, 42% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
5.22	2.22 - 15.00	3.37

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.71 Ln(X) + 2.33

R^2= 0.65

Clinic
(630)

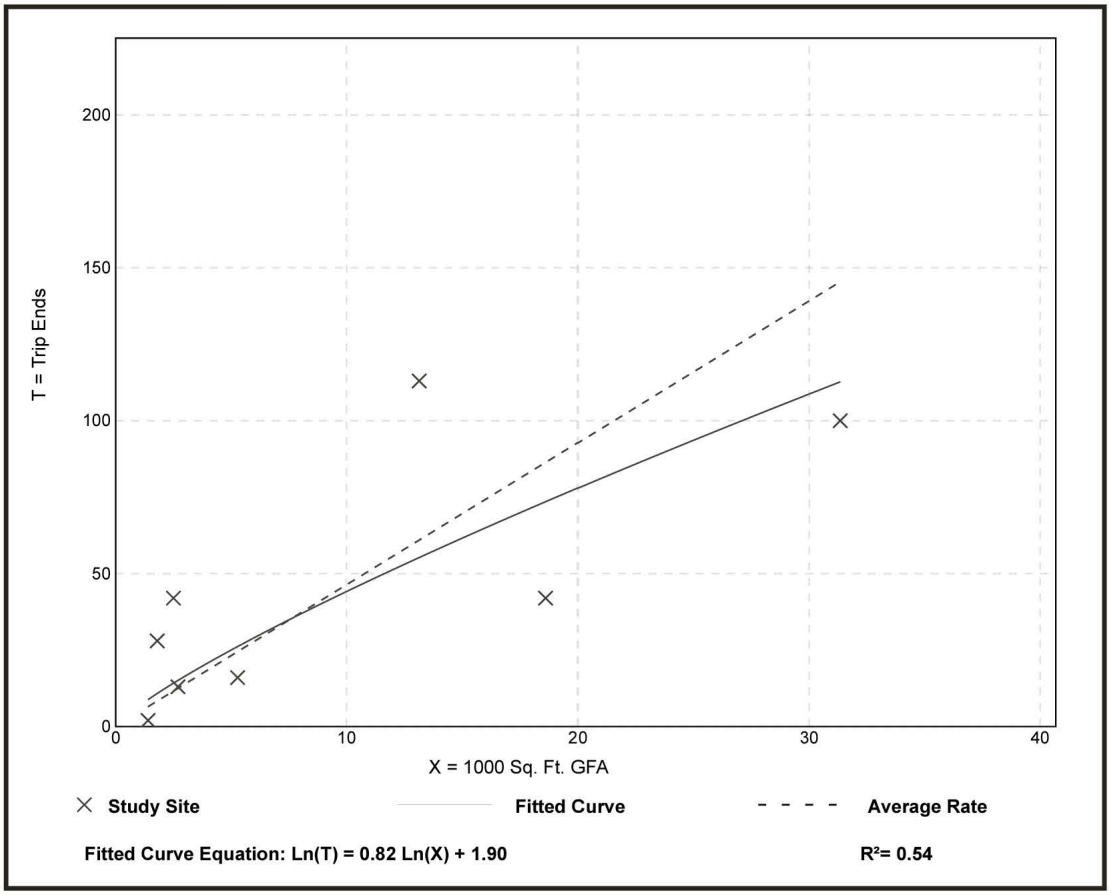
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
PM Peak Hour of Generator

Setting/Location: **General Urban/Suburban**
Number of Studies: 8
1000 Sq. Ft. GFA: 10
Directional Distribution: 46% entering, 54% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
4.64	1.43 - 16.80	3.84

Data Plot and Equation



Fitted Curve Equation: Ln(T) = 0.82 Ln(X) + 1.90

R^2= 0.54

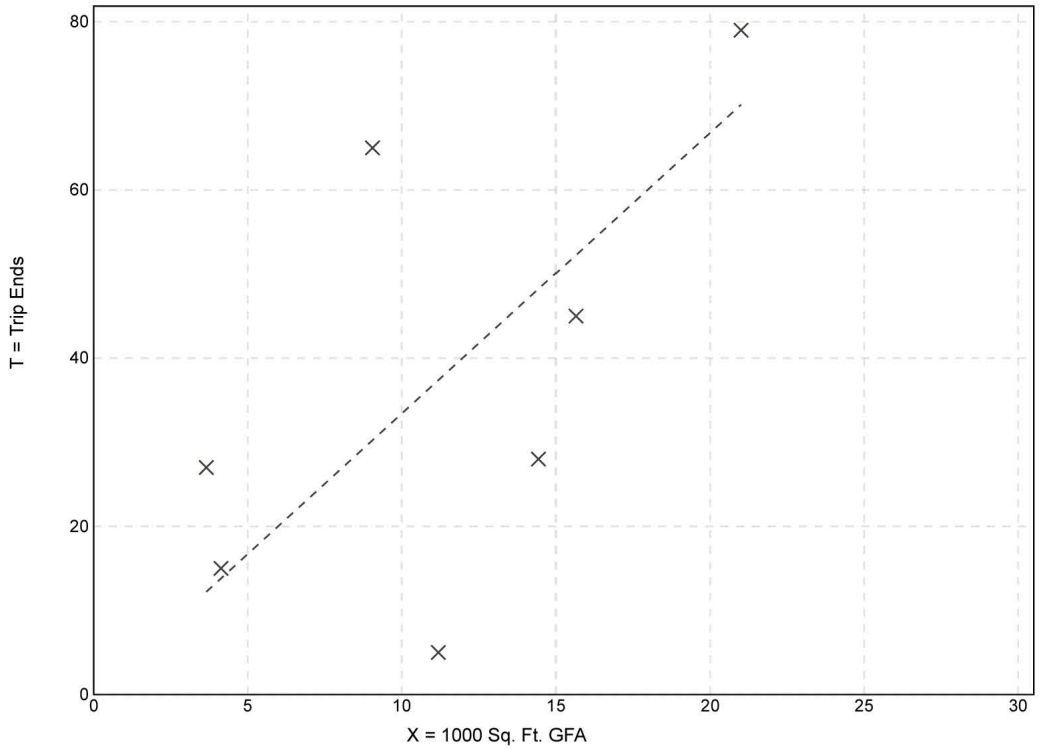
Government Office Building
(730)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	7
1000 Sq. Ft. GFA:	11
Directional Distribution:	75% entering, 25% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
3.34	0.45 - 7.38	2.18

Data Plot and Equation



Fitted Curve Equation: Not Given R^2= ****

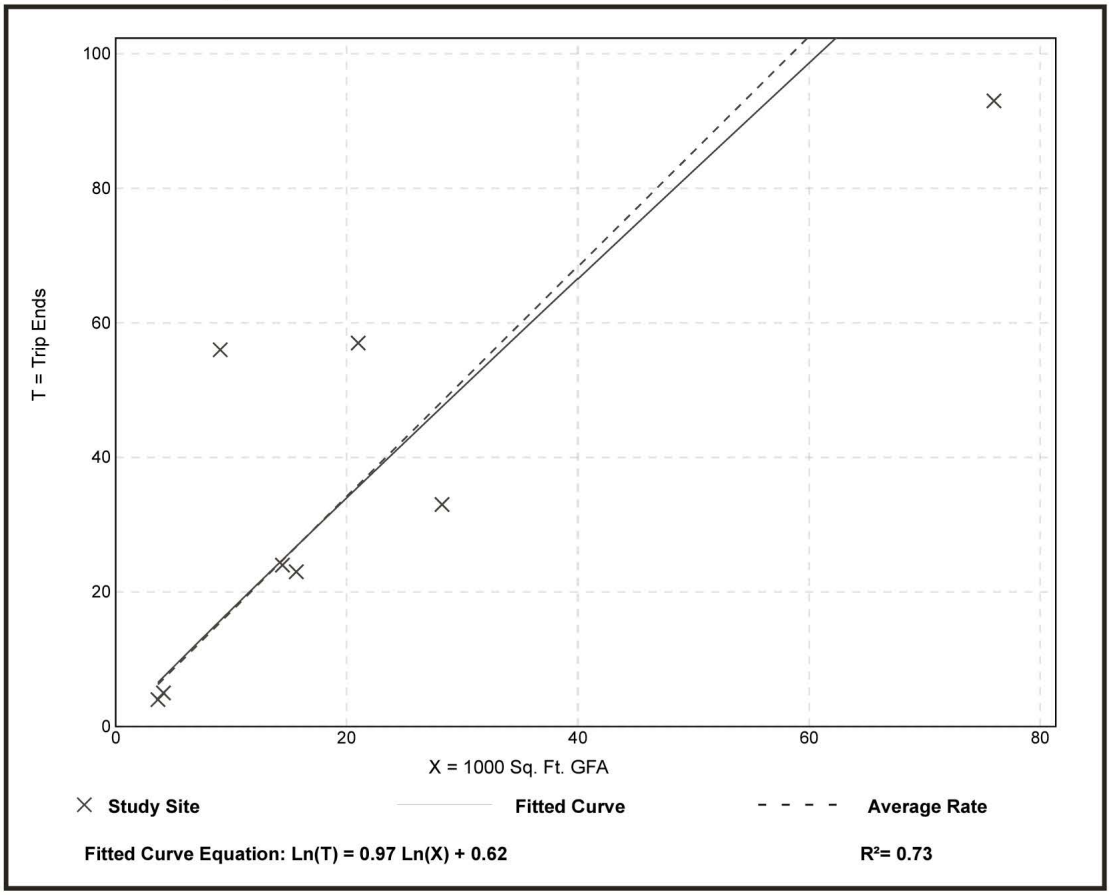
Government Office Building
(730)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	8
1000 Sq. Ft. GFA:	22
Directional Distribution:	25% entering, 75% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.71	1.09 - 6.19	1.24

Data Plot and Equation



Bowling Alley
(437)

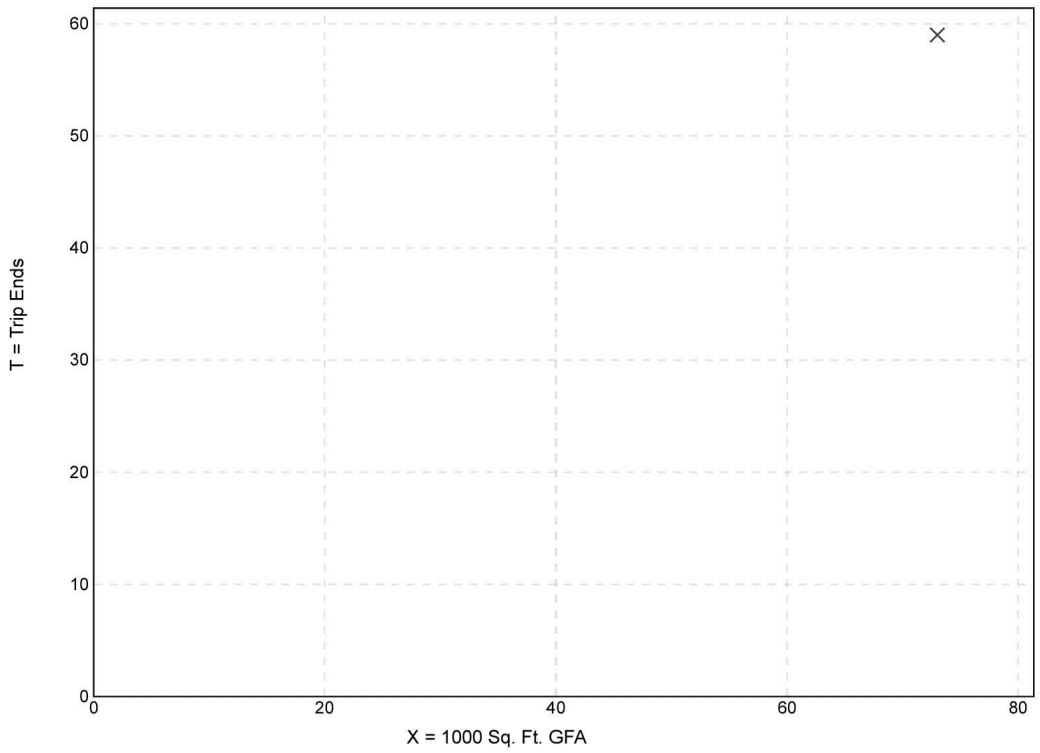
Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 7 and 9 a.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	1
1000 Sq. Ft. GFA:	73
Directional Distribution:	95% entering, 5% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.81	0.81 - 0.81	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

Bowling Alley
(437)

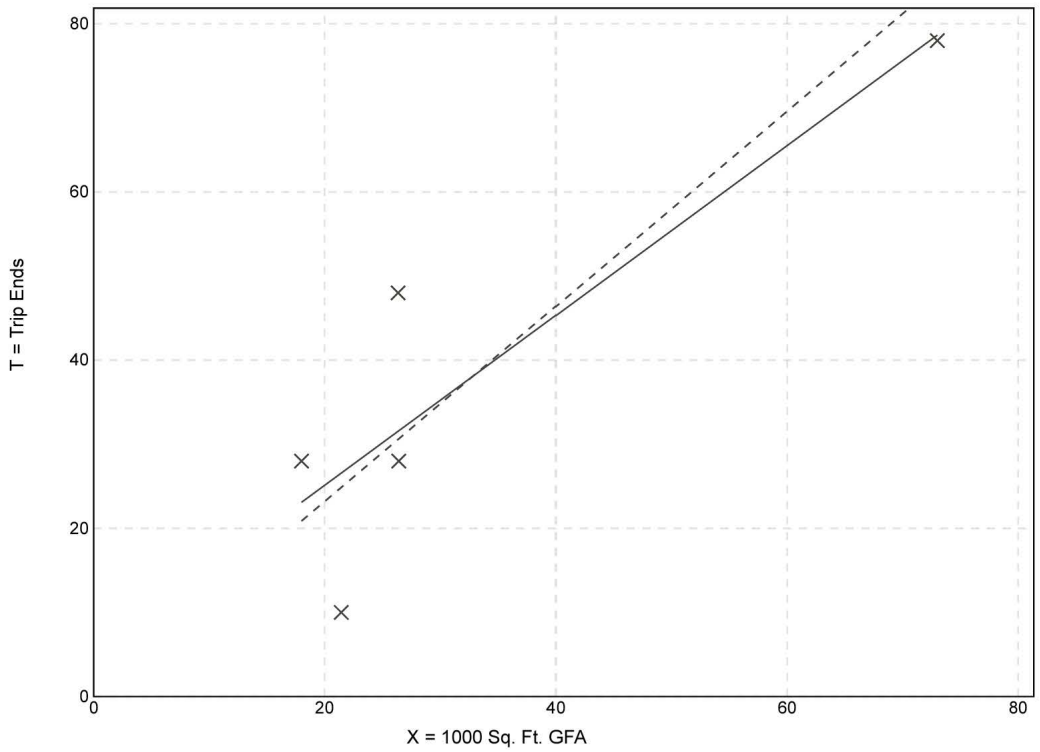
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 4 and 6 p.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 5
1000 Sq. Ft. GFA: 33
Directional Distribution: 65% entering, 35% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
1.16	0.47 - 1.82	0.44

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: T = 1.01(X) + 4.92

R^2= 0.78

Sporting Goods Superstore
(861)

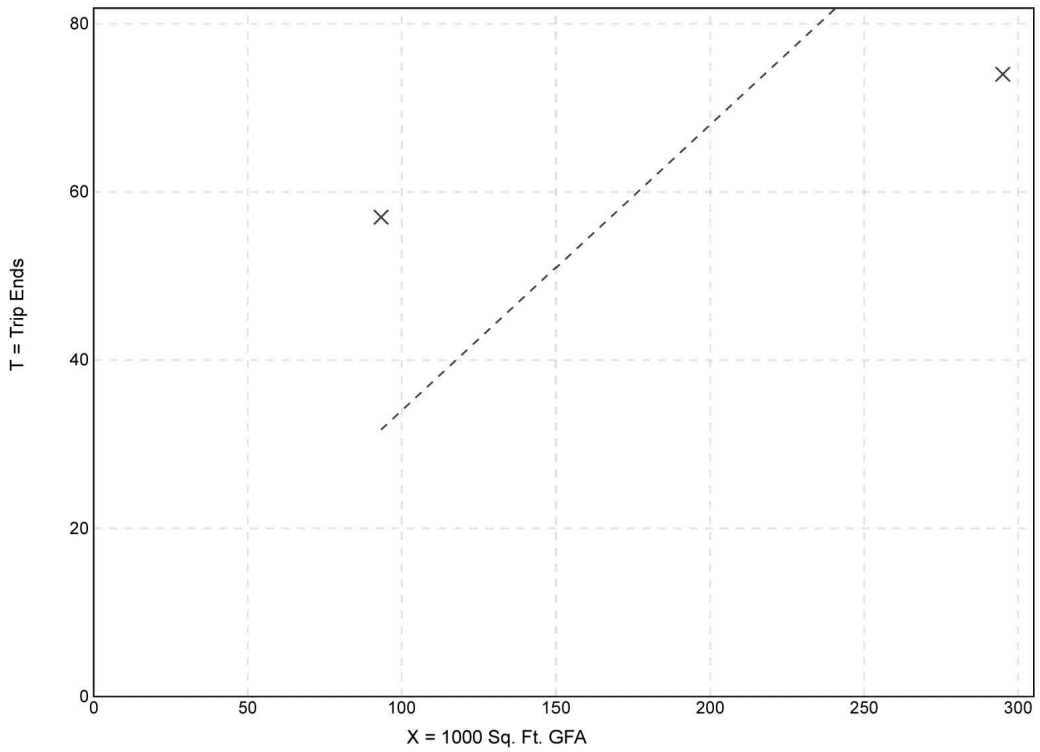
Vehicle Trip Ends vs: **1000 Sq. Ft. GFA**
On a: **Weekday,**
Peak Hour of Adjacent Street Traffic,
One Hour Between 7 and 9 a.m.
Setting/Location: **General Urban/Suburban**
Number of Studies: 2
1000 Sq. Ft. GFA: 194
Directional Distribution: 80% entering, 20% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
0.34	0.25 - 0.61	*

Data Plot and Equation

Caution – Small Sample Size



Fitted Curve Equation: Not Given

R^2= **

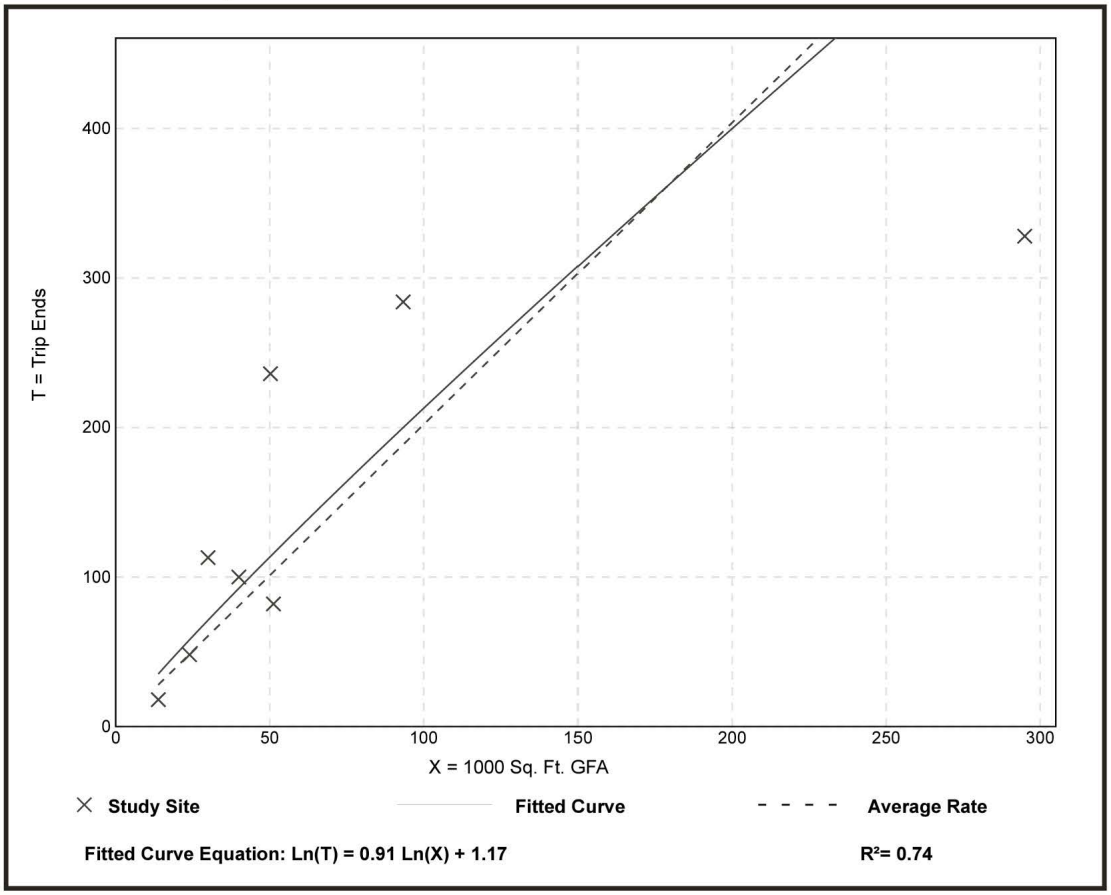
Sporting Goods Superstore
(861)

Vehicle Trip Ends vs:	**1000 Sq. Ft. GFA**
On a:	**Weekday,**
	Peak Hour of Adjacent Street Traffic,
	One Hour Between 4 and 6 p.m.
Setting/Location:	**General Urban/Suburban**
Number of Studies:	8
1000 Sq. Ft. GFA:	75
Directional Distribution:	48% entering, 52% exiting

Vehicle Trip Generation per 1000 Sq. Ft. GFA

Average Rate	Range of Rates	Standard Deviation
2.02	1.11 - 4.70	1.25

Data Plot and Equation



APPENDIX C - 2019 Existing Conditions

Synchro Reports

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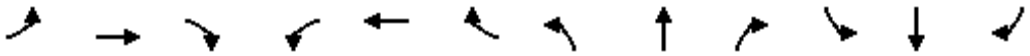
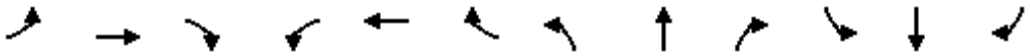


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	38	239	217	89	37	7	125	614	531	43	987	43
Future Volume (vph)	38	239	217	89	37	7	125	614	531	43	987	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.93		1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3287		1681	1733	1583	1770	3293		1770	3517	
Flt Permitted	0.95	1.00		0.95	0.98	1.00	0.15	1.00		0.15	1.00	
Satd. Flow (perm)	1770	3287		1681	1733	1583	277	3293		271	3517	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	42	266	241	99	41	8	139	682	590	48	1097	48
RTOR Reduction (vph)	0	142	0	0	0	7	0	115	0	0	2	0
Lane Group Flow (vph)	42	365	0	69	71	1	139	1157	0	48	1143	0
Turn Type	Split	NA		Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	18.4	18.4		9.6	9.6	9.6	78.2	68.8		69.8	64.6	
Effective Green, g (s)	18.4	18.4		9.6	9.6	9.6	78.2	68.8		69.8	64.6	
Actuated g/C Ratio	0.15	0.15		0.08	0.08	0.08	0.65	0.57		0.58	0.54	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	271	504		134	138	126	297	1887		222	1893	
v/s Ratio Prot	0.02	c0.11		c0.04	0.04		c0.04	c0.35		0.01	0.32	
v/s Ratio Perm						0.00	0.27			0.12		
v/c Ratio	0.15	0.72		0.51	0.51	0.01	0.47	0.61		0.22	0.60	
Uniform Delay, d1	44.1	48.4		53.0	53.0	50.8	12.4	16.8		13.0	18.9	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	5.1		3.3	3.2	0.0	1.2	1.5		0.5	1.4	
Delay (s)	44.3	53.5		56.3	56.2	50.8	13.6	18.3		13.5	20.4	
Level of Service	D	D		E	E	D	B	B		B	C	
Approach Delay (s)		52.8			55.9			17.9			20.1	
Approach LOS		D			E			B			C	

Intersection Summary			
HCM 2000 Control Delay	26.2	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	70.9%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	59	39	187	638	251	61	195	973	112	8	819	75
Future Volume (vph)	59	39	187	638	251	61	195	973	112	8	819	75
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.88		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3099		1681	1731	1583	1770	3485		1770	3495	
Flt Permitted	0.95	1.00		0.95	0.98	1.00	0.10	1.00		0.13	1.00	
Satd. Flow (perm)	1770	3099		1681	1731	1583	179	3485		247	3495	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	66	43	208	709	279	68	217	1081	124	9	910	83
RTOR Reduction (vph)	0	152	0	0	0	46	0	6	0	0	5	0
Lane Group Flow (vph)	66	99	0	489	499	22	217	1199	0	9	988	0
Turn Type	Split	NA		Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	7.5	7.5		38.4	38.4	38.4	60.6	55.1		43.8	42.8	
Effective Green, g (s)	7.5	7.5		38.4	38.4	38.4	60.6	55.1		43.8	42.8	
Actuated g/C Ratio	0.06	0.06		0.32	0.32	0.32	0.51	0.46		0.36	0.36	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	110	193		537	553	506	266	1600		102	1246	
v/s Ratio Prot	c0.04	0.03		c0.29	0.29		c0.09	0.34		0.00	0.28	
v/s Ratio Perm						0.01	c0.32			0.03		
v/c Ratio	0.60	0.51		0.91	0.90	0.04	0.82	0.75		0.09	0.79	
Uniform Delay, d1	54.8	54.5		39.2	39.0	28.1	28.3	26.8		25.8	34.6	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	8.5	2.3		19.6	17.9	0.0	17.3	3.3		0.4	5.2	
Delay (s)	63.3	56.8		58.8	56.9	28.2	45.6	30.0		26.1	39.9	
Level of Service	E	E		E	E	C	D	C		C	D	
Approach Delay (s)		58.1			55.9			32.4			39.7	
Approach LOS		E			E			C			D	

Intersection Summary			
HCM 2000 Control Delay	43.0	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	5.9

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	353	637	52	4	80	113	11	8	2	3	3	15
Future Vol, veh/h	353	637	52	4	80	113	11	8	2	3	3	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	-	-	-	-	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	392	708	58	4	89	126	12	9	2	3	3	17

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	215	0	0	766	0	0	1575	1744	383	1240	1647	45
Stage 1	-	-	-	-	-	-	1521	1521	-	97	97	-
Stage 2	-	-	-	-	-	-	54	223	-	1143	1550	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1352	-	-	843	-	-	74	86	615	131	98	1015
Stage 1	-	-	-	-	-	-	124	179	-	899	814	-
Stage 2	-	-	-	-	-	-	952	718	-	213	173	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1352	-	-	843	-	-	41	42	615	66	48	1015
Mov Cap-2 Maneuver	-	-	-	-	-	-	41	42	-	66	48	-
Stage 1	-	-	-	-	-	-	61	88	-	441	810	-
Stage 2	-	-	-	-	-	-	928	714	-	93	85	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	0.2	151	28.4
HCM LOS			F	D

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	45	1352	-	-	843	-	-	56	1015
HCM Lane V/C Ratio	0.519	0.29	-	-	0.005	-	-	0.119	0.016
HCM Control Delay (s)	151	8.7	1.1	-	9.3	0	-	77.8	8.6
HCM Lane LOS	F	A	A	-	A	A	-	F	A
HCM 95th %tile Q(veh)	1.9	1.2	-	-	0	-	-	0.4	0.1

Intersection	
Int Delay, s/veh	7.4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	29	120	22	4	612	31	72	2	11	49	18	286
Future Vol, veh/h	29	120	22	4	612	31	72	2	11	49	18	286
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	-	-	-	-	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	32	133	24	4	680	34	80	2	12	54	20	318

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	714	0	0	157	0	0	567	931	79	820	909	340
Stage 1	-	-	-	-	-	-	209	209	-	688	688	-
Stage 2	-	-	-	-	-	-	358	722	-	132	221	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	882	-	-	1420	-	-	406	265	965	267	273	656
Stage 1	-	-	-	-	-	-	774	728	-	403	445	-
Stage 2	-	-	-	-	-	-	633	429	-	858	719	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	882	-	-	1420	-	-	190	253	965	253	261	656
Mov Cap-2 Maneuver	-	-	-	-	-	-	190	253	-	253	261	-
Stage 1	-	-	-	-	-	-	743	699	-	387	443	-
Stage 2	-	-	-	-	-	-	310	427	-	811	690	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.6	0	34.7	17.3
HCM LOS			D	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	213	882	-	-	1420	-	-	255	656
HCM Lane V/C Ratio	0.443	0.037	-	-	0.003	-	-	0.292	0.484
HCM Control Delay (s)	34.7	9.2	0.1	-	7.5	0	-	24.8	15.5
HCM Lane LOS	D	A	A	-	A	A	-	C	C
HCM 95th %tile Q(veh)	2.1	0.1	-	-	0	-	-	1.2	2.7

Intersection	
Int Delay, s/veh	38.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	253	389	69	137	237	128
Future Vol, veh/h	253	389	69	137	237	128
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	180	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	281	432	77	152	263	142

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	229	0	-	0	855	39
Stage 1	-	-	-	-	77	-
Stage 2	-	-	-	-	778	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1336	-	-	-	297	1024
Stage 1	-	-	-	-	937	-
Stage 2	-	-	-	-	413	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1336	-	-	-	~ 215	1024
Mov Cap-2 Maneuver	-	-	-	-	~ 215	-
Stage 1	-	-	-	-	677	-
Stage 2	-	-	-	-	413	-

Approach	EB	WB	SB
HCM Control Delay, s	3.6	0	120.7
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1336	-	-	-	215	1024
HCM Lane V/C Ratio	0.21	-	-	-	1.225	0.139
HCM Control Delay (s)	8.4	0.5	-	-	180.9	9.1
HCM Lane LOS	A	A	-	-	F	A
HCM 95th %tile Q(veh)	0.8	-	-	-	13.4	0.5

Notes

~: Volume exceeds capacity $: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon

Intersection	
Int Delay, s/veh	10.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	160	20	308	298	183	339
Future Vol, veh/h	160	20	308	298	183	339
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	180	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	178	22	342	331	203	377

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	673	0	-	0	709	171
Stage 1	-	-	-	-	342	-
Stage 2	-	-	-	-	367	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	914	-	-	-	369	843
Stage 1	-	-	-	-	691	-
Stage 2	-	-	-	-	671	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	914	-	-	-	296	843
Mov Cap-2 Maneuver	-	-	-	-	296	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	671	-

Approach	EB	WB	SB
HCM Control Delay, s	8.8	0	22.3
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	914	-	-	-	296	843
HCM Lane V/C Ratio	0.195	-	-	-	0.687	0.447
HCM Control Delay (s)	9.9	0.1	-	-	40.1	12.7
HCM Lane LOS	A	A	-	-	E	B
HCM 95th %tile Q(veh)	0.7	-	-	-	4.7	2.3

Intersection	
Intersection Delay, s/veh	14.9
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	20	547	59	59	171	20	20	60	20	15	44	15
Future Vol, veh/h	20	547	59	59	171	20	20	60	20	15	44	15
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	22	608	66	66	190	22	22	67	22	17	49	17
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	17.4	11.2	11.5	11.2
HCM LOS	C	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	75%	0%	100%	76%	0%	100%	74%	0%	75%
Vol Right, %	0%	25%	0%	0%	24%	0%	0%	26%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	20	80	20	365	241	59	114	77	15	59
LT Vol	20	0	20	0	0	59	0	0	15	0
Through Vol	0	60	0	365	182	0	114	57	0	44
RT Vol	0	20	0	0	59	0	0	20	0	15
Lane Flow Rate	22	89	22	405	268	66	127	86	17	66
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.049	0.178	0.04	0.679	0.437	0.133	0.239	0.157	0.037	0.133
Departure Headway (Hd)	7.892	7.214	6.541	6.036	5.864	7.292	6.787	6.603	7.984	7.302
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	452	495	546	596	611	490	527	541	446	488
Service Time	5.674	4.996	4.295	3.79	3.618	5.061	4.555	4.371	5.769	5.087
HCM Lane V/C Ratio	0.049	0.18	0.04	0.68	0.439	0.135	0.241	0.159	0.038	0.135
HCM Control Delay	11.1	11.6	9.6	20.7	13.1	11.2	11.7	10.6	11.1	11.2
HCM Lane LOS	B	B	A	C	B	B	B	B	B	B
HCM 95th-tile Q	0.2	0.6	0.1	5.2	2.2	0.5	0.9	0.6	0.1	0.5

Intersection	
Intersection Delay, s/veh	15.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	179	10	10	558	14	31	91	31	17	50	17
Future Vol, veh/h	14	179	10	10	558	14	31	91	31	17	50	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	199	11	11	620	16	34	101	34	19	56	19
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	11.6	19.1	12.2	11.4
HCM LOS	B	C	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	75%	0%	100%	86%	0%	100%	93%	0%	75%
Vol Right, %	0%	25%	0%	0%	14%	0%	0%	7%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	31	122	14	119	70	10	372	200	17	67
LT Vol	31	0	14	0	0	10	0	0	17	0
Through Vol	0	91	0	119	60	0	372	186	0	50
RT Vol	0	31	0	0	10	0	0	14	0	17
Lane Flow Rate	34	136	16	133	77	11	413	222	19	74
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.074	0.267	0.032	0.258	0.149	0.021	0.71	0.379	0.042	0.151
Departure Headway (Hd)	7.769	7.089	7.517	7.009	6.907	6.693	6.187	6.137	7.999	7.317
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	459	504	474	509	516	533	583	584	445	487
Service Time	5.556	4.876	5.304	4.796	4.694	4.457	3.951	3.902	5.796	5.114
HCM Lane V/C Ratio	0.074	0.27	0.034	0.261	0.149	0.021	0.708	0.38	0.043	0.152
HCM Control Delay	11.2	12.5	10.6	12.2	10.9	9.6	22.8	12.6	11.2	11.4
HCM Lane LOS	B	B	B	B	B	A	C	B	B	B
HCM 95th-tile Q	0.2	1.1	0.1	1	0.5	0.1	5.8	1.8	0.1	0.5

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	1	21	58	1
Future Vol, veh/h	0	1	1	21	58	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	1	23	64	1
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB		SB
Opposing Approach	WB	EB		
Opposing Lanes	1	1		0
Conflicting Approach Left	SB			WB
Conflicting Lanes Left	1	0		1
Conflicting Approach Right		SB		EB
Conflicting Lanes Right	0	1		1
HCM Control Delay	7.1	6.6		7.5
HCM LOS	A	A		A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	98%
Vol Thru, %	100%	5%	0%
Vol Right, %	0%	95%	2%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	1	22	59
LT Vol	0	0	58
Through Vol	1	1	0
RT Vol	0	21	1
Lane Flow Rate	1	24	66
Geometry Grp	1	1	1
Degree of Util (X)	0.001	0.024	0.076
Departure Headway (Hd)	4.067	3.476	4.165
Convergence, Y/N	Yes	Yes	Yes
Cap	877	1026	865
Service Time	2.105	1.511	2.169
HCM Lane V/C Ratio	0.001	0.023	0.076
HCM Control Delay	7.1	6.6	7.5
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.2

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	41	22	9	44	39	5
Future Vol, veh/h	41	22	9	44	39	5
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	46	24	10	49	43	6
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	7.6	6.8	7.6
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	65%	0%	89%
Vol Thru, %	35%	17%	0%
Vol Right, %	0%	83%	11%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	63	53	44
LT Vol	41	0	39
Through Vol	22	9	0
RT Vol	0	44	5
Lane Flow Rate	70	59	49
Geometry Grp	1	1	1
Degree of Util (X)	0.082	0.058	0.058
Departure Headway (Hd)	4.193	3.573	4.264
Convergence, Y/N	Yes	Yes	Yes
Cap	853	995	835
Service Time	2.229	1.62	2.314
HCM Lane V/C Ratio	0.082	0.059	0.059
HCM Control Delay	7.6	6.8	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.2	0.2

Intersection	
Intersection Delay, s/veh	7.5
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	46	0	31	31	0	46	10	31	10	14	14	14
Future Vol, veh/h	46	0	31	31	0	46	10	31	10	14	14	14
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	51	0	34	34	0	51	11	34	11	16	16	16
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.6	7.4	7.6	7.5
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	60%	40%	33%
Vol Thru, %	61%	0%	0%	33%
Vol Right, %	20%	40%	60%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	51	77	77	42
LT Vol	10	46	31	14
Through Vol	31	0	0	14
RT Vol	10	31	46	14
Lane Flow Rate	57	86	86	47
Geometry Grp	1	1	1	1
Degree of Util (X)	0.066	0.096	0.093	0.054
Departure Headway (Hd)	4.186	4.055	3.899	4.139
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	844	874	908	853
Service Time	2.27	2.127	1.973	2.225
HCM Lane V/C Ratio	0.068	0.098	0.095	0.055
HCM Control Delay	7.6	7.6	7.4	7.5
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.2	0.3	0.3	0.2

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	12	44	5	5	11	12	16	48	16	26	28	26
Future Vol, veh/h	12	44	5	5	11	12	16	48	16	26	28	26
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	13	49	6	6	12	13	18	53	18	29	31	29
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.3	7.6	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	20%	18%	33%
Vol Thru, %	60%	72%	39%	35%
Vol Right, %	20%	8%	43%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	80	61	28	80
LT Vol	16	12	5	26
Through Vol	48	44	11	28
RT Vol	16	5	12	26
Lane Flow Rate	89	68	31	89
Geometry Grp	1	1	1	1
Degree of Util (X)	0.101	0.08	0.036	0.1
Departure Headway (Hd)	4.094	4.255	4.173	4.044
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	865	830	863	876
Service Time	2.168	2.345	2.173	2.119
HCM Lane V/C Ratio	0.103	0.082	0.036	0.102
HCM Control Delay	7.6	7.7	7.3	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.3	0.1	0.3

APPENDIX D - 2029 No Action

Synchro Reports

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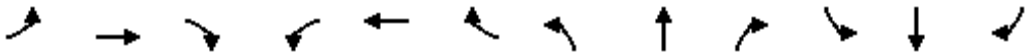
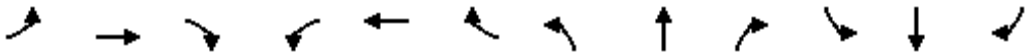


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	277	252	103	43	8	145	712	616	50	1145	50
Future Volume (vph)	44	277	252	103	43	8	145	712	616	50	1145	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.93		1.00	1.00	0.85	1.00	0.93		1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3286		1681	1734	1583	1770	3293		1770	3517	
Flt Permitted	0.95	1.00		0.95	0.98	1.00	0.09	1.00		0.09	1.00	
Satd. Flow (perm)	1770	3286		1681	1734	1583	164	3293		169	3517	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	49	308	280	114	48	9	161	791	684	56	1272	56
RTOR Reduction (vph)	0	142	0	0	0	8	0	120	0	0	2	0
Lane Group Flow (vph)	49	446	0	80	82	1	161	1355	0	56	1326	0
Turn Type	Split	NA		Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	20.6	20.6		9.6	9.6	9.6	76.3	66.9		65.8	60.9	
Effective Green, g (s)	20.6	20.6		9.6	9.6	9.6	76.3	66.9		65.8	60.9	
Actuated g/C Ratio	0.17	0.17		0.08	0.08	0.08	0.64	0.56		0.55	0.51	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	303	564		134	138	126	250	1835		158	1784	
v/s Ratio Prot	0.03	c0.14		c0.05	0.05		c0.06	c0.41		0.01	0.38	
v/s Ratio Perm						0.00	0.35			0.18		
v/c Ratio	0.16	0.79		0.60	0.59	0.01	0.64	0.74		0.35	0.74	
Uniform Delay, d1	42.3	47.6		53.3	53.3	50.8	18.8	20.0		17.1	23.4	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.3	7.5		7.0	6.7	0.0	5.6	2.7		1.4	2.8	
Delay (s)	42.6	55.1		60.3	60.0	50.8	24.4	22.7		18.5	26.2	
Level of Service	D	E		E	E	D	C	C		B	C	
Approach Delay (s)		54.1			59.7			22.9			25.9	
Approach LOS		D			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	45	217	740	291	71	226	1129	130	9	950	87
Future Volume (vph)	68	45	217	740	291	71	226	1129	130	9	950	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.88		1.00	1.00	0.85	1.00	0.98		1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3100		1681	1731	1583	1770	3485		1770	3495	
Flt Permitted	0.95	1.00		0.95	0.98	1.00	0.08	1.00		0.09	1.00	
Satd. Flow (perm)	1770	3100		1681	1731	1583	153	3485		168	3495	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	76	50	241	822	323	79	251	1254	144	10	1056	97
RTOR Reduction (vph)	0	132	0	0	0	52	0	7	0	0	5	0
Lane Group Flow (vph)	76	159	0	567	578	27	251	1391	0	10	1148	0
Turn Type	Split	NA		Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	8.2	8.2		44.6	44.6	44.6	63.7	58.2		45.3	44.3	
Effective Green, g (s)	8.2	8.2		44.6	44.6	44.6	63.7	58.2		45.3	44.3	
Actuated g/C Ratio	0.06	0.06		0.34	0.34	0.34	0.49	0.45		0.35	0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	111	195		576	593	543	260	1560		70	1190	
v/s Ratio Prot	0.04	c0.05		c0.34	0.33		c0.11	0.40		0.00	0.33	
v/s Ratio Perm						0.02	c0.36			0.05		
v/c Ratio	0.68	1.04dr		0.98	0.97	0.05	0.97	0.89		0.14	0.96	
Uniform Delay, d1	59.6	60.2		42.4	42.1	28.5	39.9	33.0		31.6	42.1	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	16.1	22.3		33.3	30.4	0.0	45.8	8.2		0.9	18.8	
Delay (s)	75.7	82.5		75.6	72.5	28.6	85.7	41.2		32.5	60.9	
Level of Service	E	F		E	E	C	F	D		C	E	
Approach Delay (s)		81.1			71.1			47.9			60.7	
Approach LOS		F			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	60.5	HCM 2000 Level of Service	E
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		

dr Defacto Right Lane. Recode with 1 though lane as a right lane.

c Critical Lane Group

Intersection	
Int Delay, s/veh	14.7

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	409	739	60	5	93	131	13	9	2	3	3	17
Future Vol, veh/h	409	739	60	5	93	131	13	9	2	3	3	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	-	-	-	-	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	454	821	67	6	103	146	14	10	2	3	3	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	249	0	0	888	0	0	1828	2024	444	1439	1911	52
Stage 1	-	-	-	-	-	-	1763	1763	-	115	115	-
Stage 2	-	-	-	-	-	-	65	261	-	1324	1796	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1314	-	-	758	-	-	48	57	561	94	67	1005
Stage 1	-	-	-	-	-	-	87	136	-	877	799	-
Stage 2	-	-	-	-	-	-	938	691	-	165	131	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1314	-	-	758	-	-	18	17	561	24	20	1005
Mov Cap-2 Maneuver	-	-	-	-	-	-	18	17	-	24	20	-
Stage 1	-	-	-	-	-	-	27	42	-	270	792	-
Stage 2	-	-	-	-	-	-	908	685	-	39	40	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	4	0.2	$ 642.9	66
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	19	1314	-	-	758	-	-	22	1005
HCM Lane V/C Ratio	1.404	0.346	-	-	0.007	-	-	0.303	0.019
HCM Control Delay (s)	$ 642.9	9.2	1.5	-	9.8	0	-	228.4	8.7
HCM Lane LOS	F	A	A	-	A	A	-	F	A
HCM 95th %tile Q(veh)	3.7	1.6	-	-	0	-	-	0.9	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	13.3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	139	26	5	710	36	84	2	13	57	21	332
Future Vol, veh/h	34	139	26	5	710	36	84	2	13	57	21	332
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	-	-	-	-	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	154	29	6	789	40	93	2	14	63	23	369

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	829	0	0	183	0	0	663	1086	92	955	1060	395
Stage 1	-	-	-	-	-	-	245	245	-	801	801	-
Stage 2	-	-	-	-	-	-	418	841	-	154	259	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	798	-	-	1389	-	-	347	215	947	213	223	604
Stage 1	-	-	-	-	-	-	737	702	-	344	395	-
Stage 2	-	-	-	-	-	-	583	379	-	833	692	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	798	-	-	1389	-	-	118	202	947	198	209	604
Mov Cap-2 Maneuver	-	-	-	-	-	-	118	202	-	198	209	-
Stage 1	-	-	-	-	-	-	698	665	-	326	392	-
Stage 2	-	-	-	-	-	-	212	376	-	774	655	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.8	0.1	97.3	22.9
HCM LOS			F	C

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	135	798	-	-	1389	-	-	201	604
HCM Lane V/C Ratio	0.815	0.047	-	-	0.004	-	-	0.431	0.611
HCM Control Delay (s)	97.3	9.7	0.2	-	7.6	0	-	35.8	19.9
HCM Lane LOS	F	A	A	-	A	A	-	E	C
HCM 95th %tile Q(veh)	5	0.1	-	-	0	-	-	2	4.1

Intersection	
Int Delay, s/veh	99.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	293	451	80	159	275	148
Future Vol, veh/h	293	451	80	159	275	148
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	180	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	326	501	89	177	306	164

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	266	0	-	0	992	45
Stage 1	-	-	-	-	89	-
Stage 2	-	-	-	-	903	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1295	-	-	-	~ 243	1015
Stage 1	-	-	-	-	924	-
Stage 2	-	-	-	-	356	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1295	-	-	-	~ 158	1015
Mov Cap-2 Maneuver	-	-	-	-	~ 158	-
Stage 1	-	-	-	-	602	-
Stage 2	-	-	-	-	356	-

Approach	EB	WB	SB
HCM Control Delay, s	3.9	0	$ 322.4
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1295	-	-	-	158	1015
HCM Lane V/C Ratio	0.251	-	-	-	1.934	0.162
HCM Control Delay (s)	8.7	0.7	-	-	$ 490.9	9.2
HCM Lane LOS	A	A	-	-	F	A
HCM 95th %tile Q(veh)	1	-	-	-	23.4	0.6

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	20

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	186	23	357	346	212	393
Future Vol, veh/h	186	23	357	346	212	393
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	180	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	207	26	397	384	236	437

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	781	0	-	0	824	199
Stage 1	-	-	-	-	397	-
Stage 2	-	-	-	-	427	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	832	-	-	-	311	809
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	626	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	832	-	-	-	~ 233	809
Mov Cap-2 Maneuver	-	-	-	-	~ 233	-
Stage 1	-	-	-	-	485	-
Stage 2	-	-	-	-	626	-

Approach	EB	WB	SB
HCM Control Delay, s	9.6	0	46.8
HCM LOS			E

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	832	-	-	-	233	809
HCM Lane V/C Ratio	0.248	-	-	-	1.011	0.54
HCM Control Delay (s)	10.8	0.1	-	-	106.8	14.5
HCM Lane LOS	B	A	-	-	F	B
HCM 95th %tile Q(veh)	1	-	-	-	9.6	3.3

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	20.9
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	635	68	68	198	23	23	70	23	17	51	17
Future Vol, veh/h	23	635	68	68	198	23	23	70	23	17	51	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	706	76	76	220	26	26	78	26	19	57	19
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	26.7	12.4	12.6	12.2
HCM LOS	D	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	75%	0%	100%	76%	0%	100%	74%	0%	75%
Vol Right, %	0%	25%	0%	0%	24%	0%	0%	26%	0%	25%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	93	23	423	280	68	132	89	17	68
LT Vol	23	0	23	0	0	68	0	0	17	0
Through Vol	0	70	0	423	212	0	132	66	0	51
RT Vol	0	23	0	0	68	0	0	23	0	17
Lane Flow Rate	26	103	26	470	311	76	147	99	19	76
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.06	0.224	0.049	0.843	0.542	0.164	0.298	0.196	0.045	0.167
Departure Headway (Hd)	8.495	7.817	6.957	6.451	6.279	7.818	7.31	7.127	8.618	7.937
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	422	460	518	564	578	459	493	504	416	452
Service Time	6.237	5.559	4.657	4.151	3.979	5.555	5.048	4.864	6.362	5.682
HCM Lane V/C Ratio	0.062	0.224	0.05	0.833	0.538	0.166	0.298	0.196	0.046	0.168
HCM Control Delay	11.8	12.8	10	34.6	16.2	12.1	13.1	11.6	11.8	12.3
HCM Lane LOS	B	B	A	D	C	B	B	B	B	B
HCM 95th-tile Q	0.2	0.8	0.2	8.9	3.2	0.6	1.2	0.7	0.1	0.6

Intersection	
Intersection Delay, s/veh	24.1
Intersection LOS	C

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	208	12	12	647	16	36	106	36	20	58	20
Future Vol, veh/h	16	208	12	12	647	16	36	106	36	20	58	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	231	13	13	719	18	40	118	40	22	64	22
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	13.2	32.2	13.9	12.6
HCM LOS	B	D	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	75%	0%	100%	85%	0%	100%	93%	0%	74%
Vol Right, %	0%	25%	0%	0%	15%	0%	0%	7%	0%	26%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	142	16	139	81	12	431	232	20	78
LT Vol	36	0	16	0	0	12	0	0	20	0
Through Vol	0	106	0	139	69	0	431	216	0	58
RT Vol	0	36	0	0	12	0	0	16	0	20
Lane Flow Rate	40	158	18	154	90	13	479	257	22	87
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.093	0.338	0.04	0.327	0.189	0.027	0.89	0.472	0.054	0.193
Departure Headway (Hd)	8.396	7.714	8.147	7.637	7.531	7.159	6.687	6.602	8.7	8.014
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	427	465	439	470	476	501	546	546	412	447
Service Time	6.147	5.465	5.899	5.389	5.283	4.894	4.387	4.337	6.456	5.769
HCM Lane V/C Ratio	0.094	0.34	0.041	0.328	0.189	0.026	0.877	0.471	0.053	0.195
HCM Control Delay	12	14.4	11.2	14.1	12	10.1	42	15.1	12	12.7
HCM Lane LOS	B	B	B	B	B	B	E	C	B	B
HCM 95th-tile Q	0.3	1.5	0.1	1.4	0.7	0.1	10.2	2.5	0.2	0.7

Intersection	
Intersection Delay, s/veh	7.3
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	0	1	1	24	67	1
Future Vol, veh/h	0	1	1	24	67	1
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	1	1	27	74	1
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB		SB
Opposing Approach	WB	EB		
Opposing Lanes	1	1		0
Conflicting Approach Left	SB			WB
Conflicting Lanes Left	1	0		1
Conflicting Approach Right		SB		EB
Conflicting Lanes Right	0	1		1
HCM Control Delay	7.1	6.6		7.6
HCM LOS	A	A		A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	0%	0%	99%
Vol Thru, %	100%	4%	0%
Vol Right, %	0%	96%	1%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	1	25	68
LT Vol	0	0	67
Through Vol	1	1	0
RT Vol	0	24	1
Lane Flow Rate	1	28	76
Geometry Grp	1	1	1
Degree of Util (X)	0.001	0.027	0.088
Departure Headway (Hd)	4.088	3.49	4.173
Convergence, Y/N	Yes	Yes	Yes
Cap	871	1020	863
Service Time	2.131	1.532	2.177
HCM Lane V/C Ratio	0.001	0.027	0.088
HCM Control Delay	7.1	6.6	7.6
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0	0.1	0.3

Intersection	
Intersection Delay, s/veh	7.4
Intersection LOS	A

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	48	26	10	51	45	6
Future Vol, veh/h	48	26	10	51	45	6
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	53	29	11	57	50	7
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	7.7	6.9	7.7
HCM LOS	A	A	A

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	65%	0%	88%
Vol Thru, %	35%	16%	0%
Vol Right, %	0%	84%	12%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	74	61	51
LT Vol	48	0	45
Through Vol	26	10	0
RT Vol	0	51	6
Lane Flow Rate	82	68	57
Geometry Grp	1	1	1
Degree of Util (X)	0.096	0.068	0.068
Departure Headway (Hd)	4.214	3.593	4.297
Convergence, Y/N	Yes	Yes	Yes
Cap	847	988	827
Service Time	2.257	1.648	2.356
HCM Lane V/C Ratio	0.097	0.069	0.069
HCM Control Delay	7.7	6.9	7.7
HCM Lane LOS	A	A	A
HCM 95th-tile Q	0.3	0.2	0.2

Intersection	
Intersection Delay, s/veh	7.6
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	0	36	36	0	53	12	36	12	16	16	16
Future Vol, veh/h	53	0	36	36	0	53	12	36	12	16	16	16
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	0	40	40	0	59	13	40	13	18	18	18
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.7	7.5	7.7	7.6
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	60%	40%	33%
Vol Thru, %	60%	0%	0%	33%
Vol Right, %	20%	40%	60%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	89	89	48
LT Vol	12	53	36	16
Through Vol	36	0	0	16
RT Vol	12	36	53	16
Lane Flow Rate	67	99	99	53
Geometry Grp	1	1	1	1
Degree of Util (X)	0.078	0.112	0.108	0.064
Departure Headway (Hd)	4.237	4.094	3.94	4.296
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	831	862	894	839
Service Time	2.337	2.182	2.032	2.296
HCM Lane V/C Ratio	0.081	0.115	0.111	0.063
HCM Control Delay	7.7	7.7	7.5	7.6
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.4	0.4	0.2

Intersection	
Intersection Delay, s/veh	7.8
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	14	51	6	6	13	14	19	56	19	30	32	30
Future Vol, veh/h	14	51	6	6	13	14	19	56	19	30	32	30
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	16	57	7	7	14	16	21	62	21	33	36	33
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	7.9	7.5	7.8	7.7
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	20%	18%	33%
Vol Thru, %	60%	72%	39%	35%
Vol Right, %	20%	8%	42%	33%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	71	33	92
LT Vol	19	14	6	30
Through Vol	56	51	13	32
RT Vol	19	6	14	30
Lane Flow Rate	104	79	37	102
Geometry Grp	1	1	1	1
Degree of Util (X)	0.12	0.097	0.043	0.116
Departure Headway (Hd)	4.133	4.416	4.257	4.085
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	853	817	846	863
Service Time	2.229	2.417	2.26	2.182
HCM Lane V/C Ratio	0.122	0.097	0.044	0.118
HCM Control Delay	7.8	7.9	7.5	7.7
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.3	0.1	0.4

APPENDIX E - 2029 Alternative 1

Synchro Reports

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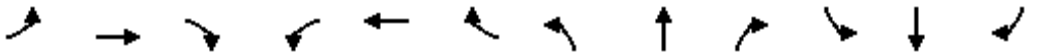
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	44	371	252	239	111	25	145	712	804	73	1145	50
Future Volume (vph)	44	371	252	239	111	25	145	712	804	73	1145	50
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.94		1.00	1.00	0.85	1.00	0.92		1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3324		1681	1737	1583	1770	3258		1770	3517	
Flt Permitted	0.95	1.00		0.95	0.98	1.00	0.07	1.00		0.07	1.00	
Satd. Flow (perm)	1770	3324		1681	1737	1583	128	3258		138	3517	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	49	412	280	266	123	28	161	791	893	81	1272	56
RTOR Reduction (vph)	0	100	0	0	0	24	0	166	0	0	3	0
Lane Group Flow (vph)	49	592	0	192	197	4	161	1518	0	81	1325	0
Turn Type	Split	NA		Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	22.7	22.7		15.3	15.3	15.3	68.5	59.9		57.9	53.8	
Effective Green, g (s)	22.7	22.7		15.3	15.3	15.3	68.5	59.9		57.9	53.8	
Actuated g/C Ratio	0.19	0.19		0.13	0.13	0.13	0.57	0.50		0.48	0.45	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	334	628		214	221	201	212	1626		122	1576	
v/s Ratio Prot	0.03	c0.18		c0.11	0.11		c0.06	c0.47		0.02	0.38	
v/s Ratio Perm						0.00	0.37			0.30		
v/c Ratio	0.15	0.94		0.90	0.89	0.02	0.76	0.93		0.66	0.84	
Uniform Delay, d1	40.6	48.0		51.6	51.5	45.8	28.9	28.2		27.0	29.3	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	0.2	22.7		34.6	32.9	0.0	14.4	11.3		12.8	5.6	
Delay (s)	40.8	70.8		86.2	84.4	45.8	43.3	39.5		39.8	34.9	
Level of Service	D	E		F	F	D	D	D		D	C	
Approach Delay (s)		68.8			82.7			39.8			35.2	
Approach LOS		E			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	47.2	HCM 2000 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	92.6%	ICU Level of Service	F
Analysis Period (min)	15		

c Critical Lane Group



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	68	111	217	895	369	90	226	1129	263	26	950	87
Future Volume (vph)	68	111	217	895	369	90	226	1129	263	26	950	87
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Lane Util. Factor	1.00	0.95		0.95	0.95	1.00	1.00	0.95		1.00	0.95	
Frt	1.00	0.90		1.00	1.00	0.85	1.00	0.97		1.00	0.99	
Flt Protected	0.95	1.00		0.95	0.98	1.00	0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3188		1681	1733	1583	1770	3439		1770	3495	
Flt Permitted	0.95	1.00		0.95	0.98	1.00	0.06	1.00		0.07	1.00	
Satd. Flow (perm)	1770	3188		1681	1733	1583	117	3439		126	3495	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	76	123	241	994	410	100	251	1254	292	29	1056	97
RTOR Reduction (vph)	0	132	0	0	0	61	0	11	0	0	4	0
Lane Group Flow (vph)	76	232	0	696	708	39	251	1535	0	29	1149	0
Turn Type	Split	NA		Split	NA	Perm	pm+pt	NA		pm+pt	NA	
Protected Phases	4	4		8	8		5	2		1	6	
Permitted Phases						8	2			6		
Actuated Green, G (s)	12.9	12.9		69.5	69.5	69.5	84.1	75.6		63.1	59.1	
Effective Green, g (s)	12.9	12.9		69.5	69.5	69.5	84.1	75.6		63.1	59.1	
Actuated g/C Ratio	0.07	0.07		0.39	0.39	0.39	0.47	0.42		0.35	0.33	
Clearance Time (s)	4.5	4.5		4.5	4.5	4.5	4.5	4.5		4.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0	3.0	3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	126	228		649	669	611	242	1444		80	1147	
v/s Ratio Prot	0.04	c0.07		c0.41	0.41		c0.12	c0.45		0.01	0.33	
v/s Ratio Perm						0.02	0.36			0.12		
v/c Ratio	0.60	1.02		1.07	1.06	0.06	1.04	1.06		0.36	1.00	
Uniform Delay, d1	81.1	83.5		55.2	55.2	34.8	61.2	52.2		47.2	60.5	
Progression Factor	1.00	1.00		1.00	1.00	1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2	7.9	64.4		56.3	51.2	0.0	67.9	42.4		2.8	27.0	
Delay (s)	89.0	148.0		111.6	106.5	34.8	129.1	94.6		49.9	87.4	
Level of Service	F	F		F	F	C	F	F		D	F	
Approach Delay (s)		137.8			104.1			99.4			86.5	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	101.2	HCM 2000 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	180.0	Sum of lost time (s)	18.0
Intersection Capacity Utilization	103.3%	ICU Level of Service	G
Analysis Period (min)	15		

c Critical Lane Group

Intersection	
Int Delay, s/veh	2.8

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	409	739	365	51	93	131	234	43	36	3	50	17
Future Vol, veh/h	409	739	365	51	93	131	234	43	36	3	50	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	-	-	-	-	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	454	821	406	57	103	146	260	48	40	3	56	19

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	249	0	0	1227	0	0	2126	2295	614	1560	2352	52
Stage 1	-	-	-	-	-	-	1932	1932	-	217	217	-
Stage 2	-	-	-	-	-	-	194	363	-	1343	2135	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	1314	-	-	564	-	-	~ 28	~ 38	435	76	~ 35	1005
Stage 1	-	-	-	-	-	-	~ 68	112	-	765	722	-
Stage 2	-	-	-	-	-	-	789	623	-	160	88	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1314	-	-	564	-	-	-	0	435	-	0	1005
Mov Cap-2 Maneuver	-	-	-	-	-	-	-	0	-	-	0	-
Stage 1	-	-	-	-	-	-	~ 68	0	-	765	635	-
Stage 2	-	-	-	-	-	-	622	548	-	-	0	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	3.6	2.3		
HCM LOS			-	-

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	-	1314	-	-	564	-	-	-	1005
HCM Lane V/C Ratio	-	0.346	-	-	0.1	-	-	-	0.019
HCM Control Delay (s)	-	9.2	2.2	-	12.1	0.3	-	-	8.7
HCM Lane LOS	-	A	A	-	B	A	-	-	A
HCM 95th %tile Q(veh)	-	1.6	-	-	0.3	-	-	-	0.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	628

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	34	139	242	38	710	36	336	41	52	57	54	332
Future Vol, veh/h	34	139	242	38	710	36	336	41	52	57	54	332
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	-	-	-	-	-	150	-	-	-	-	-	300
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	38	154	269	42	789	40	373	46	58	63	60	369

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	829	0	0	423	0	0	874	1278	212	1049	1372	395
Stage 1	-	-	-	-	-	-	365	365	-	873	873	-
Stage 2	-	-	-	-	-	-	509	913	-	176	499	-
Critical Hdwy	4.14	-	-	4.14	-	-	7.54	6.54	6.94	7.54	6.54	6.94
Critical Hdwy Stg 1	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.54	5.54	-	6.54	5.54	-
Follow-up Hdwy	2.22	-	-	2.22	-	-	3.52	4.02	3.32	3.52	4.02	3.32
Pot Cap-1 Maneuver	798	-	-	1133	-	-	~ 244	165	793	182	145	604
Stage 1	-	-	-	-	-	-	627	622	-	311	366	-
Stage 2	-	-	-	-	-	-	515	350	-	809	542	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	798	-	-	1133	-	-	~ 54	144	793	115	126	604
Mov Cap-2 Maneuver	-	-	-	-	-	-	~ 54	144	-	115	126	-
Stage 1	-	-	-	-	-	-	586	582	-	291	341	-
Stage 2	-	-	-	-	-	-	~ 154	326	-	646	507	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.9	0.7	$ 2973.1	54.8
HCM LOS			F	F

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	65	798	-	-	1133	-	-	120	604
HCM Lane V/C Ratio	7.333	0.047	-	-	0.037	-	-	1.028	0.611
HCM Control Delay (s)	$ 2973.1	9.7	0.2	-	8.3	0.3	-	159.2	19.9
HCM Lane LOS	F	A	A	-	A	A	-	F	C
HCM 95th %tile Q(veh)	54.7	0.1	-	-	0.1	-	-	7	4.1

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	122.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	310	468	103	159	275	171
Future Vol, veh/h	310	468	103	159	275	171
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	180	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	344	520	114	177	306	190

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	291	0	-	0	1062	57
Stage 1	-	-	-	-	114	-
Stage 2	-	-	-	-	948	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	1268	-	-	-	~ 219	997
Stage 1	-	-	-	-	898	-
Stage 2	-	-	-	-	337	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1268	-	-	-	~ 135	997
Mov Cap-2 Maneuver	-	-	-	-	~ 135	-
Stage 1	-	-	-	-	555	-
Stage 2	-	-	-	-	337	-

Approach	EB	WB	SB
HCM Control Delay, s	4	0	$ 401
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	1268	-	-	-	135	997
HCM Lane V/C Ratio	0.272	-	-	-	2.263	0.191
HCM Control Delay (s)	8.9	0.7	-	-	$ 644.5	9.5
HCM Lane LOS	A	A	-	-	F	A
HCM 95th %tile Q(veh)	1.1	-	-	-	25.8	0.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Int Delay, s/veh	28.2

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	206	42	374	346	212	410
Future Vol, veh/h	206	42	374	346	212	410
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	180	0	250
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	229	47	416	384	236	456

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	800	0	-	0	898	208
Stage 1	-	-	-	-	416	-
Stage 2	-	-	-	-	482	-
Critical Hdwy	4.14	-	-	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	2.22	-	-	-	3.52	3.32
Pot Cap-1 Maneuver	819	-	-	-	279	798
Stage 1	-	-	-	-	634	-
Stage 2	-	-	-	-	587	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	819	-	-	-	~ 199	798
Mov Cap-2 Maneuver	-	-	-	-	~ 199	-
Stage 1	-	-	-	-	452	-
Stage 2	-	-	-	-	587	-

Approach	EB	WB	SB
HCM Control Delay, s	9.2	0	68.3
HCM LOS			F

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	819	-	-	-	199	798
HCM Lane V/C Ratio	0.279	-	-	-	1.184	0.571
HCM Control Delay (s)	11.1	0.1	-	-	170.9	15.3
HCM Lane LOS	B	A	-	-	F	C
HCM 95th %tile Q(veh)	1.1	-	-	-	12	3.7

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Intersection	
Intersection Delay, s/veh	28.2
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	23	652	68	68	221	23	23	104	23	17	98	17
Future Vol, veh/h	23	652	68	68	221	23	23	104	23	17	98	17
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	724	76	76	246	26	26	116	26	19	109	19
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	39.2	14	14.9	14.7
HCM LOS	E	B	B	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	82%	0%	100%	76%	0%	100%	76%	0%	85%
Vol Right, %	0%	18%	0%	0%	24%	0%	0%	24%	0%	15%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	23	127	23	435	285	68	147	97	17	115
LT Vol	23	0	23	0	0	68	0	0	17	0
Through Vol	0	104	0	435	217	0	147	74	0	98
RT Vol	0	23	0	0	68	0	0	23	0	17
Lane Flow Rate	26	141	26	483	317	76	164	107	19	128
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.064	0.33	0.054	0.944	0.605	0.178	0.362	0.233	0.048	0.302
Departure Headway (Hd)	9.047	8.413	7.547	7.037	6.868	8.476	7.964	7.794	9.121	8.51
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	395	426	474	517	526	422	450	460	392	422
Service Time	6.82	6.186	5.302	4.793	4.623	6.242	5.731	5.56	6.895	6.285
HCM Lane V/C Ratio	0.066	0.331	0.055	0.934	0.603	0.18	0.364	0.233	0.048	0.303
HCM Control Delay	12.4	15.3	10.7	53.5	19.7	13.1	15.2	12.9	12.4	15
HCM Lane LOS	B	C	B	F	C	B	C	B	B	B
HCM 95th-tile Q	0.2	1.4	0.2	11.7	4	0.6	1.6	0.9	0.2	1.3

Intersection	
Intersection Delay, s/veh	32
Intersection LOS	D

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	16	227	12	12	664	16	36	145	36	20	91	20
Future Vol, veh/h	16	227	12	12	664	16	36	145	36	20	91	20
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	18	252	13	13	738	18	40	161	40	22	101	22
Number of Lanes	1	2	0	1	2	0	1	1	0	1	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	3	3	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	3	3
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	3	3
HCM Control Delay	14.8	46.3	16.9	14.5
HCM LOS	B	E	C	B

Lane	NBLn1	NBLn2	EBLn1	EBLn2	EBLn3	WBLn1	WBLn2	WBLn3	SBLn1	SBLn2
Vol Left, %	100%	0%	100%	0%	0%	100%	0%	0%	100%	0%
Vol Thru, %	0%	80%	0%	100%	86%	0%	100%	93%	0%	82%
Vol Right, %	0%	20%	0%	0%	14%	0%	0%	7%	0%	18%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	36	181	16	151	88	12	443	237	20	111
LT Vol	36	0	16	0	0	12	0	0	20	0
Through Vol	0	145	0	151	76	0	443	221	0	91
RT Vol	0	36	0	0	12	0	0	16	0	20
Lane Flow Rate	40	201	18	168	97	13	492	264	22	123
Geometry Grp	8	8	8	8	8	8	8	8	8	8
Degree of Util (X)	0.098	0.458	0.043	0.384	0.22	0.029	0.982	0.523	0.057	0.293
Departure Headway (Hd)	8.844	8.198	8.743	8.229	8.131	7.701	7.191	7.143	9.188	8.553
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Cap	404	438	408	436	440	464	502	504	389	419
Service Time	6.616	5.97	6.521	6.007	5.908	5.463	4.952	4.904	6.969	6.334
HCM Lane V/C Ratio	0.099	0.459	0.044	0.385	0.22	0.028	0.98	0.524	0.057	0.294
HCM Control Delay	12.6	17.8	11.9	16.1	13.2	10.7	62.7	17.5	12.5	14.9
HCM Lane LOS	B	C	B	C	B	B	F	C	B	B
HCM 95th-tile Q	0.3	2.3	0.1	1.8	0.8	0.1	13	3	0.2	1.2

Intersection	
Intersection Delay, s/veh	16.8
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	289	52	71	24	66	400
Future Vol, veh/h	289	52	71	24	66	400
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	321	58	79	27	73	444
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	16.6	10	18.3
HCM LOS	C	A	C

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	85%	0%	14%
Vol Thru, %	15%	75%	0%
Vol Right, %	0%	25%	86%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	341	95	466
LT Vol	289	0	66
Through Vol	52	71	0
RT Vol	0	24	400
Lane Flow Rate	379	106	518
Geometry Grp	1	1	1
Degree of Util (X)	0.593	0.169	0.699
Departure Headway (Hd)	5.632	5.768	4.862
Convergence, Y/N	Yes	Yes	Yes
Cap	640	620	751
Service Time	3.676	3.829	2.862
HCM Lane V/C Ratio	0.592	0.171	0.69
HCM Control Delay	16.6	10	18.3
HCM Lane LOS	C	A	C
HCM 95th-tile Q	3.9	0.6	5.8

Intersection	
Intersection Delay, s/veh	34.3
Intersection LOS	D

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	378	84	60	51	229	288
Future Vol, veh/h	378	84	60	51	229	288
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	420	93	67	57	254	320
Number of Lanes	0	1	1	0	1	0

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	1	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	1	1
HCM Control Delay	35.9	11.3	37.8
HCM LOS	E	B	E

Lane	EBLn1	WBLn1	SBLn1
Vol Left, %	82%	0%	44%
Vol Thru, %	18%	54%	0%
Vol Right, %	0%	46%	56%
Sign Control	Stop	Stop	Stop
Traffic Vol by Lane	462	111	517
LT Vol	378	0	229
Through Vol	84	60	0
RT Vol	0	51	288
Lane Flow Rate	513	123	574
Geometry Grp	1	1	1
Degree of Util (X)	0.862	0.221	0.891
Departure Headway (Hd)	6.047	6.454	5.586
Convergence, Y/N	Yes	Yes	Yes
Cap	595	560	643
Service Time	4.127	4.454	3.67
HCM Lane V/C Ratio	0.862	0.22	0.893
HCM Control Delay	35.9	11.3	37.8
HCM Lane LOS	E	B	E
HCM 95th-tile Q	9.6	0.8	10.9

Intersection	
Intersection Delay, s/veh	8.2
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	87	17	36	36	23	53	12	36	12	16	16	63
Future Vol, veh/h	87	17	36	36	23	53	12	36	12	16	16	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	97	19	40	40	26	59	13	40	13	18	18	70
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.5	8	8.1	7.9
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	62%	32%	17%
Vol Thru, %	60%	12%	21%	17%
Vol Right, %	20%	26%	47%	66%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	60	140	112	95
LT Vol	12	87	36	16
Through Vol	36	17	23	16
RT Vol	12	36	53	63
Lane Flow Rate	67	156	124	106
Geometry Grp	1	1	1	1
Degree of Util (X)	0.085	0.191	0.148	0.125
Departure Headway (Hd)	4.6	4.426	4.275	4.276
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	779	812	840	839
Service Time	2.625	2.447	2.296	2.298
HCM Lane V/C Ratio	0.086	0.192	0.148	0.126
HCM Control Delay	8.1	8.5	8	7.9
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.3	0.7	0.5	0.4

Intersection	
Intersection Delay, s/veh	8.3
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	53	70	6	6	30	14	19	56	19	30	32	63
Future Vol, veh/h	53	70	6	6	30	14	19	56	19	30	32	63
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	59	78	7	7	33	16	21	62	21	33	36	70
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	1	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	1	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	1	1	1
HCM Control Delay	8.7	7.9	8.2	8.1
HCM LOS	A	A	A	A

Lane	NBLn1	EBLn1	WBLn1	SBLn1
Vol Left, %	20%	41%	12%	24%
Vol Thru, %	60%	54%	60%	26%
Vol Right, %	20%	5%	28%	50%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	94	129	50	125
LT Vol	19	53	6	30
Through Vol	56	70	30	32
RT Vol	19	6	14	63
Lane Flow Rate	104	143	56	139
Geometry Grp	1	1	1	1
Degree of Util (X)	0.13	0.183	0.069	0.165
Departure Headway (Hd)	4.473	4.595	4.503	4.267
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	802	781	795	842
Service Time	2.496	2.62	2.532	2.288
HCM Lane V/C Ratio	0.13	0.183	0.07	0.165
HCM Control Delay	8.2	8.7	7.9	8.1
HCM Lane LOS	A	A	A	A
HCM 95th-tile Q	0.4	0.7	0.2	0.6

APPENDIX F - 2029 Alternative 2

Synchro and SIDRA Reports

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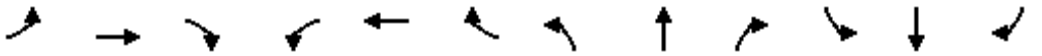
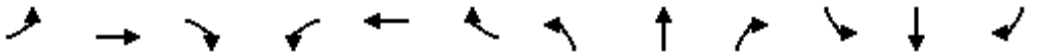


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	409	739	365	51	93	131	234	43	36	3	50	17
Future Volume (veh/h)	409	739	365	51	93	131	234	43	36	3	50	17
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	454	821	406	57	103	146	260	48	40	3	56	19
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	767	1383	680	391	972	950	420	236	197	68	461	397
Arrive On Green	1.00	1.00	1.00	0.60	0.60	0.60	0.25	0.25	0.25	0.25	0.25	0.25
Sat Flow, veh/h	1131	2308	1135	453	1622	1585	1325	943	786	21	1840	1585
Grp Volume(v), veh/h	454	631	596	58	102	146	260	0	88	59	0	19
Grp Sat Flow(s),veh/h/ln	1131	1777	1666	458	1617	1585	1325	0	1729	1861	0	1585
Q Serve(g_s), s	3.3	0.0	0.0	3.4	1.6	2.4	11.3	0.0	2.4	0.0	0.0	0.5
Cycle Q Clear(g_c), s	4.9	0.0	0.0	3.4	1.6	2.4	12.8	0.0	2.4	1.5	0.0	0.5
Prop In Lane	1.00		0.68	0.99		1.00	1.00		0.45	0.05		1.00
Lane Grp Cap(c), veh/h	767	1065	999	394	969	950	420	0	433	530	0	397
V/C Ratio(X)	0.59	0.59	0.60	0.15	0.11	0.15	0.62	0.00	0.20	0.11	0.00	0.05
Avail Cap(c_a), veh/h	767	1065	999	394	969	950	452	0	475	574	0	436
HCM Platoon Ratio	1.67	1.67	1.67	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.29	0.29	0.29	0.98	0.98	0.98	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	0.1	0.0	0.0	5.5	5.1	5.3	22.3	0.0	17.7	17.4	0.0	17.0
Incr Delay (d2), s/veh	1.0	0.7	0.8	0.8	0.2	0.3	2.3	0.0	0.2	0.1	0.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.2	0.2	0.3	0.4	0.7	3.5	0.0	0.9	0.6	0.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	1.1	0.7	0.8	6.2	5.4	5.6	24.6	0.0	18.0	17.5	0.0	17.1
LnGrp LOS	A	A	A	A	A	A	C	A	B	B	A	B
Approach Vol, veh/h		1681			306			348			78	
Approach Delay, s/veh		0.8			5.7			23.0			17.4	
Approach LOS		A			A			C			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		40.5		19.5		40.5		19.5				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		34.5		16.5		34.5		16.5				
Max Q Clear Time (g_c+I1), s		6.9		3.5		5.4		14.8				
Green Ext Time (p_c), s		12.7		0.2		2.0		0.2				

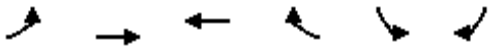
Intersection Summary												
HCM 6th Ctrl Delay			5.2									
HCM 6th LOS			A									



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	34	139	242	38	710	36	336	41	52	57	54	332
Future Volume (veh/h)	34	139	242	38	710	36	336	41	52	57	54	332
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	154	269	42	789	40	373	46	58	63	60	369
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	316	703	627	103	1306	627	513	342	431	417	370	721
Arrive On Green	0.40	0.40	0.40	0.79	0.79	0.79	0.45	0.45	0.45	0.45	0.45	0.45
Sat Flow, veh/h	661	1777	1585	95	3302	1585	959	752	948	718	814	1585
Grp Volume(v), veh/h	38	154	269	437	394	40	373	0	104	123	0	369
Grp Sat Flow(s),veh/h/ln	661	1777	1585	1781	1617	1585	959	0	1700	1532	0	1585
Q Serve(g_s), s	2.6	3.4	7.4	0.0	6.0	0.3	22.5	0.0	2.1	0.5	0.0	9.9
Cycle Q Clear(g_c), s	8.5	3.4	7.4	5.5	6.0	0.3	25.2	0.0	2.1	2.7	0.0	9.9
Prop In Lane	1.00		1.00	0.10		1.00	1.00		0.56	0.51		1.00
Lane Grp Cap(c), veh/h	316	703	627	770	639	627	513	0	773	787	0	721
V/C Ratio(X)	0.12	0.22	0.43	0.57	0.62	0.06	0.73	0.00	0.13	0.16	0.00	0.51
Avail Cap(c_a), veh/h	316	703	627	770	639	627	517	0	779	793	0	726
HCM Platoon Ratio	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.18	0.18	0.18	0.87	0.87	0.87	1.00	0.00	1.00	1.00	0.00	1.00
Uniform Delay (d), s/veh	15.8	12.0	13.2	4.4	4.4	3.8	17.1	0.0	9.5	9.6	0.0	11.6
Incr Delay (d2), s/veh	0.1	0.1	0.4	2.6	3.8	0.2	5.0	0.0	0.1	0.1	0.0	0.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.4	1.2	2.3	1.7	1.7	0.1	5.0	0.0	0.7	0.8	0.0	3.1
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	15.9	12.1	13.6	7.0	8.3	4.0	22.1	0.0	9.6	9.7	0.0	12.2
LnGrp LOS	B	B	B	A	A	A	C	A	A	A	A	B
Approach Vol, veh/h		461			871			477			492	
Approach Delay, s/veh		13.3			7.4			19.4			11.6	
Approach LOS		B			A			B			B	

Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		28.2		31.8		28.2		31.8				
Change Period (Y+Rc), s		4.5		4.5		4.5		4.5				
Max Green Setting (Gmax), s		23.5		27.5		23.5		27.5				
Max Q Clear Time (g_c+I1), s		10.5		11.9		8.0		27.2				
Green Ext Time (p_c), s		2.4		1.8		4.8		0.1				

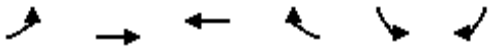
Intersection Summary												
HCM 6th Ctrl Delay			12.0									
HCM 6th LOS			B									



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	310	468	103	159	275	171
Future Volume (veh/h)	310	468	103	159	275	171
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	344	520	114	177	306	190
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	746	1103	2255	1006	384	341
Arrive On Green	1.00	1.00	0.63	0.63	0.22	0.22
Sat Flow, veh/h	997	1823	3647	1585	1781	1585
Grp Volume(v), veh/h	386	478	114	177	306	190
Grp Sat Flow(s),veh/h/ln	1118	1617	1777	1585	1781	1585
Q Serve(g_s), s	0.8	0.0	0.7	2.8	9.8	6.4
Cycle Q Clear(g_c), s	1.6	0.0	0.7	2.8	9.8	6.4
Prop In Lane	0.89			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	823	1026	2255	1006	384	341
V/C Ratio(X)	0.47	0.47	0.05	0.18	0.80	0.56
Avail Cap(c_a), veh/h	823	1026	2255	1006	609	542
HCM Platoon Ratio	2.00	2.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.79	0.79	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	0.0	0.0	4.1	4.5	22.3	21.0
Incr Delay (d2), s/veh	1.5	1.2	0.0	0.4	3.9	1.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.3	0.2	0.7	4.3	2.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	1.5	1.2	4.2	4.9	26.2	22.4
LnGrp LOS	A	A	A	A	C	C
Approach Vol, veh/h		864	291		496	
Approach Delay, s/veh		1.3	4.6		24.7	
Approach LOS		A	A		C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		42.6		17.4		42.6
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		30.5		20.5		30.5
Max Q Clear Time (g_c+I1), s		3.6		11.8		4.8
Green Ext Time (p_c), s		6.5		1.2		1.2

Intersection Summary	
HCM 6th Ctrl Delay	9.0
HCM 6th LOS	A



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	206	42	374	346	212	410
Future Volume (veh/h)	206	42	374	346	212	410
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	229	47	416	384	236	456
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	428	837	1840	821	592	527
Arrive On Green	0.52	0.52	0.52	0.52	0.33	0.33
Sat Flow, veh/h	596	1702	3647	1585	1781	1585
Grp Volume(v), veh/h	229	47	416	384	236	456
Grp Sat Flow(s),veh/h/ln	596	1617	1777	1585	1781	1585
Q Serve(g_s), s	16.7	0.9	3.8	9.3	6.1	16.2
Cycle Q Clear(g_c), s	20.5	0.9	3.8	9.3	6.1	16.2
Prop In Lane	1.00			1.00	1.00	1.00
Lane Grp Cap(c), veh/h	428	837	1840	821	592	527
V/C Ratio(X)	0.53	0.06	0.23	0.47	0.40	0.87
Avail Cap(c_a), veh/h	428	837	1840	821	787	700
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.98	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	13.5	7.2	7.9	9.2	15.4	18.8
Incr Delay (d2), s/veh	4.6	0.1	0.3	1.9	0.4	8.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.3	1.2	2.9	2.4	6.7
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	18.1	7.3	8.2	11.1	15.9	27.5
LnGrp LOS	B	A	A	B	B	C
Approach Vol, veh/h		276	800		692	
Approach Delay, s/veh		16.3	9.6		23.5	
Approach LOS		B	A		C	

Timer - Assigned Phs		2		4		6
Phs Duration (G+Y+Rc), s		35.6		24.4		35.6
Change Period (Y+Rc), s		4.5		4.5		4.5
Max Green Setting (Gmax), s		24.5		26.5		24.5
Max Q Clear Time (g_c+I1), s		22.5		18.2		11.3
Green Ext Time (p_c), s		0.5		1.8		3.4

Intersection Summary	
HCM 6th Ctrl Delay	16.1
HCM 6th LOS	B

Intersection	
Intersection Delay, s/veh	15.5
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	289	52	71	24	66	400
Future Vol, veh/h	289	52	71	24	66	400
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	321	58	79	27	73	444
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	16.5	10	15.9
HCM LOS	C	A	C

Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	85%	0%	100%	0%
Vol Thru, %	15%	75%	0%	0%
Vol Right, %	0%	25%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	341	95	66	400
LT Vol	289	0	66	0
Through Vol	52	71	0	0
RT Vol	0	24	0	400
Lane Flow Rate	379	106	73	444
Geometry Grp	2	2	7	7
Degree of Util (X)	0.591	0.169	0.131	0.644
Departure Headway (Hd)	5.613	5.758	6.43	5.216
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	644	622	558	693
Service Time	3.645	3.803	4.164	2.949
HCM Lane V/C Ratio	0.589	0.17	0.131	0.641
HCM Control Delay	16.5	10	10.1	16.9
HCM Lane LOS	C	A	B	C
HCM 95th-tile Q	3.9	0.6	0.4	4.7

Intersection	
Intersection Delay, s/veh	20.9
Intersection LOS	C

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	378	84	60	51	229	288
Future Vol, veh/h	378	84	60	51	229	288
Peak Hour Factor	0.90	0.90	0.90	0.90	0.90	0.90
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	420	93	67	57	254	320
Number of Lanes	0	1	1	0	1	1

Approach	EB	WB	SB
Opposing Approach	WB	EB	
Opposing Lanes	1	1	0
Conflicting Approach Left	SB		WB
Conflicting Lanes Left	2	0	1
Conflicting Approach Right		SB	EB
Conflicting Lanes Right	0	2	1
HCM Control Delay	29.9	10.6	15
HCM LOS	D	B	B

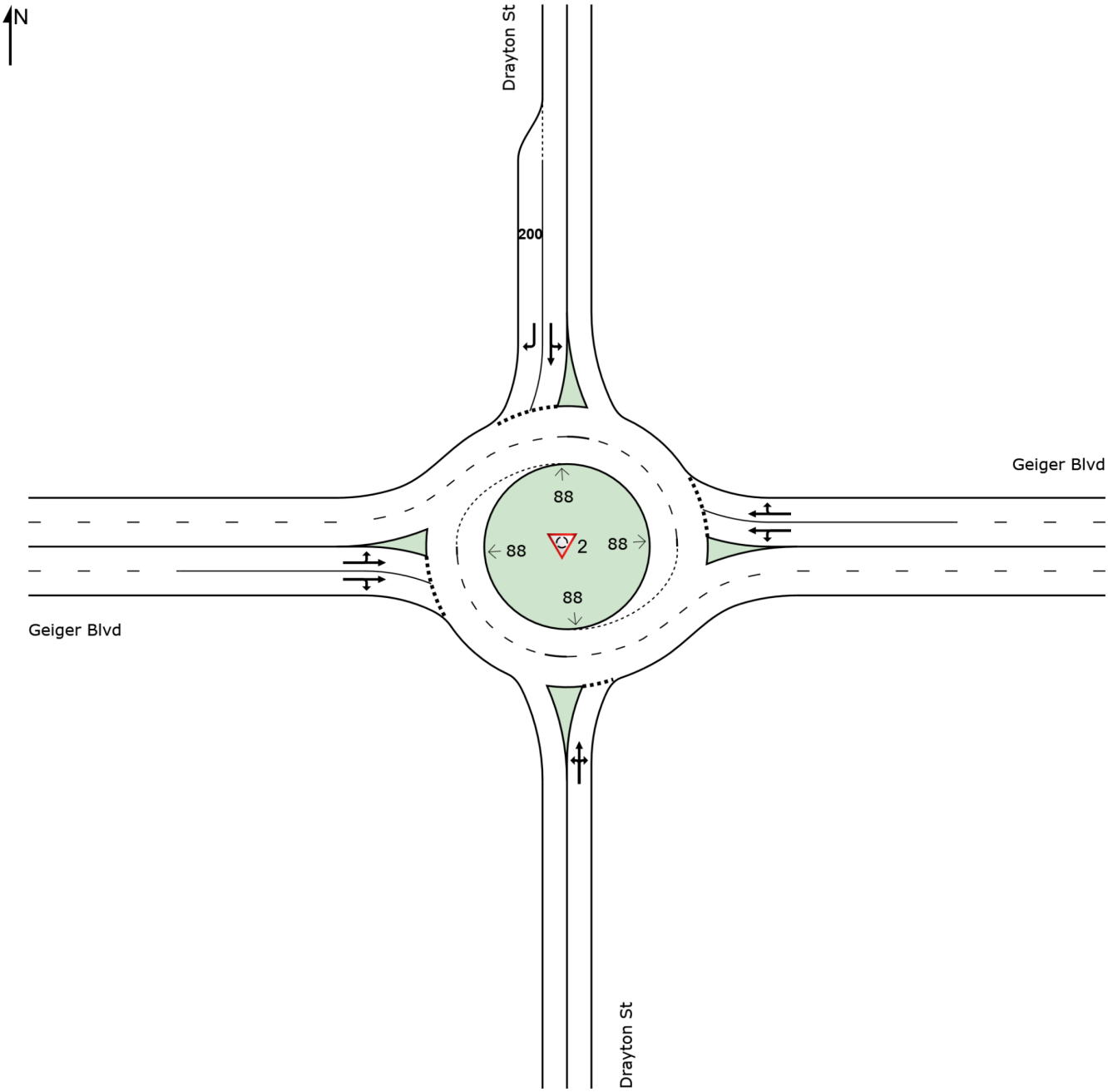
Lane	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	82%	0%	100%	0%
Vol Thru, %	18%	54%	0%	0%
Vol Right, %	0%	46%	0%	100%
Sign Control	Stop	Stop	Stop	Stop
Traffic Vol by Lane	462	111	229	288
LT Vol	378	0	229	0
Through Vol	84	60	0	0
RT Vol	0	51	0	288
Lane Flow Rate	513	123	254	320
Geometry Grp	2	2	7	7
Degree of Util (X)	0.821	0.206	0.487	0.505
Departure Headway (Hd)	5.757	6.011	6.896	5.677
Convergence, Y/N	Yes	Yes	Yes	Yes
Cap	631	596	522	634
Service Time	3.795	4.067	4.642	3.423
HCM Lane V/C Ratio	0.813	0.206	0.487	0.505
HCM Control Delay	29.9	10.6	16.1	14.1
HCM Lane LOS	D	B	C	B
HCM 95th-tile Q	8.5	0.8	2.6	2.9

SITE LAYOUT

Site: 2 [#2 MCAS Beaufort 2029 Build Improvements AM Peak Hour (Site Folder: General)]

2026 Build Improvements AM Peak Hour
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 2 [#2 MCAS Beaufort 2029 Build Improvements AM Peak Hour (Site Folder: General)]

2026 Build Improvements AM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Drayton St														
3	L2	234	2.0	260	2.0	0.832	43.2	LOS D	9.1	231.2	0.94	1.55	2.27	17.0
8	T1	43	2.0	48	2.0	0.832	43.2	LOS D	9.1	231.2	0.94	1.55	2.27	16.9
18	R2	36	2.0	40	2.0	0.832	43.2	LOS D	9.1	231.2	0.94	1.55	2.27	16.6
Approach		313	2.0	348	2.0	0.832	43.2	LOS D	9.1	231.2	0.94	1.55	2.27	17.0
East: Geiger Blvd														
1	L2	51	2.0	57	2.0	0.227	8.4	LOS A	1.3	33.1	0.74	0.69	0.74	23.4
6	T1	93	2.0	103	2.0	0.227	8.3	LOS A	1.3	34.2	0.74	0.68	0.74	23.1
16	R2	131	2.0	146	2.0	0.227	7.8	LOS A	1.3	34.2	0.74	0.67	0.74	22.9
Approach		275	2.0	306	2.0	0.227	8.1	LOS A	1.3	34.2	0.74	0.68	0.74	23.1
North: Drayton St														
7	L2	3	2.0	3	2.0	0.074	5.3	LOS A	0.3	8.4	0.50	0.38	0.50	24.6
4	T1	50	2.0	56	2.0	0.074	5.3	LOS A	0.3	8.4	0.50	0.38	0.50	24.2
14	R2	17	2.0	19	2.0	0.038	7.7	LOS A	0.2	3.8	0.53	0.42	0.53	22.9
Approach		70	2.0	78	2.0	0.074	5.9	LOS A	0.3	8.4	0.51	0.39	0.51	23.9
West: Geiger Blvd														
5	L2	409	2.0	454	2.0	0.813	20.7	LOS C	15.3	387.8	0.76	0.59	0.90	20.7
2	T1	739	2.0	821	2.0	0.813	20.7	LOS C	15.3	387.8	0.76	0.60	0.90	20.6
12	R2	365	2.0	406	2.0	0.813	20.7	LOS C	15.3	387.8	0.76	0.61	0.90	20.3
Approach		1513	2.0	1681	2.0	0.813	20.7	LOS C	15.3	387.8	0.76	0.60	0.90	20.5
All Vehicles		2171	2.0	2412	2.0	0.832	21.8	LOS C	15.3	387.8	0.77	0.74	1.06	20.3

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT FLOWS FOR SITE (INPUT)

Approach movement input flow rates (veh/h)

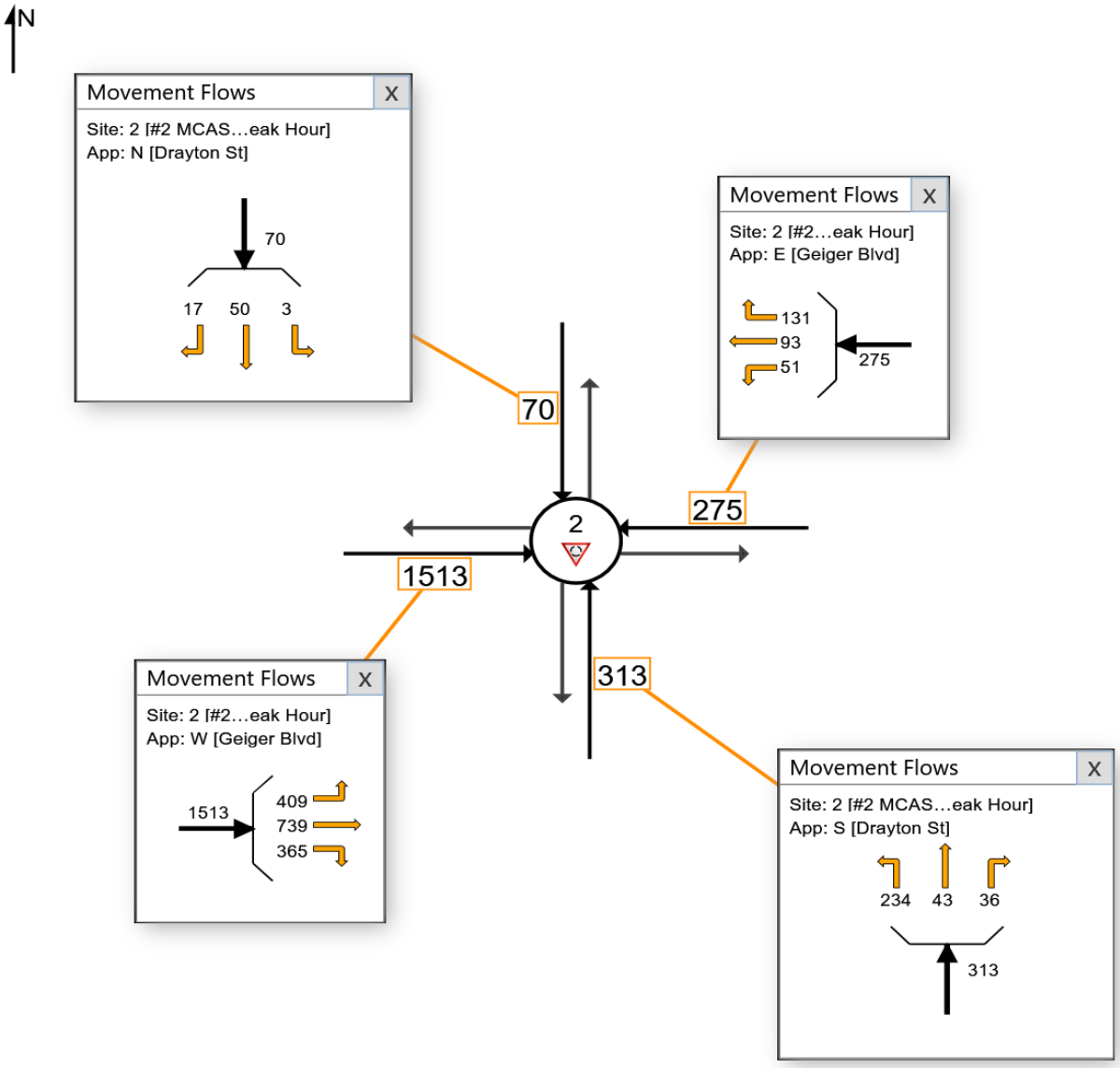
All Movement Classes

Site: 2 [#2 MCAS Beaufort 2029 Build Improvements AM Peak Hour (Site Folder: General)]

2026 Build Improvements AM Peak Hour
Site Category: (None)
Roundabout

Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

Close All Popups



MOVEMENT SUMMARY

Site: 2 [#2 MCAS Beaufort 2029 Build Improvements PM Peak Hour (Site Folder: General)]

2026 Build Improvements PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
South: Drayton St														
3	L2	336	2.0	373	2.0	0.519	10.7	LOS B	3.3	84.1	0.57	0.45	0.57	22.4
8	T1	41	2.0	46	2.0	0.519	10.7	LOS B	3.3	84.1	0.57	0.45	0.57	22.1
18	R2	52	2.0	58	2.0	0.519	10.7	LOS B	3.3	84.1	0.57	0.45	0.57	21.7
Approach		429	2.0	477	2.0	0.519	10.7	LOS B	3.3	84.1	0.57	0.45	0.57	22.3
East: Geiger Blvd														
1	L2	38	2.0	42	2.0	0.485	10.3	LOS B	3.6	91.6	0.70	0.68	0.79	23.3
6	T1	710	2.0	789	2.0	0.485	10.1	LOS B	3.6	91.6	0.69	0.67	0.78	23.0
16	R2	36	2.0	40	2.0	0.485	10.0	LOS B	3.6	91.4	0.69	0.66	0.77	22.6
Approach		784	2.0	871	2.0	0.485	10.1	LOS B	3.6	91.6	0.69	0.67	0.78	23.0
North: Drayton St														
7	L2	57	2.0	63	2.0	0.424	23.4	LOS C	2.0	52.0	0.81	0.94	1.11	20.2
4	T1	54	2.0	60	2.0	0.424	23.4	LOS C	2.0	52.0	0.81	0.94	1.11	19.9
14	R2	332	2.0	369	2.0	0.753	30.3	LOS C	7.1	181.3	0.90	1.35	1.87	18.5
Approach		443	2.0	492	2.0	0.753	28.6	LOS C	7.1	181.3	0.88	1.24	1.68	18.9
West: Geiger Blvd														
5	L2	34	2.0	38	2.0	0.203	5.8	LOS A	1.0	25.8	0.37	0.24	0.37	24.3
2	T1	139	2.0	154	2.0	0.203	5.8	LOS A	1.0	25.8	0.37	0.24	0.37	23.9
12	R2	242	2.0	269	2.0	0.275	6.4	LOS A	1.5	37.7	0.39	0.26	0.39	23.2
Approach		415	2.0	461	2.0	0.275	6.2	LOS A	1.5	37.7	0.39	0.25	0.39	23.5
All Vehicles		2071	2.0	2301	2.0	0.753	13.4	LOS B	7.1	181.3	0.65	0.66	0.85	22.0

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT FLOWS FOR SITE (INPUT)

Approach movement input flow rates (veh/h)

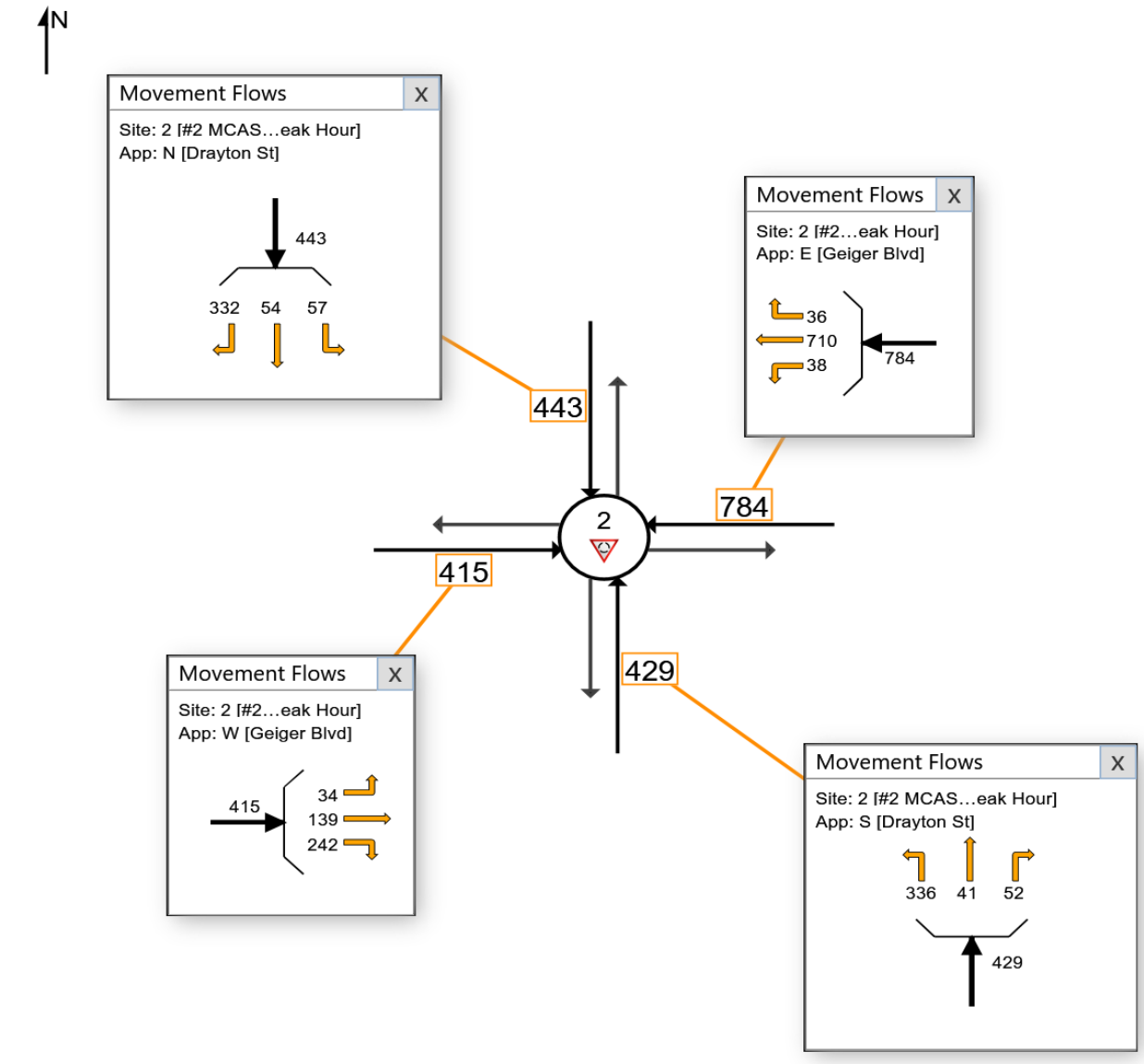
All Movement Classes

Site: 2 [#2 MCAS Beaufort 2029 Build Improvements PM Peak Hour (Site Folder: General)]

2026 Build Improvements PM Peak Hour
Site Category: (None)
Roundabout

Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

Close All Popups

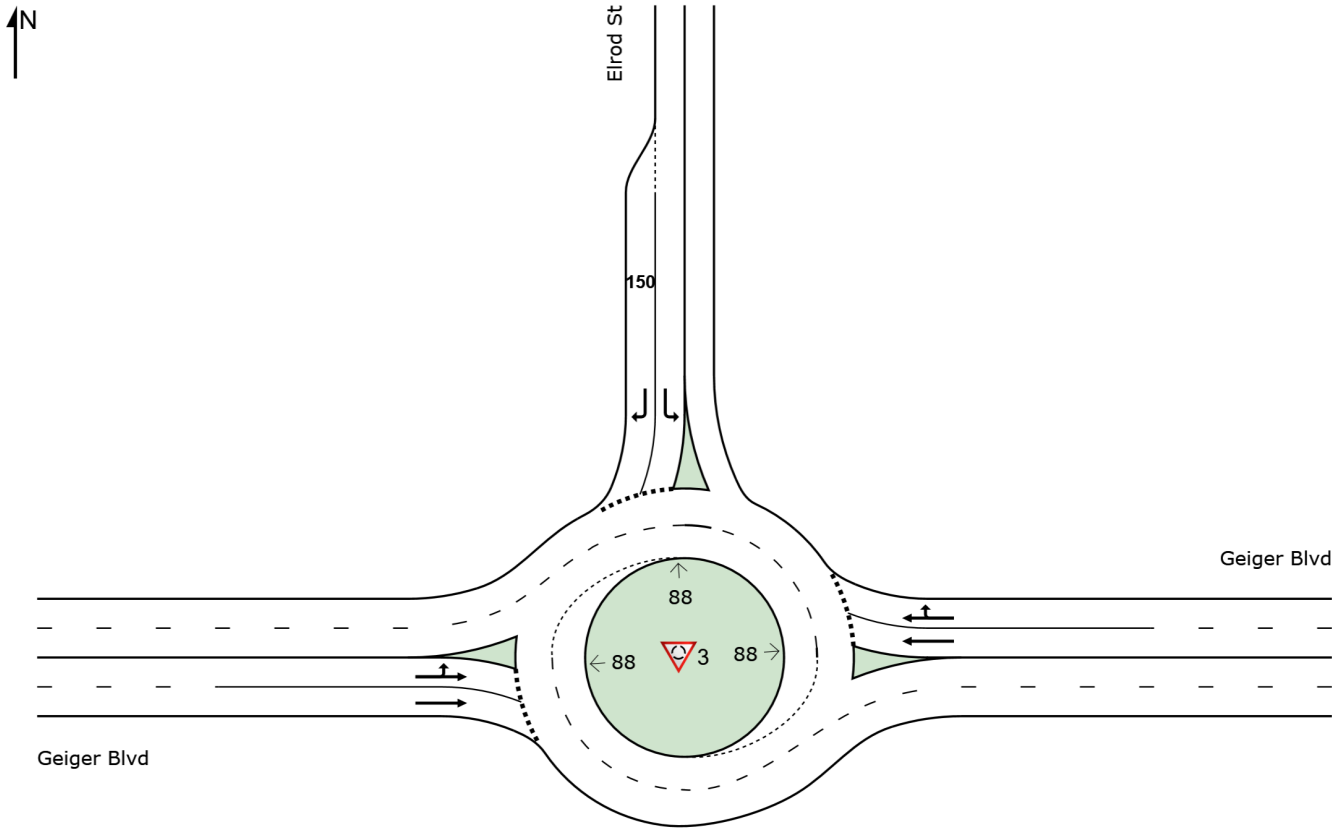


SITE LAYOUT

Site: 3 [#3 MCAS Beaufort 2029 Build Improvements AM Peak Hour (Site Folder: General)]

2026 Build AM Peak Hour
Site Category: (None)
Roundabout

Layout pictures are schematic functional drawings reflecting input data. They are not design drawings.



MOVEMENT SUMMARY

Site: 3 [#3 MCAS Beaufort 2029 Build Improvements AM Peak Hour (Site Folder: General)]

2026 Build AM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: Geiger Blvd														
6	T1	103	2.0	114	2.0	0.130	5.4	LOS A	0.6	16.1	0.49	0.36	0.49	24.3
16	R2	159	2.0	177	2.0	0.177	5.3	LOS A	0.9	23.4	0.49	0.36	0.49	23.5
Approach		262	2.0	291	2.0	0.177	5.3	LOS A	0.9	23.4	0.49	0.36	0.49	23.8
North: Elrod St														
7	L2	275	2.0	306	2.0	0.296	6.4	LOS A	1.6	41.0	0.33	0.19	0.33	23.2
14	R2	171	2.0	190	2.0	0.199	5.7	LOS A	1.0	24.7	0.31	0.18	0.31	23.3
Approach		446	2.0	496	2.0	0.296	6.2	LOS A	1.6	41.0	0.32	0.18	0.32	23.2
West: Geiger Blvd														
5	L2	310	2.0	344	2.0	0.488	10.3	LOS B	3.1	78.6	0.59	0.50	0.61	22.5
2	T1	468	2.0	520	2.0	0.488	10.3	LOS B	3.1	78.6	0.59	0.50	0.61	22.9
Approach		778	2.0	864	2.0	0.488	10.3	LOS B	3.1	78.6	0.59	0.50	0.61	22.8
All Vehicles		1486	2.0	1651	2.0	0.488	8.2	LOS A	3.1	78.6	0.49	0.38	0.50	23.1

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT FLOWS FOR SITE (INPUT)

Approach movement input flow rates (veh/h)

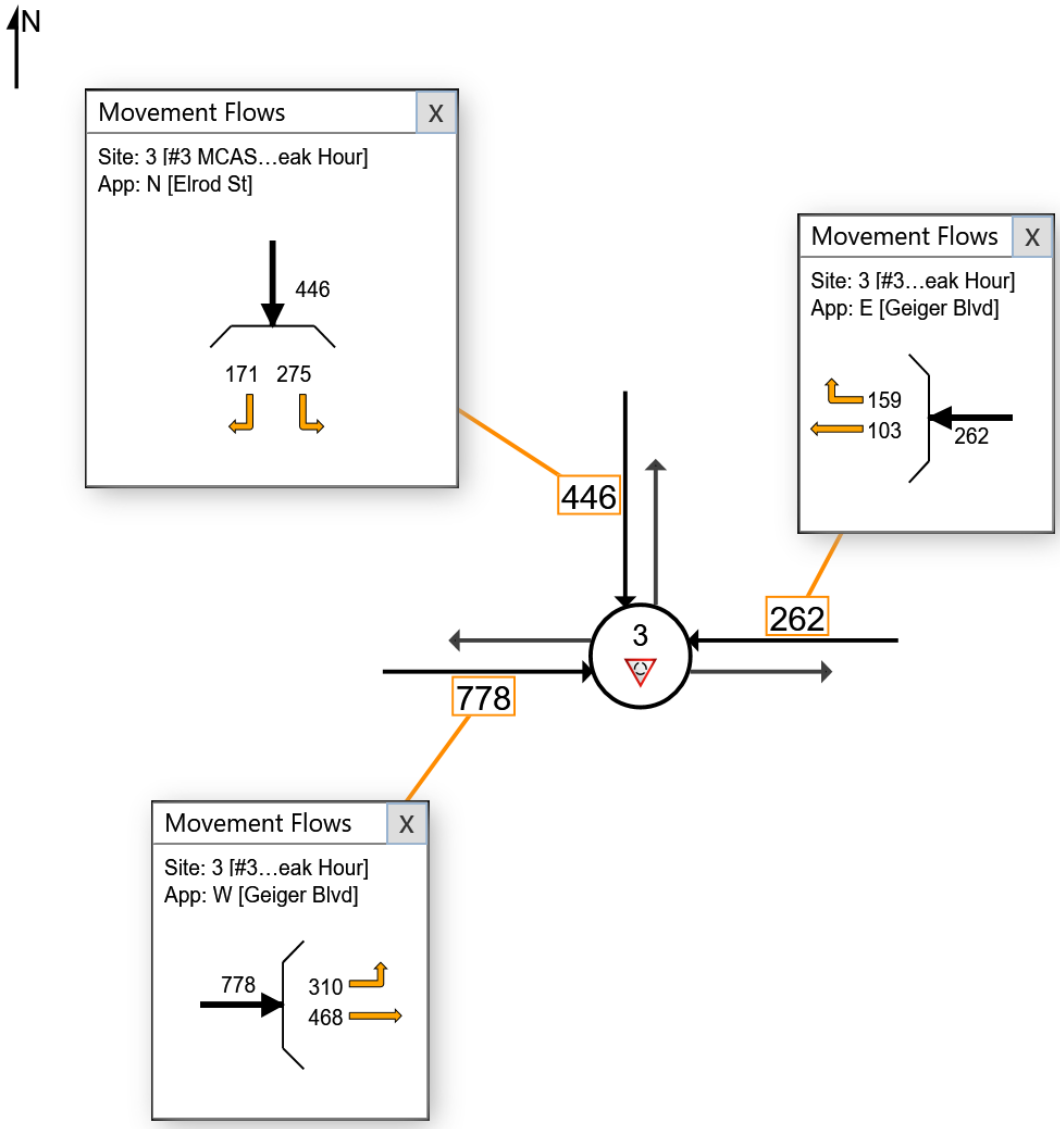
All Movement Classes

Site: 3 [#3 MCAS Beaufort 2029 Build Improvements AM Peak Hour (Site Folder: General)]

2026 Build AM Peak Hour
Site Category: (None)
Roundabout

Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

Close All Popups



MOVEMENT SUMMARY

Site: 3 [#3 MCAS Beaufort 2029 Build Improvements PM Peak Hour (Site Folder: General)]

2026 Build Improvements PM Peak Hour
Site Category: (None)
Roundabout

Vehicle Movement Performance

Mov ID	Turn	INPUT VOLUMES [Total veh/h	HV] %	DEMAND FLOWS [Total veh/h	HV] %	Deg. Satn v/c	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh. veh	Dist] ft	Prop. Que	Effective Stop Rate	Aver. No. Cycles	Aver. Speed mph
East: Geiger Blvd														
6	T1	374	2.0	416	2.0	0.381	7.2	LOS A	2.3	57.6	0.47	0.33	0.47	23.8
16	R2	376	2.0	418	2.0	0.381	7.2	LOS A	2.3	57.6	0.47	0.33	0.47	23.0
Approach		750	2.0	833	2.0	0.381	7.2	LOS A	2.3	57.6	0.47	0.33	0.47	23.4
North: Elrod St														
7	L2	212	2.0	236	2.0	0.354	10.1	LOS B	1.8	47.0	0.62	0.57	0.62	22.4
14	R2	410	2.0	456	2.0	0.567	13.1	LOS B	5.3	134.1	0.72	0.83	0.99	21.7
Approach		622	2.0	691	2.0	0.567	12.1	LOS B	5.3	134.1	0.69	0.74	0.86	21.9
West: Geiger Blvd														
5	L2	206	2.0	229	2.0	0.248	6.5	LOS A	1.3	33.2	0.45	0.33	0.45	23.2
2	T1	42	2.0	47	2.0	0.091	8.3	LOS A	0.4	9.7	0.46	0.36	0.46	23.6
Approach		248	2.0	276	2.0	0.248	6.8	LOS A	1.3	33.2	0.45	0.33	0.45	23.2
All Vehicles		1620	2.0	1800	2.0	0.567	9.0	LOS A	5.3	134.1	0.55	0.49	0.62	22.8

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: SIDRA Roundabout LOS.
Vehicle movement LOS values are based on average delay and v/c ratio (degree of saturation) per movement.
LOS F will result if v/c > 1 irrespective of movement delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all movements (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: HCM Delay Formula (Geometric Delay is not included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

MOVEMENT FLOWS FOR SITE (INPUT)

Approach movement input flow rates (veh/h)

All Movement Classes

Site: 3 [#3 MCAS Beaufort 2029 Build Improvements PM Peak Hour (Site Folder: General)]

2026 Build Improvements PM Peak Hour
Site Category: (None)
Roundabout

Use the button below to open or close all popup boxes. Click value labels to open selected ones.
Click and drag popup boxes to move to preferred positions.

Close All Popups